G20 BRASIL 2024

BUILDING A JUST WORLD AND A SUSTAINABLE PLANET

Report on the way forward to resilience: Preventing hunger and poverty from rising as a result of different shocks

A report prepared for the G20 Task Force for the Establishment of a Global Alliance against Hunger and Poverty

Food and Agriculture Organization of the United Nations

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1. INTRODUCTION

An estimated 282 million people in 59 countries are facing acute levels of hunger, and many are on the brink of starvation.[1] In addition, there are tens of millions more people living in hunger who are not counted because of lack of consensus on available information. Globally, millions of children do not benefit from diets that support healthy growth and development. Half of infants under six months of age are not exclusively breastfed as recommended in the first six months of life, and two in three children aged 6–23 months are not fed the minimum diverse diet they need to grow and develop to their full potential. This translates to approximately 202 million children that are living in severe food poverty.[2] Stunting affected an estimated 148 million children under five years of age globally in 2022 while wasting threatened the lives of 45 million children under five years.[3] These figures are a stark indictment of the reversal in progress towards Sustainable Development Goal (SDG) 2—to end hunger and achieve food security and improved nutrition for all by 2030. Under current projections, *The State of Food Security and Nutrition in the World 2023* report estimates that more than 600 million people worldwide will be facing hunger in 2030.[4]

Progress to achieve SDG 1—end poverty in all its forms everywhere—is also off track. Globally an estimated around 700 million people live in extreme poverty, surviving on less than USD 2.15 per day.[5] This includes over 333 million children, meaning children account for almost half of the world's extremely poor.[6] If current trends continue, the United Nations estimates 575 million people will still be living in extreme poverty and only one-third of countries will have halved their national poverty levels by 2030.[7] The latest data on efforts to reach SDG 1.5—to build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability—shows that there has been a progressive decline in global disaster-related mortality, but the number of people affected by disasters has increased. Between 2015 and 2021, 151 million people on average were affected by disasters each year globally.[8]

The confluence of frequency, diversity and multiplicity of shocks has cast a profound and interconnected impact on malnutrition, hunger and poverty worldwide. Four types of shocks have been identified as key drivers of poverty and acute insecurity food today: conflict and insecurity; economic shocks; climate shocks; and shocks to plant, zoonotic and human health.[9] In today's era of multiple shocks, these hazards do not occur in isolation and can affect poverty and hunger simultaneously. They can have compound effects such as climate disasters occurring in conflict-affected regions, or a health crisis such as the COVID-19 pandemic precipitating economic repercussions.

By themselves, shocks do not necessarily lead to crises. They only fully unfold their disastrous effects when feeding off existing vulnerabilities. Structural vulnerabilities relate to weaknesses in the foundations for sustained and equitable economic growth, for lifting people out of poverty and enabling them to make choices and take their lives into their own hands. These include securing education; child nutrition and adequate health care; ensuring gender equality and women's empowerment; establishing social safety nets; and investing in rural infrastructure. The Human Development Index, summarizing achievements in some of these areas, shows disturbing divergence across countries. After two decades of progress, inequality between countries at the upper and lower ends of the index has increased every

year since 2020.[10] Within countries, more vulnerable groups are often women, children, individuals with disabilities, Indigenous Peoples and displaced persons.

Shocks occur on various scales, ranging from local to global, exacerbating vulnerabilities and disrupting the delicate balance necessary for sustainable development. These shocks also exhibit varying (geographical) scopes, necessitating tailored solutions. For instance, a microeconomic shock, such as an individual losing their job, can be managed by social safety nets with minimal strain. Conversely, a market shock affecting a critical commodity in a specific region requires national solidarity and safety nets, despite heightened costs. In the case of a national recession or significant macroeconomic shock, the expenses associated with social safety nets escalate, prompting governments to devise strategic deployment plans. However, there exists a risk of increased national debt, which may offer short-term protection to individuals but could undermine the government's long-term capacity to sustain such policies or invest in the future.

