



Global Panel
on Agriculture
and Food Systems
for Nutrition

Strengthening food systems in fragile contexts

This brief explores the underlying drivers of fragility and disruptions to food systems in fragile contexts. It emphasises the need for integrated and coherent strategies to be implemented across food systems in these settings and sets out eight priorities to help protect and expand access to healthy diets.

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ABOUT THE GLOBAL PANEL ON AGRICULTURE AND FOOD SYSTEMS FOR NUTRITION

The Global Panel is an independent group of influential experts with a commitment to tackling global challenges in food and nutrition security. It works to ensure that agriculture and food systems support access to nutritious foods at every stage of life.

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🔥 Food systems in fragile contexts need to become much more resilient to shocks and therefore infrastructure development – roads, energy, markets, water – must be a high priority, especially for those whose livelihoods are dependent on agriculture. 🍷

Rhoda Peace Tumusiime, Global Panel Member and Former Commissioner for Rural Economy and Agriculture, African Union Commission

Executive Summary

By 2030, the number of people living in fragile settings is projected to increase from 1.8 billion to 2.3 billion. 'Fragile' in this context refers to a combination of conflict, political instability, dependence on humanitarian aid, weak governance, and environmental threats. All of these characteristics can lead directly or indirectly to the disruption and failure of food systems. Faced with price volatility, limited purchasing power and interruptions to value chains, many people are unable to access safe, healthy diets. They may prioritise staple foods for their caloric content, limiting their dietary diversity.

Given the range of political, social, economic and environmental challenges often coalescing in fragile settings, promoting healthy diets can be seen as a secondary concern when so many individuals are hungry. However, making food systems more resilient in fragile settings is actually essential if we are to sustain progress towards development goals.

Of the US\$13.5 billion in humanitarian aid contributions from governments recorded by United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in 2017, the food sector received more than US\$3.7 billion – the highest proportion of funding allocated to any sector. Humanitarian aid (including in-kind food aid) will remain necessary in crises, but building and maintaining a resilient food system is key and will help ensure that healthy diets remain accessible in fragile settings. Conversely, with a strong food system in place, food

insecurity and undernourishment are less likely to themselves exacerbate fragility.

What this means in practice is applying a food system lens to humanitarian programming to address the drivers of suboptimal diets in fragile settings. That means strengthening governance and the capacity to identify and monitor shocks to enable early action. It also means having appropriate response systems in place. One example is cash and voucher assistance (CVA), to enable beneficiaries to source appropriate, diverse foods themselves from local markets, thereby supporting upstream market participants. Longer-term measures include investments in road and energy infrastructure, and post-harvest storage, to make food value chains more robust.

The COVID-19 pandemic has affected the whole world, but it has been particularly challenging for countries already weakened by conflict, political instability and extreme weather events. When unexpected additional shocks such as COVID-19 occur, they have the potential to trigger widespread food system failures that push even more people into poverty and malnutrition, potentially undoing years of development gains. This policy brief therefore calls on the international community, and on policymakers in low- and middle-income countries, to prioritise coordinated, cross-sector strategies which tackle underlying conditions in fragile settings and improve the ability of food systems to withstand shocks and deliver healthy diets to all.



1. Introduction

These are challenging times for a great number of people around the world. While the coronavirus pandemic has sent shock waves across all nations, some governments are facing COVID-19 along with serious pre-existing challenges to health, incomes, jobs and wellbeing. Many countries have been embroiled for decades in armed conflicts which destroy lives as well as homes, factories, markets and schools. More people today are living as refugees or displaced people within their own borders than at any time since World War II. Other countries are experiencing repeated episodes of extreme weather events which also put millions of livelihoods at risk.

These challenges are being compounded by the fresh scourge of crop pests (such as the recent locust plague, and the ongoing spread of the fall armyworm across Africa), and zoonotic diseases, of which COVID-19 is the most recent. While a single hazard can be a major hurdle to reducing poverty and malnutrition, the combined impact of multiple hazards can be devastating in the short term and also have significant lasting effects. Policymakers must prioritise finding better ways to manage the risks which are relevant to the goals of improving diets, health and nutrition in such contexts.

According to the OECD, by 2030, the number of people living in fragile settings is projected to reach 2.3 billion, which includes 80% of the global poor.¹ That represents another 500 million people over today's 1.8 billion. 'Fragile' countries or regions are those which are

subject to a variety of risks stemming from societal, economic, environmental, political and security issues² (see Box 1). Any one of these can have direct and indirect impacts on the functioning of food systems, and hence on local diets. Food systems in these settings have to cope with system-wide risks related to unpredictable food supplies, price volatility, high transportation and transaction costs, and limited food safety regulation. These risks can lead to disrupted markets and limited food diversity options, leaving many people unable to access healthy diets.

In 2020, fragile states (see Figure 1) were disproportionately affected by ongoing food crises, with serious ramifications for the lives and livelihoods of those most affected (see Figure 2). Poor quality diets (lacking sufficient quantity and/or nutrient quality of foods) have contributed to recent increases in levels of hunger, particularly in sub-Saharan Africa, as well as the persistence of many forms of undernutrition.¹⁰

For example, smallholder households in Niger (which faces frequent droughts, terrorist threats, locusts and extreme levels of poverty) cover about 40% of their food needs from their own production¹¹ and struggle to make up the difference from market purchases. This lack of access to affordable nutrient-rich foods is in part why only 10% of infants aged 6 to 23 months in Niger are fed 'a minimally diverse diet.'

Box 1. Defining key terms

Fragility is "a multidimensional phenomenon" characterised by a combination of "ongoing conflict, dependence on high levels of humanitarian aid, significant political instability, a weak capacity to carry out the basic state functions of governance and public services delivery", as well as threats of natural disasters and climate impacts.³ The intensity of risks arising from fragility can be grouped into levels of alert (see Figure 1).

Fragile states are countries experiencing "long-term insecurity, recurrent crises or localised conflict"⁴ and are potentially vulnerable to collapse.² The severity of these risk factors can vary within countries, leading to sub-national variations in fragility,⁵ referred to as fragile contexts or settings.

Resilience is the capacity of a system to withstand the impact of shocks, while adapting and transforming to continue to fulfil

its functions.⁶ Resilience building can be described as "helping people, communities, countries, and global institutions prevent, anticipate, prepare for, cope with, and recover from shocks and not only bounce back to where they were before the shocks occurred, but become even better off"⁷

Food systems are defined as the "production, marketing, transformation and purchase of food, and the consumer practices, resources and institutions involved in these processes".⁸

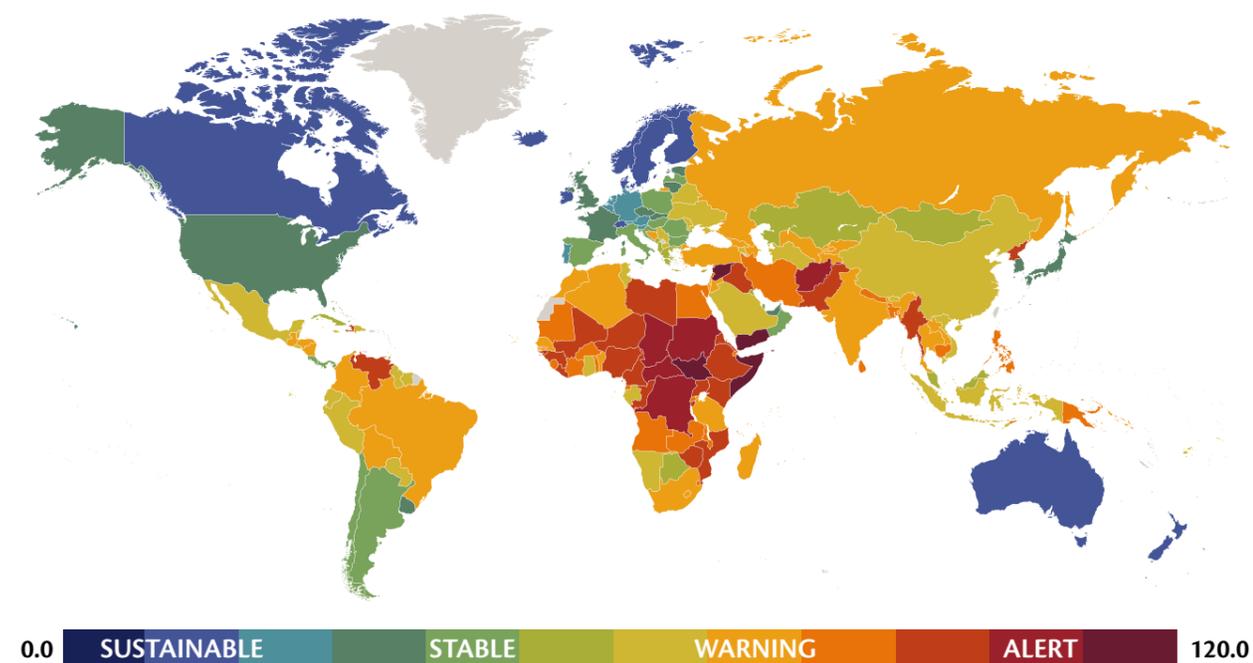
Healthy diets comprise diverse, safe, nutrient-rich foods in the right proportions to prevent malnutrition in all its forms. The exact composition of a healthy diet varies and will be based on an individual's characteristics, cultural context, locally available foods and dietary customs.⁹