The protracted nature of many crises, in addition to the increasing frequency of shocks, puts enormous pressure on the budgets and capacities of national and humanitarian systems. It risks sacrificing investments in peace and development, as well as addressing the underlying causal drivers of food security, in favour of emergency responses to human needs in crises that often span decades.[11] It is therefore imperative that solutions to hunger and poverty present a blend of actions that support humanitarian and development imperatives. Increasing evidence suggests that integrated resilience-building investments offer better return and impact benefits than humanitarian or development investments alone.[12]

The concept of resilience bridges the humanitarian, development and peace nexus and highlights how the well-being of elements of a system can be affected by shocks. The United Nations defines resilience as "*the ability of individuals, households, communities, cities, institutions, systems and societies to prevent, resist, absorb, adapt, respond and recover positively, efficiently and effectively when faced with a wide range of risks, while maintaining an acceptable level of functioning without compromising long-term prospects for sustainable development, peace and security, human rights and well-being for all*".[13]

Systems, institutions, and people, are considered resilient when they have at their disposal a set of distinct capacities and resources that are crucial to cope with, withstand, or bounce back from adverse events and shocks.[14] Resilience, with its strong forward-looking element, provides an adaptive framework to address and navigate the complexities of shocks and uncertainties before, during and after crises.

Resilience to malnutrition, hunger and poverty hinges on the resilience of three main levels:

1. systems, especially agrifood, health and social protection systems;

2. subnational and communities, within which the systems and households operate; and

3. households and individuals at different stages of their life course within these households; each facing vulnerability based on their physical, socio-cultural, and economic capacity.

2. RESILIENCE OF SYSTEMS AND RESILIENCE OF PEOPLE

The following section provides an overview of what it means to build resilience at the three main levels emphasized above.

2.1. Systems-level

Agrifood system and agrifood value chains

There is a growing recognition that transcending the analysis from the household to a higher level of resilience, encompassing the broader agrifood system[15] and agrifood value chain, is pertinent as—especially in protracted crises—households may successfully safeguard resources and capacities, preventing a descent into poverty and maintaining food security. Yet, critical food or nutritional insecurities may prevail due to the lack of resilience or the collapse of global or local agrifood systems or their components in the face of the crises. Ripple effects of a shock, amplified by value chain connectivity, could still lead to disruption to (farm)-households' livelihoods.

Functioning agrifood systems ensure the production of sufficient and nutritious food and its availability at accessible prices across all strata of the population. If some operations along the chain are disrupted, this can have dramatic consequences for the food security and nutrition of all consumers, for example the availability, affordability, and nutritional quality of food. Furthermore, farm production is often the first and only income opportunity for rural households and agrifood systems provide employment for 1.23 billion people and support over 3.83 billion livelihoods, in all stages of the value chain.[16] Including middle and downstream segments—from food storage and processing to transportation, retailing and consumption—agrifood systems are the backbone of most economies. The post-farm gate economy accounts for 30–40 percent of the value added and costs in agrifood value chains and offers farmers the opportunity to diversify incomes.[17] The effective functioning of the agrifood system, including the value chains and individual producers, thus directly influences the poverty incidence and, consequently, food availability and access to nutritious foods for a substantial portion of the global population. The over-reliance on a limited number of crops in the agrifood system is potentially having a negative impact on good nutrition. Today only six crops—rice, wheat, maize (or corn), potato, soybeans, and sugarcane—account for more than 75 per cent of total plant-derived energy intake, or 50 per cent of total calories food intake globally. Globally these products receive the largest share of incentives. This homogeneity is the basis for the supply of highly processed low-quality foods. These foods are attractive to the consumer yet contribute to both undernutrition (especially micronutrients deficiencies) and overweight and obesity.[18] The 2023 WHO Guideline on complementary feeding[19] recommends prioritizing nutrient-dense foods as animal source foods, fruits and vegetables, grains, seeds, nuts) over starchy foods to address the gaps in children's diets, but these foods are less available and less subsidized.

Meanwhile, as emphasized during COP28 in December 2023 and underlined in the signature of the "Declaration on Sustainable Agriculture, Food Systems Transformation and Climate

Action", it is evident that existing agrifood systems remain unsustainable and significantly contribute to the climate crisis.[20] For instance, agriculture accounts for 70 percent of the world's freshwater resources usage and contributes to over a third of global carbon emissions, among other factors. Ecological degradation, coupled with climate change, leads to increased water scarcity, loss of fertility and productive soil potential, compromising the capacity of communities to grow food in increasingly extreme conditions and unpredictable patterns of land health.

Enhancing the resilience of agrifood systems means strengthening their capacities and those of their actors to prevent, anticipate, absorb, adapt and transform when struck by shocks and stresses, including actions to make local (and global) agrifood systems more sustainable.[21] Strengthened capacities will ensure that agrifood systems increase, maintain or quickly recover their sustainable functionality to prevent malnutrition, hunger and poverty when facing shocks.

Social protection system

Social protection is defined as a set of "*policies and programmes aimed at preventing and protecting people against, poverty, vulnerability and social exclusion throughout their life [with] a particular emphasis on vulnerable groups*".[22] Nearly half of the world's population depends on at least one form of social protection to deal with poverty and inequality.[23] Additionally, measures like school-feeding programmes provided meals to 418 million school age children globally in 2022 and contributed to direct employment opportunities for approximately 4 million people.[24] Similarly, public distribution systems in some countries provide subsidised food provisions to a large section of the population. The poorest and most vulnerable sections of society rely heavily on social protection to be able to access nutritious food, income and to build their asset base.

Strengthening the resilience of social protection systems entails enhancing the shock responsiveness or adaptiveness of all components of the systems to maintain routine delivery of social protection programmes, as well as accommodate new needs emerging from large-scale natural, economic, and political shocks. The resilience of social protection systems to shocks and stresses is closely linked to reducing poverty and hunger at household and individual levels. Any disruption in the provision of social protection can have devastating impacts on households and individuals when they need it the most. For example, economic shocks can cause liquidity issues that can disrupt the delivery of cash transfers to beneficiaries of social cash transfers. Similarly, floods and earthquakes can destroy critical infrastructure for social protection programmes such as information and distribution systems, conflicts can disrupt the governance of social protection, especially in areas experiencing violent conflict, and pandemics can cause disruption in the provision of cooked meals in schools.

Connected systems

While the crucial importance of resilient agrifood systems and social protection systems in preventing malnutrition, hunger and poverty from rising as a result of shocks has been

highlighted, they do not operate in silos and other complementary systems are also essential in preventing increase in hunger and poverty. Therefore, it is imperative that multiple connected systems continue to operate when a shock occurs.

For example, to safeguard access to nutritious food, provide complementary nutrition services, and prevent malnutrition in times of crises, requires the resilience of multiple systems including social protection, agrifood, health, education, and water and sanitation systems. The Global Nutrition Resilience Report 2024 shows that the COVID-19 pandemic combined with other shocks led to direct disruptions of these five key systems for safe nutrition.[25] Such compounding multi-systems disruption dramatically increased the risk of poverty, food insecurity, and malnutrition, particularly for the youngest, the poorest, and the most marginalized. Therefore, not only does the healthcare system delivering essential nutrition services have to adapt, scale up and expand but intentional synergies in policies and programmes between the agrifood, health and social protection systems at a minimum—need to be leveraged to prevent hunger, malnutrition and poverty including during period of crisis.