Income generation from off-farm activities is also constrained by low productivity and output in farming, limited value-addition due to low investment in small and medium-sized enterprises, weak market infrastructure which limits household access to the benefits of local and regional trade, and uncertainty about prices. For example, poor market access and the high price of nutrient-rich foods in Lesotho (also affected by droughts but particularly

affected by HIV/AIDS), means that 56% of households are unable to afford a diet which meets minimum nutrient needs, and 10% cannot even afford to cover their most fundamental energy needs.¹²

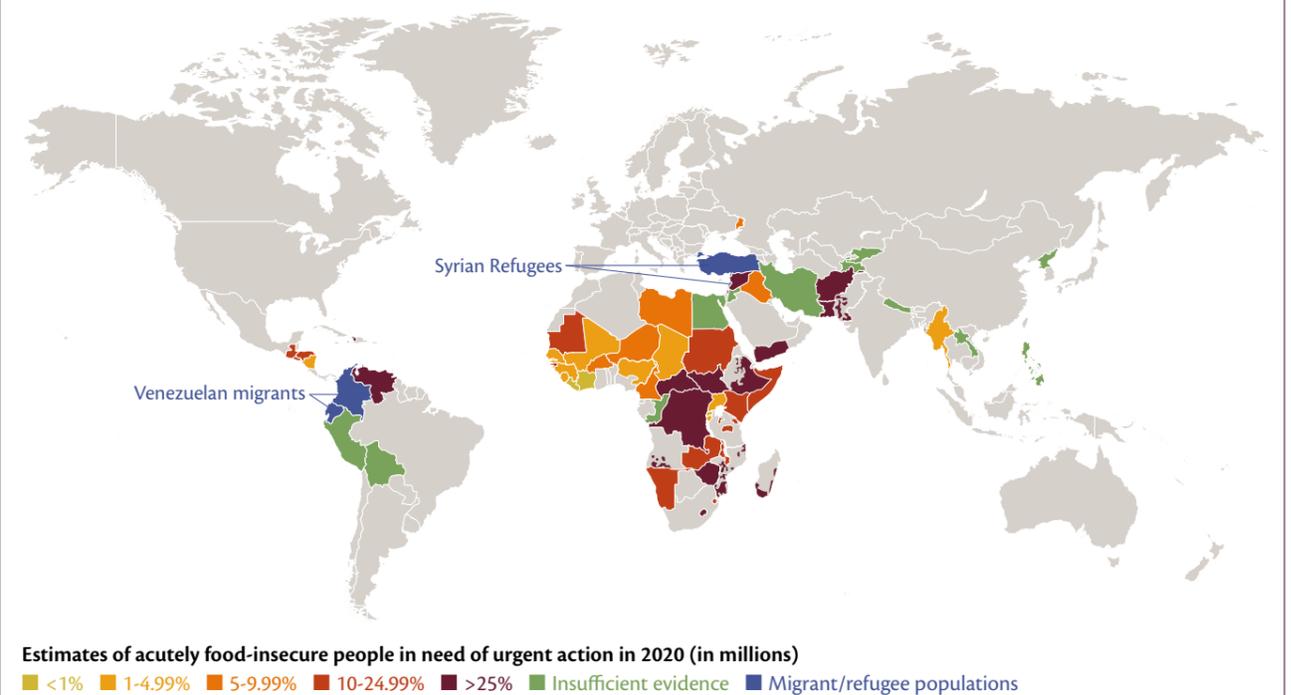
Food security and a lack of basic staple foods are often the main concern in fragile states, but other forms of malnutrition are also

Figure 1. Location of fragile states across the world in 2020



Source: Fragile States Index, 2020²

Figure 2. Location of acutely food insecure people in need of urgent action in 2019



Source: Global Report on Food Crises 2020¹³

Figure 3. Overlapping forms of malnutrition: stunting in children under 5, anaemia in adolescent girls and women, and overweight in adult women, by classification of fragility



Notes: Prevalence (%) thresholds used to determine whether a country is experiencing a high prevalence for a given form of malnutrition: stunting in children under 5 years: $\geq 20\%$; anaemia in adolescent girls and women aged 15–49 years: $\geq 20\%$; overweight (including obesity) in adult women aged ≥ 18 years: body mass index of $\geq 25\text{kg/m}^2 \geq 35\%$. The figure is based on latest data for 194 countries. Numbers and percentages shown in each column correspond to each country group, classified by fragility state, as non-fragile, fragile and extremely fragile. This determination is based on the OECD States of Fragility 2018 framework, assessed by five core dimensions: political, societal, economic, environmental, and security.

Source: Global Nutrition Report 2020¹⁴

very common. According to the 2020 Global Nutrition Report, almost half of ‘fragile’ and ‘very fragile’ countries are burdened by seriously high levels of stunting in children under 5 years of age, and anaemia in adolescent girls and adult women (see Figure 3).¹⁴ While significant efforts have been made to increase the supply of calories in many fragile states, diets based primarily on staple cereals or tubers lack diversity, which contributes to micronutrient deficiencies. For example, in Ethiopia the energy supply per capita (in the form of grains) actually increased by 50% over the last 20 years, yet diets continue to include limited amounts of fresh fruit and vegetables or nutrient-dense animal source foods.¹⁵ A much greater effort on enabling access to healthy diets is required, rather than focusing on consumption of staples or relying on humanitarian interventions to ‘fix’ serious and widespread nutrient deficiencies.

Where conflict, climate change, price volatility and/or epidemic disease occur simultaneously (as in mid-2020 when the effects of the coronavirus pandemic were amplified by damage to crops caused by a major locust invasion across the Horn of Africa), there is a serious risk that prior investments and recent progress towards improved health and nutrition may be compromised.¹⁶ Humanitarian action should always aim to meet acute needs,

but it should also seek to protect past gains and increase future resilience. If progress on many fronts is reversed, it sets back longer-term development goals by many years.

This policy brief argues that the international community, and especially policymakers in fragile low- and middle-income countries, must put greater emphasis on making food systems more resilient to the many negative forces contributing to fragility today.¹⁶ While saving lives and livelihoods in the context of crises will remain a humanitarian imperative, steps can be taken – even in fragile settings – to develop food systems capable of providing healthy diets for all. This requires applying a food system lens to address the drivers of suboptimal diets in fragile settings with interventions that go beyond investments in climate-smart or broader ‘risk-smart’ agriculture to address bottle-necks in circulating, storing and selling nutritious food. There needs to be a more systematic approach to enhancing the links between the work of humanitarian and development actors and resources to support actions across the food system which enhance market functions, promote value addition, secure input and output flows, and make nutrient-rich diets more affordable to more people for more of the time.

2. Drivers of fragility and food system failure

While there are many drivers of fragility, a significant role is played by conflict and insecurity, environmental shocks, and weak governance. These drivers are each considered below in terms of how they disrupt food supply chains and the delivery of affordable, nutrient-rich, safe foods.

Food system failure is often signalled by food price volatility. Sharp increases in price make healthy diets less affordable, while decreases can negatively impact poor producers and lead to a reduction in income.¹⁷ In these situations, many households try to protect their consumption of calorie-dense staple foods by reducing their purchase of more expensive and micronutrient-dense foods such as fruits, pulses, legumes and certain animal source foods.¹⁷

Conflict and insecurity

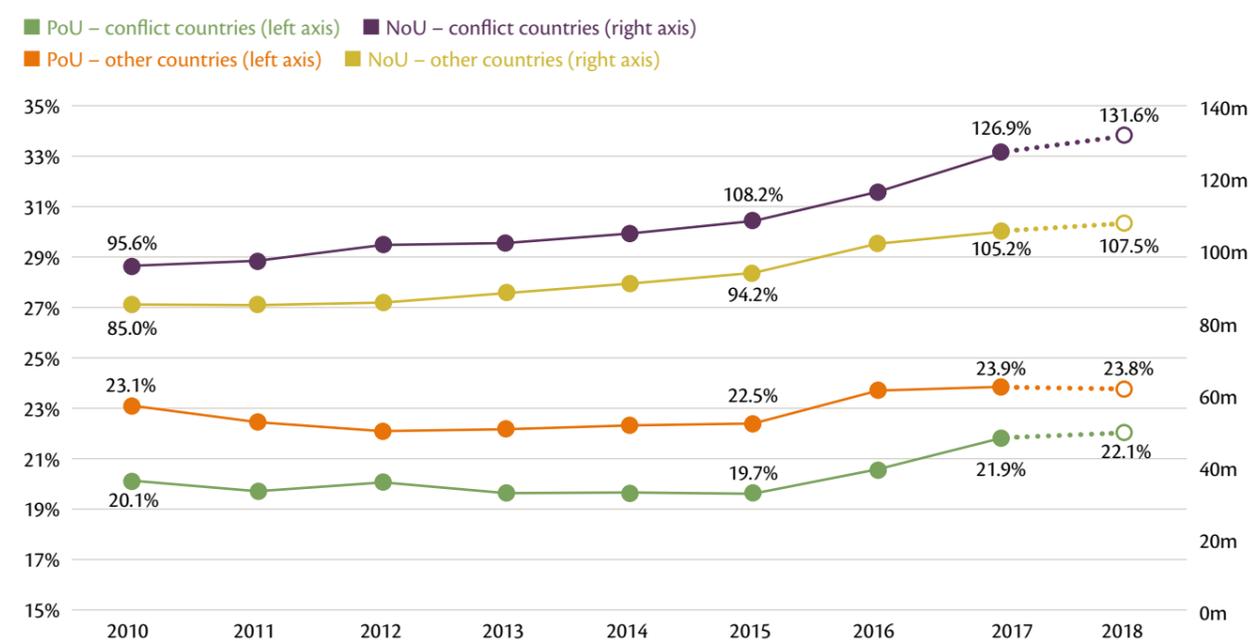
According to the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), “countries with the highest levels of undernourishment tend to be those recently or currently experiencing violent conflict, which disrupts food production and undermines agricultural development”.¹⁸ Since 2015, the total number of undernourished people has risen globally, in large part because of the incidence of civil conflict.