2.2. Subnational- and community-level

The resilience of local agrifood systems in many low- and middle-income countries depends on the resilience of communities because smallholder farming strongly relies on local cooperation. Consequently, smallholder farmers' resilience not only depends on their own activities, but also the activities of their neighbours. Effective pest and disease management (in both crop and livestock sub-sectors), for example, requires farmers and herders to coordinate their activities. As does the restoration of land and natural ecosystems to enhance soil health and biodiversity. When it comes to the mitigation of impacts of climate shocks such as droughts and floods, communities must work together on water management and erosion control. Sustainable forest management and other preparedness measures have proven successful when implemented under community leadership or with the support of local communities.

Numerous poor and vulnerable households rely on both formal and informal community level groups and institutions to shield them from poverty, malnutrition and hunger. For instance, savings and credit groups not only foster economic independence but also boost confidence and self-worth among women while also contributing to other transformative changes.[26] In certain countries community grain banks serve as a risk pooling measure at the community level to reduce hunger.[27] These same community groups can be platforms for information and support on good nutrition practices. Additionally, religious and cultural institutions, such as Zakat and burial societies, function as safety nets in some countries to protect the poor and vulnerable from poverty, malnutrition and hunger. Community-based health and nutrition workers are critical capacities that enable women and children to get the essential services they need to prevent malnutrition.

Subnational and local governments play an important role in supporting community resilience. They are the level of government closest to communities and play a variety of coordination, planning, budgeting and service-delivery functions, including the provision of different social services such as nutrition, water and sanitation, oversight and management

of land and forest, as well as management of local markets. Additionally, they are often responsible for ensuring preparedness plans, and implementing response and recovery efforts after a shock. Subnational and local governance, therefore, has a critical role in reducing poverty, improving food security and nutrition, and enhancing communities' resilience. There are four main pathways through which resilient subnational and local governance contributes to reducing hunger, poverty and malnutrition:

1. providing effective and equitable financing and delivery of essential social services;

2. ensuring integration and coordination across the multi-sectoral services and programmes that households and families need to address their multiple vulnerabilities to malnutrition, hunger and poverty;

3. ensuring adequate infrastructure, environments and living conditions; and

4. developing responsive institutions and good governance at the subnational level that supports between systems and programmes and supports social cohesion and strengthens the social contract.

2.3. Household- and Individual-level

Poverty and hunger are experienced at the individual and household levels. Shocks play a critical role in exacerbating poverty and hunger, therefore the ability of households and individuals to cope with them becomes paramount for finding sustainable solutions.

A household that is resilient is able to maintain or recover its food security and nutrition and not fall into poverty when faced with shocks and stressors. In particular, resilience is the actual ability of households to manage adverse events—to prevent, anticipate them and adapt, and to respond to them when they hit. Rather than passive victims, households are active agents making informed decisions that influence the course of their lives.[28] This "actual resilience" hinges upon a set of "resilience capacities", such as the underlying determinants of resilience that enable households to withstand shocks and stresses. The enhancement of households' resilience capacity to effectively withstand future shocks can be addressed through targeted programming and policymaking that addresses multidimensional poverty and enables their physical, social and financial access to adequate quality and quantity of food.

As a group of people sharing and contributing to joint resources, households differ in their characteristics and experience shocks and stresses differently based on their socioeconomic characteristics, capacity of members, access to social protection and other support programmes, and whether they primarily sell and/or buy food. Predominantly women-headed households, as further detailed in Section 3.3, are worst affected by shocks and stresses, due, in most part, to a lack of rights and access to land and other productive assets, combined with care responsibilities. In addition, households with young children, elderly, chronically ill, and those living with a disability, are particularly vulnerable owing to high dependency ratios.