In 2018, there were 52 ongoing state-based armed conflicts, and 76 non-state conflicts. Together, these contributed to an estimated US\$1.2 trillion in global economic losses,¹⁹⁻²¹ an amount equivalent to the entire 2019 Gross Domestic Product of countries such as Mexico, Indonesia or Australia.²²

Undernourishment is now on the rise, and has shown particular growth in West Africa.¹⁶ In conflict-affected countries in sub-Saharan Africa, the number of undernourished people increased by 23.4 million between 2015 and 2018 – and at a faster rate compared to countries not exposed to conflict (see Figure 4). While undernourishment (measured as a lack of calories) is already a critical issue in many countries, conflict leads to even greater numbers of people having insufficient access to healthy diets.

Conflict and food system fragility are mutually linked: each presents a potential underlying driver of the other. Conflict always causes disruption and destruction of food systems. The conditions under food system weaknesses and failures spark civil unrest or violent conflict are unclear. However, there is growing evidence to suggest that this does occur.²³⁻²⁵ For example, outbreaks of violent conflict in Somalia have been found to be causally related to drought incidence and length through the channel of livestock price shocks (see Box 2).²⁶

Figure 4. Undernourishment increases sharply in countries affected by conflict in sub-Saharan Africa



Source: FAO, 2019¹⁶

Note 1: PoU = Prevalence of Undernourishment; NoU = Number of Undernourished Note 2: Projected values, illustrated by dotted lines and empty circles.

Recognizing the potential for averting conflict by tackling the underlying causes, there is a growing appetite among nongovernmental and international actors to take more direct action. This is exemplified through the introduction of the Global Fragility Act of 2019 by the United States Congress.²⁷ The Act requires that the administration develops a new initiative to identify the causes of conflict, and to reallocate resources in order to “prevent violence more effectively and reduce its enormous cost on families and communities.”²⁸ From a funders’ perspective, financing peacebuilding activities in conflict-prone settings is also more cost-effective than financing military responses to violence. It has been estimated that every US\$1 spent on peacebuilding could reduce the costs of conflict by US\$16.²⁹ Additionally, in 2018 the United National Secretary General’s Report on *Peacebuilding and Sustaining Peace* provided a framework for sustaining peace at all stages of conflict and preventing “the outbreak, escalation, continuation and recurrence of conflict.”³⁰ The report recommended “mutually reinforcing reforms” to improve the functioning of the United Nations system to better support Member States in their peacebuilding efforts.

Environmental Shocks

Droughts, floods and other anomalies associated with climate change can damage crops, reduce harvests and negatively impact the quality of foods produced. Impacts on the supply of food are multiplied when repeated shocks occur. In 2019, smallholder producers in fragile states in the Horn of Africa experienced two consecutive poor rainy seasons, leading to germination failure and crop wilting. Somalia, for example, experienced a 60% reduction in output during the main harvest season, and reaped the lowest cereal harvest since 1995.¹³ When persistent drought reduces food availability, price volatility and the lack of affordability of healthy diets become major risk factors contributing to food system failure.³¹ These failures are important as 80% of people who are affected by natural disasters live in fragile settings, and their occurrence is likely to increase with climate change.³² As well as adversely affecting food production, disasters such as floods, storms and earthquakes interfere with physical access to markets by blocking and damaging road networks, especially where infrastructure is poorly developed. They also contribute to natural resource depletion and degradation (such as accelerating soil erosion, and impairing water access).

The evolving climate crisis is expected to disrupt weather patterns, particularly rainfall and temperature, increasing the risk of drought, making it difficult to plan planting and harvest seasons³³. As well as affecting harvests, changes to weather patterns can introduce other shocks, such as the current severe outbreak of locusts in East Africa which has been attributed in part to unusually wet conditions in the Horn of Africa.^{34, 35}

As with conflict, the relationship between environmental shocks and fragility is mutually reinforcing.¹ While environmental shocks can exacerbate fragility, the presence of fragility can worsen their

Box 2. Drought fuels conflict in Somalia through livestock price shocks

The livestock sector is central to the economic and cultural life of Somalis, contributing approximately 60% of GDP and accounting for around 75% of total exports by value.³⁸ Around half of the Somali population resides in rural areas, and pastoralism or semi-pastoralism is the main source of livelihood for most rural Somalis. Additionally, many people in urban areas earn their income as livestock traders, brokers, or labourers in related activities.^{26, 38}

Somalia is highly vulnerable to drought. This poses a major threat to the livestock sector, further compounded by the absence of public safety nets, and weak credit and insurance markets. Where drought results in livestock price downturns, the loss of earnings reduces the opportunity costs of participating in conflict activities. Hence, local livestock markets have been found to be the primary channel through which droughts fuel conflict in Somalia.²⁶

By intervening in entry points across the food system, governments can reduce the extent of livestock price collapses and the subsequent deterioration of household incomes and, with it, the risk of civil conflict. Possible interventions include the introduction of social safety nets, investments in livestock sector marketing and infrastructure, and the development of formal insurance mechanisms and credit systems.²⁶

impact, causing immediate food crises. Over the longer term, fragility can prevent recovery in populations who have lost productive assets. The severity of climate impacts on fragility is partly mediated by weak governance, putting additional pressure on governance structures which already have limited capacity to respond.³⁶ In South Sudan, drought, in combination with poorly planned development efforts, has contributed to population displacement, famine and communal conflicts.¹ Similarly, the management of natural resources such as water can be impaired by poor governance and recurrent conflicts which damage infrastructure.^{8, 33} Water crises undermine welfare, put livelihoods at risk, and can indirectly instigate or fuel localised conflicts.³⁷

Institutional constraints and weak governance

Governments that are unable and/or unwilling to protect rights, and allow the delivery of basic services to all citizens, help perpetuate fragility and can contribute directly to the food system failures that characterise most humanitarian emergencies.³⁹ In Syria, for example, agricultural support for farmers was reduced dramatically prior to the outbreaks of conflict in 2010-11. The government restarted some support during 2011-2016, but the constraints of weak institutional



“ For the 1.8 billion people who live in economically, ecologically and/or politically fragile parts of the world, the vulnerability of food systems and the threat of malnutrition is not just a risk, it’s the reality. ”

Dr Shenggen Fan, Global Panel Member and Chair Professor of China Agricultural University

capacity and continuing conflict led to a reduction in the availability of agricultural inputs, with 25% of households lacking seeds and over half lacking access to fertilisers.⁴⁰ Even where governments are committed to reform, the impact of interventions on food systems can be compromised by high costs, corruption, and limited institutional capacities to enact significant change.

Weak governance and institutional constraints also inhibit the development and enforcement of food safety regulations. These are essential for food producers and processors to implement effective systems for controlling foodborne pathogens.⁴¹ Their absence puts health at risk and undermines consumer trust, which affects food markets and reduces opportunities for new businesses. More broadly, evidence in settings with weak governance shows that reduced trust among key stakeholders can damage horizontal and vertical market linkages, and relationships between producers, organisations and NGOs.⁴²

The international architecture of aid is also not helpful when it maintains silos between development and emergency relief funding and operational activities.⁴³ The Sendai Framework for Disaster Risk Reduction (2015-2030) argued strongly that emergency preparedness should be a priority for all governments, and that development activities are needed in fragile settings to lay the foundations of future growth and greater stability. Institutions and intervention mechanisms must be ready to act to reduce the impact of various hazards on food systems. For example, last year there were calls to improve pandemic preparedness and response in fragile states, which if implemented could have mitigated some of the impacts of the current coronavirus pandemic.⁴⁴ However, weak governance in fragile settings often inhibits the formation of the required coordination mechanisms, and institutional capacities to manage these risks are often absent or constrained. Rebuilding capacity (human, institutional and financial) for effective governance is therefore essential both to respond effectively to emergencies, and to rebuild and protect functional food systems post-crisis.

3. The scale of human need in fragile settings

Humanitarian resource needs in fragile settings are framed by the failure of food systems. Where food production, marketing, storage, processing and sales are impaired, food supplies and prices become unpredictable. This, in turn, contributes to uncertainty about sources of food and income, and how much reliance can be placed on government systems to buffer immediate consumption and health needs when households face the consequences of natural disasters or conflict.

🔥 **Protracted emergencies are not going away, but opportunities to achieve the SDGs will.** 🙏

World Health Organisation 2016⁴⁸

Between 2014 and 2018, the total amount of international humanitarian aid grew by 30%, from US\$22.2 billion to US\$28.9 billion (see Figure 5).⁴⁵ At the same time, governments and households in affected countries spend a considerable proportion of their budgets on problems associated with repeated shocks. Global goals cannot be achieved while dozens of countries and millions of people remain unable to fully participate in their own development. ODA loans to 'protracted crisis response countries' (those experiencing crises for multiple years) are also growing fast, rising by almost 400% between 2012 and 2017, compared with just 40% for all other developing countries over the same period.⁴⁵

Of the US\$13.5 billion in humanitarian aid contributions from governments recorded by OCHA in 2017, the food sector received more than US\$3.7 billion – the highest proportion of funding allocated to any sector (see Figure 6).²¹ These funds are used to support in-kind delivery of food aid, and cash and voucher assistance (see section 5, below),⁴⁶

to help recipient households obtain the food that they need and to prevent child undernutrition.

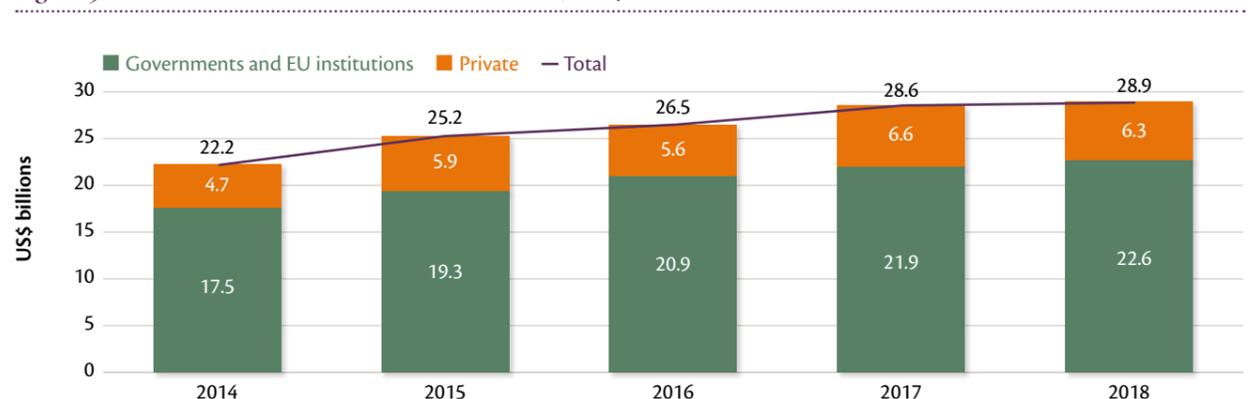
By the end of 2019, the amount of humanitarian aid requested through UN-coordinated appeals had reached US\$29.7 billion.⁴⁷ Commitments made in response to the appeals led to a shortfall of US\$13.74 billion, and only 54% of requirements were met. In that year, more than 27 million people were left facing famine in Nigeria, South Sudan and Yemen.⁴⁷

Humanitarian funds have also been converging on a small number of countries. In 2017, seven countries received 52% of all humanitarian assistance allocated by country (see Figure 7).⁴⁵ In particular, Syria and Yemen received aid under 'emergency' situations for several years and continue to require substantial intervention to respond to the many needs of their citizens. The cumulative effects of these challenges can be seen in terms of endemic poverty, protracted food crises, mass migration and persistent hunger and undernutrition.

Humanitarian aid has evolved over recent decades but was originally designed to respond to short-term shocks and to save lives, while seeking to prevent livelihood losses which compromise the recovery of individuals, households or communities (see Box 3). Importantly, more resources alone will not be enough to address these issues. To overcome the failure of food systems in fragile contexts, there needs to be a concerted effort between humanitarian aid response and longer-term development funding. Strengthening food systems and making them more resilient has a critical role to play in addressing the root causes of food insecurity and malnutrition in structurally fragile contexts.

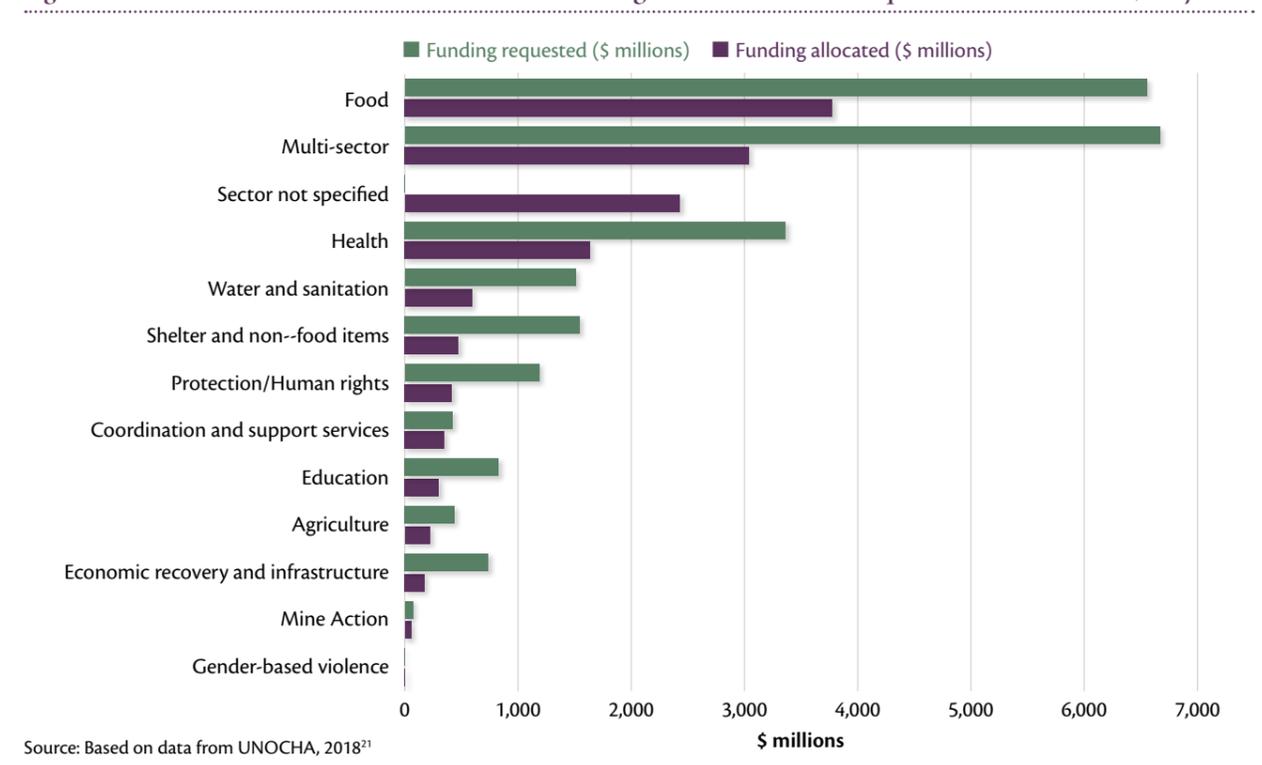
In 2016, a World Humanitarian Summit (WHS) called for a move "from delivering aid to ending need".⁵⁴ This applies squarely to

Figure 5. International humanitarian assistance, 2014-2018



Note: Figures for 2018 are preliminary estimates. Totals for previous years differ from those reported in previous Global Humanitarian Assistance reports due to deflation and updated data. Data is in constant 2017 prices.
Source: Development Initiatives, 2019⁴⁵

Figure 6. How humanitarian aid contributions from governments were requested and allocated, 2017

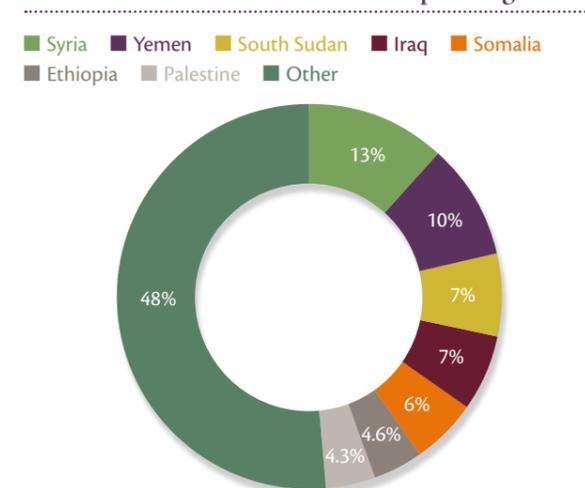


Source: Based on data from UNOCHA, 2018²¹

food system functions, where traditional models of delivering food aid in kind and providing farm seeds and tools have given way to a search for cost-effective approaches to further supporting enhanced food purchases, strengthening local markets, and strengthening rural livelihoods beyond agriculture, an agenda characterised as the Humanitarian-Development Nexus. In response, the Global Network against Food Crises

(GNAFC) was launched by the European Union, the Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP). Today, made up of 15 international humanitarian and development agencies, the GNAFC explicitly acknowledges "the centrality of food and agri-food systems in preventing food crises and mitigating their impact, boosting recovery and reconstruction".⁵⁵

Figure 7. Seven countries account for more than half of the world's humanitarian spending



Source: The New Humanitarian, 2019⁴⁹, original data: Development Initiatives, 2019⁵⁰

Box 3. The humanitarian-development interface and food assistance

Humanitarian aid is used in emergency responses to help "meet acute needs, in order to save lives, alleviate suffering, and maintain and protect human dignity".⁵¹ These funding systems are designed to fund a short-term response to a specific crisis. **Development aid** focuses on long-term goals to reduce risks and vulnerabilities, and attempts to address root causes of the issues in fragile contexts.