Intra household variations in nutritional requirements contribute to diversity in the vulnerabilities of individuals within a household. Poor quality diets associated with hunger and food insecurity are one of the greatest obstacles to the survival growth and development and learning of children today. The stakes are highest in the first two years of life when insufficient dietary intake of nutrients can irreversibly harm children's rapidly growing bodies and brains, limiting their potential to grow, develop and learn in childhood and earn a decent income later in life,[29] which in turn, contributes to poverty. Similarly, poor nutrition among adolescents and young girls can have severe consequences on their health and for future generations.[30]

3. SHOCKS IMPACTING HUNGER, MALNUTRITION AND POVERTY, THEIR TRENDS AND ASSOCIATED RISKS

An increasing number of shocks have negatively impacted hunger and poverty levels in recent years, hampering efforts to achieve SDG 1 and 2 by 2030. The COVID-19 pandemic and the war in Ukraine, through its repercussions on food prices, affected vulnerable households around the world. An increasing number of conflicts and devastating climate events have driven hunger, malnutrition and poverty in various regions. This section highlights the main shocks impacting hunger and poverty levels and analyses their trends in recent years. It further summarizes the current state of poverty and food insecurity and highlights those most at risk, both at the country as well as subgroup and individual level.

3.1. Types of shocks and their trends

Four types of shocks are key drivers of poverty and acute food insecurity today: conflict and insecurity; economic shocks; climate shocks; and shocks to plants, zoonotic and human health. In today's era of multiple shocks, these hazards do not occur in isolation and can affect poverty and hunger simultaneously. Multiple shocks can reinforce each other and increase the severity of their impacts (see Box 1). Similarly, the impact of recurrent or protracted shocks on poverty, food insecurity, and malnutrition can multiply (see Box 2).

Conflicts and insecurity

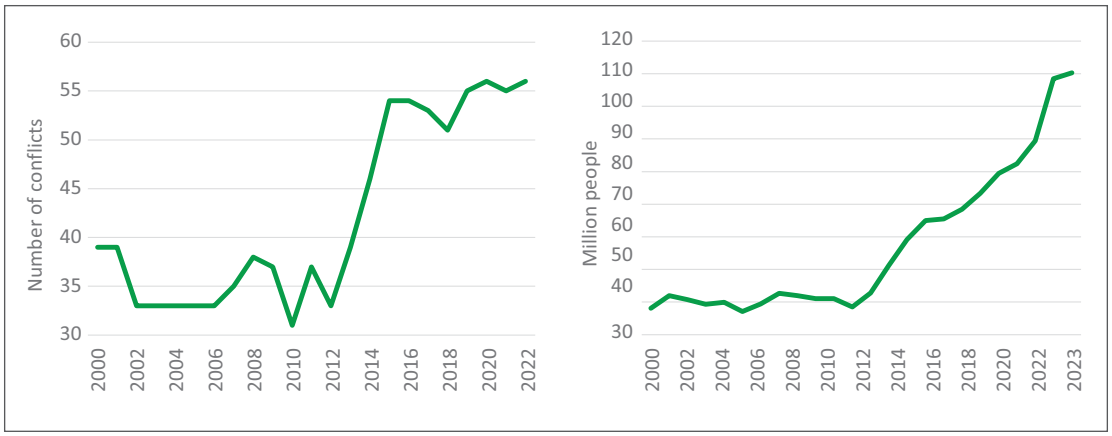
Conflict and insecurity remain the main driver for most people experiencing high levels of acute food insecurity.[31] All countries where famine-like conditions prevailed in 2023 were experiencing conflict.

Conflict serves as a major catalyst for acute food insecurity and malnutrition through several channels. Civilians face difficulties accessing food due to disrupted markets apart from adversely effecting subsistence production systems. Limited access to nutritious foods and essential services makes it challenging for families to practice positive nutrition behaviours. Conflicts also disturb the economy, reducing household income. From a food-supply perspective, conflicts tend to transversally affect all agrifood-system segments including damage and destruction of agricultural production and livestock.