Food assistance refers to the tools used in the humanitarian sector to provide indirect access to food, and requires an in-depth understanding of long-term nutritional needs.⁵² It is designed to "ensure the consumption of sufficient safe and nutrient-rich food in anticipation of, during, and in the aftermath of a humanitarian crisis".⁵³ Food assistance encompasses a range of instruments including cash and voucher assistance, school meal programmes and agricultural support to enable communities to feed themselves.⁵²

4. Characteristics of food systems in fragile contexts

Food systems in fragile settings are prone to failure in multiple ways. They are typically unable to match supply and demand because of insecurity, damaged roads and markets, distorted food prices, low levels of farm productivity, destroyed food stores, limited investment by public or private sector entities, and severely constrained household purchasing power. Figure 8 shows the breadth of impacts across various food system domains: impaired agricultural production, disrupted market and trade systems, interruptions to food transformation and processing, and constrained consumer purchasing power. Each of these affects the ability of populations to access diets which are affordable, acceptable, safe and of adequate quantity and quality. There may also be low demand for healthy diets in fragile settings with high levels of food insecurity, as consumers prioritise caloric quantity rather than the micronutrient quality of food.

The experience of fragility across population sub-groups is not uniformly distributed^{24,56} and the impacts on the specific food environments of different individuals and communities are highly variable. What is clear, however, is that repeated shocks to food systems compromise dietary diversity, food intake adequacy and safety for a significant proportion of the population.

Monitoring the linkages between food system domains

Shocks in one part of the food system often have negative effects on other parts. For example, fragile contexts often feature rising unemployment, currency depreciation, poorly functioning markets and high food prices, all of which damage people's incomes, human capital and purchasing power. Affected

Figure 8. Characteristics of food systems in fragile contexts

Market and trade systems (exchange and movement of food)

- Destroyed roads and bridges
- Long journey times increasing costs and spoilage
- Delays and high-transaction costs due to checkpoints
- Damaged relationships and mistrust
- Price volatility
- Uncertain demand
- Impaired access to farm inputs
- Limited commercial investments across the entire food system

Food transformation (food processing and retail)

- Interrupted supply chains
- Poor communication along the value chain
- Disrupted access to credit, banking services, insurance
- Breakdown of licencing, standards, testing facilities
- Labour shortage
- Unreliable energy supply affecting refrigeration, storage, processing

Food environment

- Limited access to a healthy and diverse diet
- Food safety concerns
- Increased cost and price volatility
- Contraction of number of market/retail points

Agricultural production

- Impaired food production
- Restricted access to land (e.g. due to displacement or landmines)
- Labour shortages
- Poor access to credit, banking services, insurance
- High cost / poor quality of inputs e.g. fertilisers, pesticides, herbicides, fuel
- Poor access to extension services

Consumer demand and purchasing power

- Damage to livelihoods and income
- Loss of assets and savings
- Violence and trauma
- Low mobility of consumers

Box 4. North-east Nigeria: armed conflict contributes to food system fragility

The negative impact of armed conflict on food production and marketing, through the destruction and theft of capital, reduced access to land and labour and other inputs is well supported by evidence.²³ The knock-on effects for nutrition can be high, due to reduced production and income, coupled with the impact of reduced access to healthcare, water, and caregiving.

In 2016, against the backdrop of the Boko Haram insurgency, the production of sorghum, millet and rice in north-east Nigeria had already dropped by 82%, 55% and 67% respectively, compared with the five-year average.⁶² Other major crops such as cowpeas, groundnuts and vegetables (tomatoes, onions and peppers) also experienced a sizeable decline in total production. Damage and destruction of livestock, farming facilities, input infrastructure, and restricted access to land between 2009 and 2016 is estimated to have cost around US\$3.7 billion.⁶²

Traders avoided high-risk locations, and markets for both inputs and outputs were severely disrupted, affecting the availability and cost of seeds and fertilisers, and opportunities for sale. The reduction in agricultural output in the three most affected states of Borno, Yobe and Adamawa, was accompanied by a fall in daily wages for agricultural labourers, and an increase of up to 124% in the market price of cereals in January 2017 compared with the year before.⁶³

Households in the region faced repeated crises of depleted food stocks, displacement, disrupted health services, and limited access to humanitarian assistance. Demographic health surveys between 2008 and 2013 show childhood wasting increased from 18% to 23% in conflict-affected states during this period, compared with a reduction of 10% in adjacent non-conflict states.⁶⁴ This suggests that the incidence of childhood wasting would have been 13 percentage points lower in the absence of conflict in north-east Nigeria.

populations often pursue a strategy of consumption smoothing by depleting non-productive assets, but may be forced eventually to sell assets on which their livelihoods depend.^{57,58} Some coping strategies have the effect of increasing the relative costs of food due to diminishing terms of trade, for example between food and livestock, as the sale of livestock assets increase.⁵⁹

Fragility can also lead to local businesses being undercut by competition with lower-cost imports, hindering their ability to play a more significant role in the food system. In fragile contexts, there is often a lack of private sector investors, particularly in transportation and processing, because of instability, insecurity and consequent poor returns on investment.⁶⁰ For example, recent surveys of food environments in countries such as Somalia, Niger, and Madagascar found that nutrient-rich diets were 4-7 times the cost of a diet that only meets energy needs, compared to only 2-4 times the cost in relatively stable settings. Rural markets in some fragile settings also offer significantly less variety of foods than urban markets, especially animal-sourced foods, compared to stable settings where rural markets tend to offer more variety.⁶¹ While the availability and price of cereals, beans and oil is often a priority for humanitarian assistance in low- and middle-income countries, national price monitoring systems (for example in Somalia, Niger, DRC, Madagascar) do not record the variation of availability and prices of nutritious foods, including fruit, vegetables and animal-sourced foods, across seasons and in different years.⁶¹

Understanding and monitoring the linkages between the elements of the food system in fragile contexts and the coping strategies of vulnerable groups is important for prioritising policy interventions. Specific examples of vulnerabilities in different domains of food systems in four fragile settings are shown in Boxes 4 to 7.

Box 5. food price shocks and conflict contribute to food system fragility

Volatile food prices have particularly serious, negative impacts on the food purchases and nutritional status of low-income consumers.¹⁷ Faced with higher prices for staple goods such as rice or wheat, evidence from numerous surveys show that poor households generally cut back on micronutrient-rich foods to maintain their consumption of core staples.^{65,66}

Food systems in Afghanistan have been marked by decades of conflict, political instability, and recurring drought, and over 80% of the population spends more than half of their total budget on food.⁶⁷ Between 2007 and 2008, Afghanistan experienced several shocks that led to a disruption of its food supply. The 2008 wheat harvest of 1.5 million metric tons was the worst since 2000 and the price impact of the large shortfall in wheat production was magnified by export bans in Pakistan and rising international food prices. During this period the price of wheat flour (the dietary staple) doubled.⁶⁷

Household surveys at the time of the food price shock showed that the most vulnerable households were already close to or below the minimum daily energy requirements, and they diverted spending towards maintaining caloric intake, and experienced very large declines in dietary diversity.⁶⁷ Rapidly rising food prices, volatility and uncertainty can also have negative effects on social, economic and political stability. In Egypt, Yemen and Tunisia, spikes in food prices were a key element triggering civil unrest and violence.^{17,25}

As governments, the private sector and civil groups work to rebuild food systems in post-conflict or crisis environments, I urge them to ensure stronger and resilient systems which can withstand future shocks.

H.E John Kufuor, Global Panel Co-chair and former president of Ghana

Box 6. The West African Sahel: drought and insecurity contribute to food system fragility

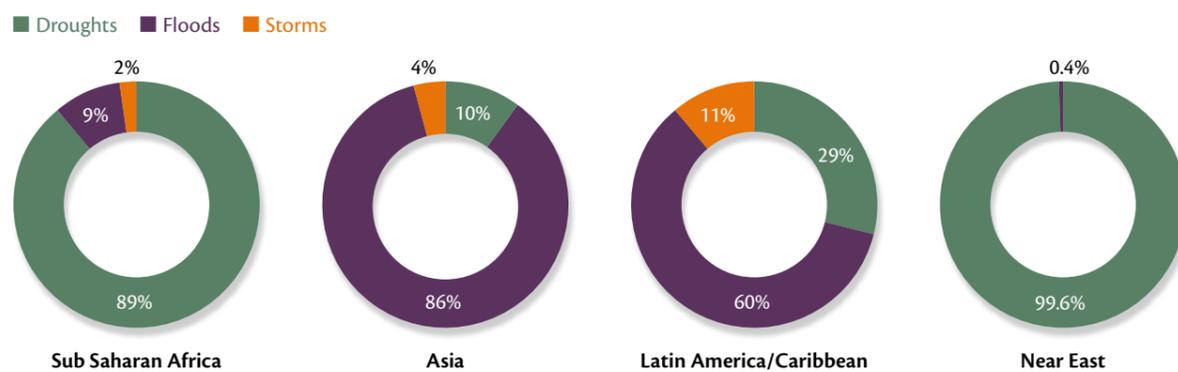
Climate change, recurrent extreme weather events and their effects on soil degradation, biodiversity loss and increased pests and diseases are important drivers of food system fragility. The occurrence of natural disasters has risen globally over the past 30 years,⁶⁸ with drought responsible for an estimated 89% of all agricultural production losses in terms of value in sub-Saharan Africa between 2003 and 2013 (see Figure 9). Repeated climate shocks can exacerbate conflict, further compromising food systems.

The West African Sahel region is increasingly characterised by severe rainfall deficits, shortfalls in production and declining livestock sales, leading to deteriorating incomes. During years

of crisis, pastoralists sell livestock to purchase food, leading to high food prices coinciding with low prices for livestock.⁶⁹ Poor water availability and pasture degradation in the region in 2018 led to limited fodder production, causing pastoralist households to bring forward their migration by two months. High herd concentrations in certain areas led to localised conflicts between farmers and herders, while animal foot and mouth disease broke out in the region and remained an issue throughout the year.⁷⁰

In 2018, an estimated 5 million people in the Sahel region, encompassing Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal, were in need of urgent food, nutrition and livelihood assistance, a 20% increase compared to a year earlier.⁷⁰

Figure 9. Share of total value of agricultural production losses associated with environmental disasters, by cause and region, 2003-2013



Source: FAO, 2017⁶⁸

Box 7. Venezuela: weak governance and sanctions contribute to food system fragility

Deteriorating economic and political conditions in Venezuela since 2014 have decreased households' access to food, medicine and healthcare, contributed to increasing humanitarian needs and triggered an influx of Venezuelans into neighbouring countries, including Colombia, Ecuador, and Peru.⁷¹ Most of Venezuela's food supply is imported. The political and economic crisis has led to a collapse in the value of the local currency, compromising food imports which fell by 67% in 2016-2017.⁷⁰ Hyperinflation severely reduced the

purchasing power of households, further limiting access to food. The crisis in Venezuela has led to huge population displacement. It is estimated that the number of Venezuelan refugees and migrants rose to 4.5 million in 2019.⁷² This mass migration puts pressure on host communities, with many Venezuelans arriving in host countries in need of health and nutrition assistance. Estimates indicate that in 2019, 55% of migrants in Colombia were moderately or severely food insecure, and 76% in Ecuador.¹³

5. Strengthening food systems in fragile contexts to deliver healthy diets

Applying a food systems lens to humanitarian programming

A food systems lens must be applied to programming to provide durable access to healthy diets in fragile settings. While early humanitarian responses focused on protecting food consumption by delivering in-kind food aid, a twin-track approach emerged in the 1990s to combine demand-side interventions with supply-side actions. This shifted the focus beyond immediate relief via food to actions to rebuild and support agriculture, livelihoods and health in the longer term.⁷³ The idea grew out of a realisation that while saving lives is an essential mandate, humanitarian aid is unable to help people to thrive post-crisis if productive assets are depleted and underlying issues have not been resolved.⁷⁴

Box 8. The Grand Bargain.

In 2016, the 'Grand Bargain' was launched during the World Humanitarian Summit to address the substantial and growing shortfall between humanitarian need and available funding. The Grand Bargain involves a series of changes in the working practices of its 61 signatory donors and aid organisations (24 states, 11 UN Agencies, 5 inter-governmental organisations and Red Cross/Red Crescent Movements and 21 NGOs).⁷⁵ They include scaling-up cash and voucher assistance (CVA), greater funding for national and local responders, and reducing bureaucracy through harmonised reporting requirements.⁷⁶



Figure 10. Actions to build resilient food systems in fragile settings

Market and trade systems (exchange and movement of food)

- Restore buildings and roads
- Build capacity of smallholder farmers
- Engage large traders to stabilise supply
- Improve food storage systems
- Broker links between producers and traders

Food transformation (food processing and retail)

- Strengthen supply chains
- Improve regulation of food safety
- Improve food storage systems for healthy diets
- Protect electricity supplies
- Improve access to credit for processors and retailers

Food environment

- Improve regulation of food safety
- Increase availability of nutritious foods

Agricultural production

- Strengthen livestock economy (animal health, feed, and fodder)
- Reduce costs of inputs
- Build capacity of smallholder farmers
- Infrastructure development

Consumer demand and purchasing power

- Build resilience of livelihoods
- Implement social safety nets
- Cash and voucher assistance to increase purchasing power
- Promote nutrition education

In 2011, the 'Transformative Agenda' agreed by the United Nations⁷⁷ established a series of protocols aimed at, among other things, strengthening needs assessments, and monitoring and evaluation to improve accountability to affected populations and to develop a more effective and strategic response. The World Humanitarian Summit in 2016 reinforced these goals, and sought to address the widening gap in funding (see Box 8). It also recognised the need to apply a multi-year timeframe to planning in humanitarian and post-crisis contexts, as codified in the 2016 Humanitarian-Development Nexus concept.

These changes have been accompanied by shifts in humanitarian programme design which increasingly recognise that the prevention of crisis-related mortality requires explicit attention to nutrition.⁷⁸ There has also been a partial shift from feeding people to ensuring that nutrient-rich foods get to those most in need. Innovations in the management of child wasting, including the development of ready-to-use therapeutic foods, have allowed treatment to move out of hospitals to community-based settings, enabling many more children in need to be reached.⁷⁹ Another development has been growth in the use of cash and voucher assistance, rather than food aid, to allow people to purchase food themselves while simultaneously supporting local markets. These activities have opened up the possibility for strengthening food

systems by increasing purchasing power, engaging the food retail sector, improving market functioning, and enhancing information flows. The following sections present a range of interventions which exemplify the more system-led approach of strengthening food systems in fragile environments. Figure 10 highlights where the actions discussed below fit into the food systems.

Cash and voucher assistance

Cash and voucher assistance (CVA) is regarded as an important mechanism in humanitarian assistance in fragile settings.⁸⁰⁻⁸² In line with global policy shifts in humanitarian aid characterised by the 2016 Grand Bargain (see Box 8), CVA aims to enable beneficiaries to make decisions on their spending to best meet their basic needs, and to have a positive effect on local markets. Where market conditions are appropriate, CVA can be used as a response to shocks in humanitarian settings or as part of longer-term development programmes.⁸³ Evidence shows that cash injections tend to generate a positive impact on local economies by enabling investment and building markets through increased demand for goods and services. They may also reduce tensions between displaced communities and host populations by economically empowering people to support local markets.

To maximise benefits for agriculture and livelihoods, these programmes are sometimes combined with inputs such as seeds, animal feed and tools, or technical training.⁸³

One form of CVA is electronic pre-paid vouchers (e-cards) which can serve as the delivery mechanism for both unrestricted cash and food-restricted vouchers. Their introduction has enabled humanitarian providers to deliver aid more quickly, expanded choice and dietary diversity for recipient households, and saved time and money on shipping and storage of in-kind food aid. This approach also supports local farmers, food producers and business owners by expanding their customer base and providing a more reliable market for their crops and products. From 2012 to 2016, WFP's e-cards injected over US\$1.3 billion into the economies of Syrian refugee host countries across the Middle East.⁸⁴ In a study of cash- and voucher-delivered assistance for Syrian refugees in Lebanon, unrestricted cash assistance had a greater impact in improving dietary diversity than vouchers. Fifty percent of cash households consumed foods rich in vitamin A on a daily basis, as opposed to 39% of voucher households, and 64% of cash households consumed protein-rich foods daily, compared with 53% of voucher households.⁸⁵ These findings were corroborated by focus group discussions, where recipients of cash assistance reported increased dietary diversity, including higher consumption of dairy, chicken and vegetables.⁸⁵ Unrestricted cash assistance increased purchasing power as recipients could access the full market, rather than only the WFP shops where vouchers could be spent, allowing them to search for the best

value for money. How this plays out in other contexts will depend on the value of the vouchers, and the quality and price of foods on offer.

WFP has developed further interventions, such as the Kenya Retail Engagement Initiative (KREI), to expand the benefits of CVA and to strengthen food systems across several domains (see Box 9).⁸⁶ The KREI example addresses consumer purchasing power, retail and demand, market development and trade systems, food price volatility and agricultural production together to improve access to nutrient-rich diets.

Safety nets

Social safety nets are typically provided as part of government social protection frameworks and are often designed with a longer term view than CVA.⁸⁷ Social safety nets usually comprise transfers to poor or vulnerable households or individuals (in cash or in kind), and entitlements to reduced expenditure (for example targeted subsidies). They are often part of broader permanent social protection systems, including labour market interventions and school feeding programmes.⁸⁸ These interventions are usually funded by a blend of domestic resources, with medium/longer-term programmatic frameworks incorporated into national budgets. These more permanent, long-term systems can help respond to unexpected shocks, such as the current COVID-19 pandemic (see Box 10). Care should



Box 9. Kenya Retail Engagement Initiative

In Kakuma Refugee Camp and Kalobeyei Settlement in Kenya, WFP provides food assistance in the form of food in-kind and cash, known locally as *'Bamba Chakula'*. This initiative is designed to provide greater dignity and choice of goods to beneficiaries, and also to stimulate the local economy and improve business opportunities for the benefit of both refugees and surrounding communities.⁸⁶ However, it has been challenging for beneficiaries to access and afford preferred commodities as a number of factors (such as low capacity of traders, limited competition and poor infrastructure) have led to high market prices and limited availability of goods. To address this, the Kenya Retail Engagement Initiative was established to improve the value chains which supply refugee markets. To date, the initiative has:

1. Addressed inefficiencies within the food value chains that supply markets to increase the purchasing power of refugees and the local community:

- *'Bamba Chakula'* traders have been linked directly to wholesalers and food manufacturers to strengthen linkages within the supply chain, cutting out middlemen and the associated mark-ups.
- WFP has assisted medium-sized wholesalers to gain access to large-scale food manufacturers and importers to improve sourcing of goods at reduced wholesale prices. The gains for refugees and local communities include reduced cost of goods, short-term credit arrangements and availability



Photo: WFP/William Orlale

of an increased variety of goods, which stimulates local markets. Since January 2018, wholesalers have extended 46 million Kenyan shillings (US\$460,000) of credit to the *'Bamba Chakula'* traders every month.

- Retail prices have decreased by up to 10% since November 2016 and have remained relatively stable despite the impact of the 2017 regional drought.