Conflicts, violence, banditry and criminality, as well as civil unrest or political crises lead to population displacements, disrupting livelihoods and agrifood systems. Additionally, escalating insecurity and obstacles on roads both impede humanitarian convoys from reaching the most vulnerable and the most vulnerable from accessing assistance distribution points. Even societies that have emerged from armed conflict continue to suffer from fragile institutions and poor service-delivery capacity for basic needs. An increasing body of research shows that conflicts are not only a cause of acute food insecurity, but also that hunger, under certain conditions, can also be a driver of protests, unrest and civil war.[32]

Conflicts and violence have increased significantly in the last decade. The number of conflicts at state level rose sharply from 33 in 2012 to 56 by 2022 (Figure 1). The Uppsala Conflict Data Program (UCDP) estimates that 2022 was the deadliest year since the genocide in Rwanda in 1994.[33] The number of forcibly displaced because of conflict and violence has reached a record high with over 110 million people as of mid-2023, more than doubling since 2010.[34] Alarmingly, about 40 percent of the displaced are children and 7 percent are elderly.[35]

FIGURE 1. State-based armed conflicts (left) and forcibly displaced people worldwide due to conflict and violence (right)



Sources: Uppsala University. 2023. Countries in Conflict. In: Uppsala Conflict Data Program. [Cited 26 April 2024]. https://ucdp.uu.se/encyclopedia; UNHCR (United Nations High Commissioner for Refugees). 2023. Refugee Population Statistics Database. In: Refugee Data Finder. [Cited 26 April 2024]. https://www.unhcr.org/refugee-statistics.

Economic shocks

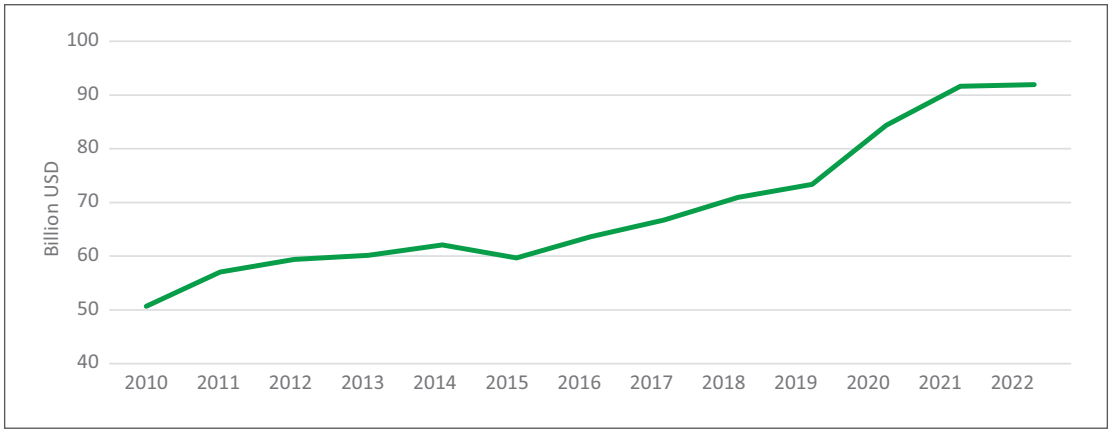
Economic shocks emerged as the predominant driver of acute food insecurity for 75 million people in 2023. Although a slight improvement compared to the previous year this represents the most notable surge in numbers compared to other drivers, with figures from 2018 multiplying by seven, and the affected countries increasing from six to 21.[36]

Economic shocks—such as debt crises, exchange rate crises, foreign currency shortages, or soaring food prices—have direct consequences for poverty and hunger. Money spent on servicing debt is money not invested in social protection, health, or education systems, thereby ultimately leaving people more vulnerable to slide into food insecurity, malnutrition

or poverty. Exchange-rate crises or foreign-currency shortages pose challenges to financing imports, including of basic food staples and other essential goods. Soaring food prices erode people's purchasing power. As poor households often spend upwards of 50 percent of their income on food, purchasing adequate and nutritious food can quickly become very difficult, if not impossible, as prices rise. To cope with high food prices, poor households may be forced to turn to lower quality and less nutritious foods, increasing the risk of malnutrition.