2. Improved the availability and affordability of fresh produce and nutrient-rich foods:

- WFP is working with vegetable traders from Kitale and fishing communities from Lake Turkana to supply markets in Kakuma Refugee Camp and Kalobeyei Settlement. Leading fresh produce traders from Kakuma and Kalobeyei have also been linked to WFP-supported agricultural irrigation schemes in the southern parts of Turkana.
- This has led to a greater and more constant supply of more diversified and nutrient-rich commodities in these markets, serving refugees 400km away from Kitale.
- 10 trading sheds (for vegetable and fish sellers) have been constructed to improve the hygienic handling of fresh food in local markets in Kakuma and Kalobeyei. The sheds house almost 100 retailers selling fish and/or vegetables.
- The supply of fresh produce to Kakuma Refugee Camp and Kalobeyei Settlement markets has increased in terms of value from approximately two million to four million Kenyan shillings, with seven trucks regularly delivering fresh produce to both markets, up from just two. One example of the impact of this initiative on costs is the reduction in the price of fresh tomatoes by 30%.



Photo: WFP/William Orlale

3. Contributed to self-reliance by creating economic opportunities:

- WFP, FAO and Turkana County Government identified four priority value chains with economic potential and high nutritional value: goat meat, sorghum, cowpeas and poultry. WFP plans to develop a business model to assist the Turkana business community to take advantage of this opportunity and work with smallholder farmers to overcome challenges such as storing meat products, to increase their availability in local markets.
- The private sector plays a critical role in improving the overall food system, particularly in food transformation, while banks and microfinance institutions have the potential to address the financial constraints that most traders encounter in day-to-day operations. Working closely with the private sector (including food manufacturers, large wholesalers and traders) could translate WFP's cash assistance into sustainable business models.

always be taken when implementing these measures to ensure that social protection programmes do not exacerbate inequalities, and risk re-igniting conflict⁴².

In 2005, the Ethiopian government introduced the Productive Safety Net Programme (PSNP), a shock-responsive social protection programme.⁸⁹ Through the provision of multi-annual, predictable food or cash transfers, PSNP targets chronically food insecure rural households, aiming to increase the resilience of communities to food shortages. Over seven million people have been supported by the PSNP, one of the largest safety net programmes in the world.⁹⁰ It has led to improved access to social services, and Gross Domestic Product has increased by approximately 1% through the stimulation of both production and demand. Important environmental improvements with longer-term implications for food system functioning included a 40-53% reduction in soil erosion, an increase in water availability

and quality, and increased biodiversity, all of which contribute to the improved potential for growing food.^{91, 92}

Infrastructure and market development

Some communities in fragile states (such as South Sudan, Yemen and Somalia) are remote, due to challenging topography, relatively low population densities, and limited past investments in transformation, transport and market infrastructure. Where roads and bridges are inadequate to start with, or damaged or destroyed during a crisis, access to markets and market performance are reduced, with negative impacts on food and nutrition security. Investment in infrastructure to enable effective functioning of food systems is therefore critical, particularly for those whose livelihoods are dependent on agriculture.¹⁰⁵

A key focus of WFP's *'Food Assistance for Assets'* programmes is the restoration of old roads, and the building of new ones to improve access to food and basic services, restore trade, and to support the development of new markets.¹⁰⁶ In South Sudan, food and nutrition security has deteriorated progressively, due to conflict, insecurity and economic decline, exacerbated by regular flooding.¹⁰⁷ Investment is needed in the country's very limited road network to improve access to markets, encourage agricultural production, enable farmers and pastoralists to readily access inputs and support, and increase the availability of nutrient-rich foods.

Infrastructure development of all types is necessary to make food systems in fragile contexts resilient to shocks of all kinds. Access to energy allows for cold and other improved storage systems and helps to reduce food lost in the post-harvest value chain.¹⁰⁸ In 2014 the World Bank supported a project in Mali to expand access to electricity in rural areas and increase the

use of renewable energy in rural electricity supplies through private sector participation.¹⁰⁹ Since the implementation of this project, rural access to electricity has increased from 1% to 16.88% with the involvement of 63 private operators.

Strengthening livestock economies

In the West Bank region, FAO promotes the use of hydroponic technology, a method in which plants can be grown without soil, amongst vulnerable herders and their cooperatives.¹¹⁰ This technology enables the production of low-cost, high-quality fodder throughout the year, increasing resilience to drought and price volatility. Improving the efficiency of fodder production and reducing the costs of fodder by 30% prevents herders from having to resort to selling assets which are essential to their livelihoods, such as livestock, to cope financially during shocks.

Box 10. COVID-19 in fragile settings

In 2020, the lockdowns imposed in response to the COVID-19 pandemic caused considerable distress to consumers, retailers, transporters and producers alike.⁹³ Fragile settings were left extremely vulnerable to food system disruption associated with impaired physical mobility and restricted economic activity. The disruption of food supply chains and related livelihood losses have exacerbated pre-existing challenges, deepening vulnerabilities⁹⁴ amid concerns that the 'crisis within a crisis' may also impede the delivery of humanitarian assistance, and not just increase the numbers needing it.⁹⁵ In May 2020, the UN appealed for US\$6.7 billion to support humanitarian responses mainly in fragile countries during the pandemic.⁹⁶

The global economic slowdown occurring in response to the pandemic will affect low- and middle-income countries in general, and fragile states in particular. Some countries have implemented export restrictions to protect access to healthy diets in their own countries, which has reduced the volume of imported foodstuffs in others. For example, in Egypt the restricted flow of food imports has led to a 40% reduction of imported calories.⁹⁷ Processing activities within Egypt have increased to compensate for this, but it is unclear how long this will last.

The effects of the current pandemic may combine with existing shocks in fragile settings, and further disrupt food systems. In Somalia close to half a million people have been displaced by recent floods, while the country is experiencing its worst locust outbreak in 25 years. This is expected to increase the number of people facing food insecurity by half a million.⁹⁸ Many fragile countries are also having to respond

to the pandemic while embroiled in ongoing or even escalating conflicts. Despite the UN Secretary-General's calls for global ceasefire, conflicts are escalating in Libya and humanitarian partners are facing constraints in providing assistance.^{99, 100}

The size of the economic stimulus packages being used in high-income countries in response to the pandemic may put constraints on capacity for foreign assistance. Existing funding is being repurposed for COVID-19 responses, and the United Nations Joint SDG Fund announced that recipients can redirect up to 20% of their development funding accordingly.¹⁰¹ Policymakers in both the humanitarian and development sectors should recognise that protecting healthy diets is part of the COVID-19 response, as those who are undernourished may have weakened immune systems. Lack of access to food has been one of the main barriers to staying at home during the pandemic in Africa.¹⁰²

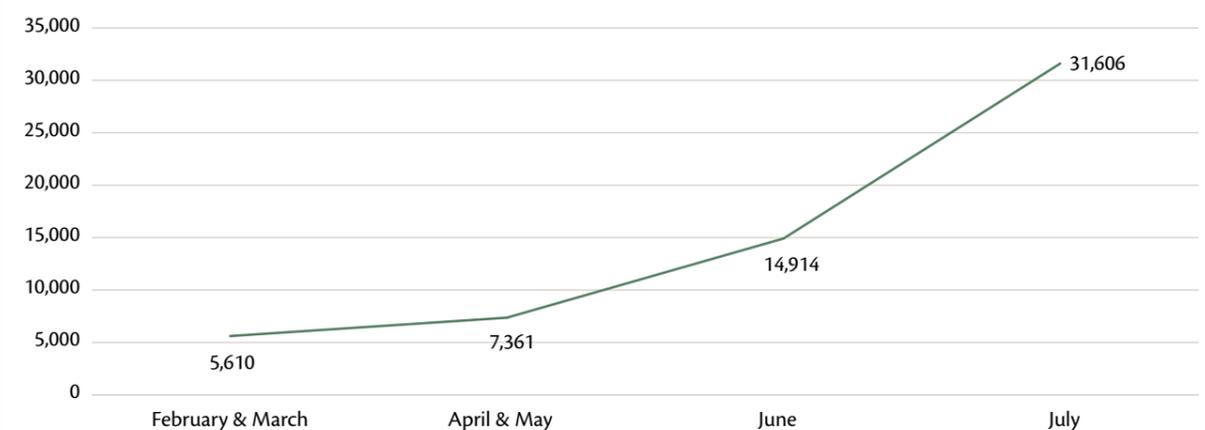
Responses to COVID-19 will need to focus on improving access to healthy diets in the short term, and consider actions to help food systems to become more resilient against future threats. Essential diet support and nutrition initiatives such as school feeding programmes, food transfers and food fortification should continue wherever possible. Social protection measures should also be broadly implemented to help mitigate local impacts of the pandemic on food systems.¹⁰³ Where social protection measures are already in place, such as the PSNP which has built-in emergency funding,¹⁰⁴ they should be enhanced and expanded to support the most vulnerable populations, who are most at risk in the pandemic.

Box 11. Solar-powered food storage in Somalia

Somalia faces ongoing political instability and suffers from recurrent natural hazards such as drought and floods.¹¹⁴ Some projects in the country are working with farmers to address post-harvest losses in the supply chain, where an estimated 37% of produce is lost every week due to inadequate storage facilities.¹¹⁵ For example, WFP aims to improve food security and nutrition by increasing the availability of fresh produce at markets through the use of solar-powered, cold storage solutions. Forecasted benefits of the programme include

extending supply, and the life of perishable, nutrient-rich foods for consumers, reduction of pre-sale losses, potential reductions in the cost of food and better use of limited water resources.¹¹⁵ Figure 11 shows the increase in sales of fresh produce during the first three months of implementation. Some of this gain can be attributed to the seasonal availability of produce but the majority is attributable to the freshness of the products, the increased lifespan of the produce and the increased range of produce sold.¹¹⁵

Figure 11. Volume of sales (USD) of fresh produce in Dolow Gedu region, Somalia



Source: WFP, 2019 115

Efforts to strengthen the livestock sector should also aim to enhance the resilience of communities, given the long time that it can take to re-build stock following a crisis. Many livestock populations in rangeland areas follow a 'boom to bust' pattern, where there is a period of growth, followed by a period of die-off due to weather, disease or forage level competition between livestock.¹¹¹ There is a need to build capacity within pastoralist communities to improve the management of small businesses and increase cattle populations to help strengthen the livestock economy and stabilise the food supply.

A capacity-building package in the Borana pastoral system in Ethiopia was designed in 2000 to diversify the livelihoods of pastoral women, improve living standards, and enhance livestock marketing.¹¹² Interventions to improve numeracy as well as to promote a 'saving culture' were implemented to encourage the adoption of banking and wealth management practices. Collective-action groups were also established to create social safety nets and consolidate community leadership. These groups were connected to expanding livestock markets to generate financial capital. Participants who underwent capacity building adapted their livelihood strategies to include more small-business activity and diversification. During the course of that project, the

area suffered a major drought, but the pastoralists involved were better able to manage the associated risks.

Reducing post-harvest losses

Globally, it is estimated that about 14% of food produced is lost in the post-harvest segments of the food system. In Central and Southern Asia, the percentage of food loss is even higher, at 20-21%, and in sub-Saharan Africa, food loss is in line with the global average, at approximately 14%.¹⁰ Higher losses are likely to occur in fragile settings because of reduced access to storage, reliable energy supplies, infrastructure and markets. The Dutch Catholic Organisation for Relief and Development Aid¹¹³ is working with communities in fragile states in sub-Saharan Africa and South East Asia to support the development of processing (such as milling cereals and drying coffee), packaging and storage to maintain or improve product quality and allow smallholders to market higher-value products, increasing their income as well as their share in the value chain.¹¹³ Improved drying and milling can also help reduce losses. Box 11 provides an example of efforts to improve storage systems in Somalia using solar power.

6. Recommendations

The 2019 Global Hunger Index identified conflict and climate change as two of the most important factors that are driving the recent increase in global levels of undernourishment. Moreover, new developments – such as COVID-19 – can amplify existing risks and push a food system that is already fragile into a nutritional crisis. Tackling food insecurity and poor diets among those living in fragile settings will require strategies which build long-term resilience, as well as protecting the supply and accessibility of food once food security has already deteriorated.

A coordinated multi-sectoral approach across the humanitarian and post-crisis sector, including public and private actors is needed to tackle the underlying conditions in fragile settings which

undermine food systems. Rather than proposing new policy actions, this brief recommends priorities which incorporate a combination of the interventions highlighted in the brief to strengthen food systems, with particular focus on the 'missing middle' of markets, processing, trade and infrastructure – the value chain activities that together bring food from the farm through markets and processors to retail settings for consumers to access.

Since the reasons for the fragility of a country and its food systems are often systemic, the risk of malnutrition needs to be managed with an integrated and coherent strategy, rather than piecemeal actions. To expand and protect the delivery of healthy diets to people in fragile settings, all aspects of food systems must be enhanced and strengthened.

Priorities that should govern the development of strategies to secure healthy diets in fragile contexts:

1 Pursue an end-to-end policy approach to food systems in fragile environments. Policymakers must integrate the design, funding and implementation of actions across the spectrum from emergency response to long-term development. These should be seen as complementary, mutually reinforcing investments, rather than competition for attention and resources. Unless this is done, hundreds of millions of people will not be able to access healthy diets.

2 Focus on the needs of the most vulnerable. Climate impacts directly affect the most nutritionally vulnerable people in fragile settings, who often are also poor and marginalised. Adaptation and disaster risk reduction measures must be designed so that they benefit those most at risk and most in need. Moreover, prioritising such measures needs to take careful account of the coping strategies of vulnerable groups.

3 Focus on nourishing as well as hunger. Ensuring the supply of staples is vital. Other high-nutrient foods are also vital for health development, particularly for pregnant women, infants and adolescent girls. This means paying extra attention to interventions that increase dietary diversity.

4 Take action across entire food systems. People are not fed just by agricultural production, but by entire food systems. International humanitarian and development policymakers must be prepared to support a full range of programme approaches to make food systems as a whole more functional, more resilient to shocks and capable of being 'built back better' after a crisis.⁵ Applying a food systems lens can help identify the specific role that each sector needs to play.

5 Monitor and anticipate. Adopting a systems approach to identify and monitor shocks to food security and access to healthy diets in fragile settings is essential. COVID-19

demonstrates the vital importance of monitoring the disruptions in linkages across food systems to provide early warnings, and prompt action.

6 Strengthen response capability. Preventive measures aimed at averting or minimising the impacts of shocks include functional social safety nets, investments in protecting fragile livelihoods, early warning systems, and emergency fiscal and food reserves to pre-empt short-term impacts.

7 Build resilience to manage chronic fragility. Key actions relate to addressing the underlying causes of fragility – for example, the root causes of conflict and unrest – and strengthening governance and weak institutions. Political leaders should consider improving the effectiveness of food systems as an element of their security strategies.

8 Invest for the longer term.

- **Build the capacity of small businesses.** Improve access to credit, knowledge and market information to enable businesses to produce, move and sell their goods. The livelihoods of pastoralists and other groups need to be protected to reduce the risk of selling productive assets to respond to shocks.

- **Invest in infrastructure.** Effective access to, and functioning of, markets and trade, particularly for those whose livelihoods are dependent on agriculture is critical. Infrastructure development of all types (roads, energy, water supply) is essential to make food systems in fragile contexts resilient to shocks.

- **Improve food storage and invest in the development of processing.** This will enable smallholders to market higher value products, both nutritionally and financially.

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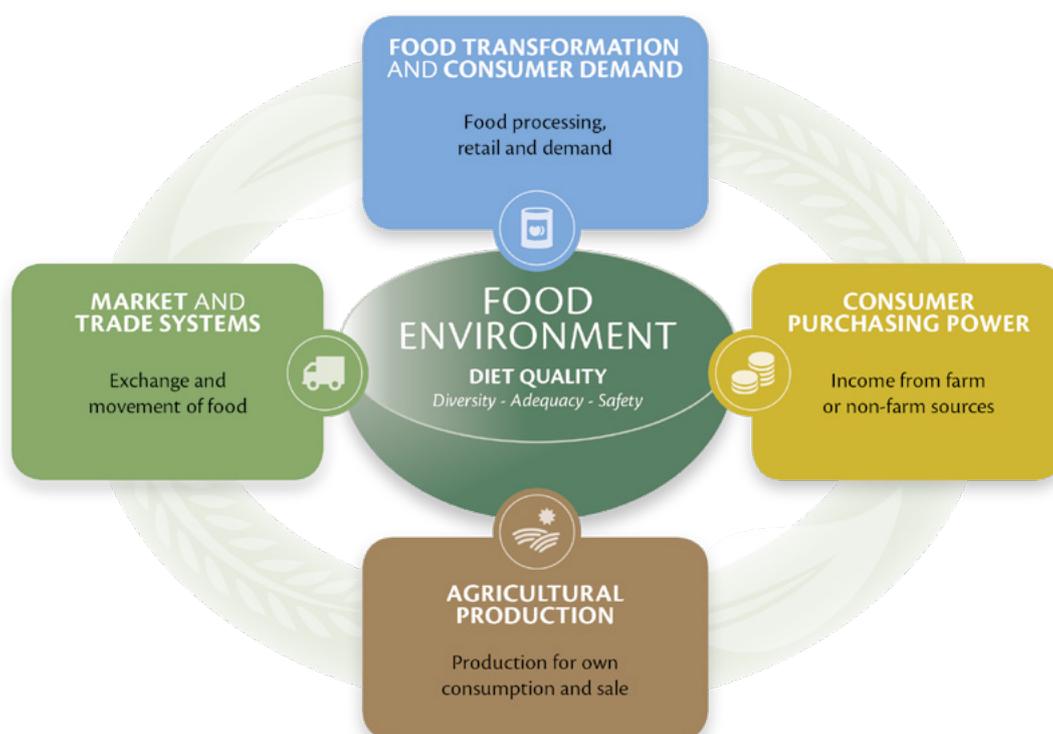
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How can Agriculture and Food System Policies Improve Nutrition?

The multiple burdens on health in low- and middle-income countries due to food-related nutrition problems include not only persistent undernutrition and stunting but also widespread vitamin and mineral deficiencies and a growing prevalence of overweight, obesity and non-communicable diseases. These different forms of malnutrition limit people's opportunity to live healthy and productive lives, and impede the growth of economies and whole societies.

The food environment from which consumers should be able to create healthy diets is influenced by four domains of economic activity:



In each of these domains, there is a range of policies that can have enormous influence on nutritional outcomes. In the Global Panel's first Technical Brief, we explain how these policies can influence nutrition, both positively and negatively. We make an argument for an integrated approach, drawing on policies from across these domains, and the need for more empirical evidence to identify successful approaches.

Find out more here: [Glopan.org/nutrition](https://glopan.org/nutrition)



Rethinking trade policies to support healthier diets makes recommendations for policymakers to consider concerning all domains of the food system in order to improve diets.

Download *Policy Brief No. 13* here: glopan.org/trade



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