Recent years have seen a sequence of global economic shocks, most prominently the fallout of the COVID-19 pandemic and the war in Ukraine. The pandemic and associated lockdown measures caused major disruptions to international trade, massive job losses and ultimately a global recession in 2020. The resulting decline in household purchasing power, with insufficient social protection coverage for millions of vulnerable people to buffer the sudden loss of income, caused a sharp rise in global poverty and food insecurity while financing the pandemic response has driven the global debt burden to record levels (Figure 2). The income gap between the world's most vulnerable countries and wealthy economies has been widening since the start of the pandemic.[37] Similarly, while by 2023 every OECD (Organisation for Economic Co-operation and Development) country is projected to have recovered from the setback in the Human Development Index in 2020/21, only about half of the Least Developed Countries are projected to have done so.[38] In 2022, the war in Ukraine triggered price spikes in international markets of food, fuel and fertilizer. As these price increases trickled down to local markets, they fuelled a cost-of-living crisis.

FIGURE 2. Outstanding public debt



Source: United Nations Global Crisis Response Group. 2023. A World of Debt: A Growing Burden to Global Prosperity. New York, USA. https://unctad.org/publication/world-of-debt.

Climate shocks

One in four acutely food insecure people live in countries where weather extremes—droughts, floods, dry spells, storms, cyclones, hurricanes, and typhoons, along with the premature onset of rainy seasons—are the primary driver of the food crises.[39] More than 3 billion people now live in climate risk hotspots with high vulnerability to climate change. A substantive majority of these acutely food insecure people live in rural areas and depend on

agriculture as their primary source of livelihoods. Nearly half of the world's children—roughly 1 billion—live in 33 countries classified as "extremely high risk" due to climate-change impacts.[40]

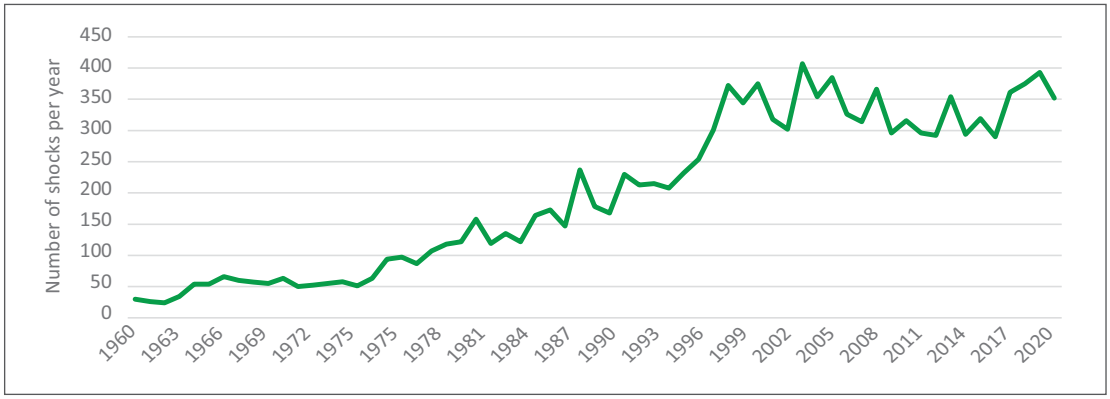
Due to its dependence on natural processes, the agricultural sector is particularly vulnerable to the adverse impacts of climate shocks. Over half of the disruptions to agricultural production stem from extreme weather events.[41] Beyond the farm gate, climate-related shocks can disrupt transportation and communication channels by causing the destruction of local infrastructure. Such disruption has a cascading effect on food supplies, impacting both the availability and prices of agricultural produce, ultimately driving food insecurity.

Moreover, lower-level climatic variations and stresses drive chronic hunger. Non-linear changes in the global climate system are resulting in greater unpredictability of rainfall and cropping seasons, advancing soil erosion, rising salinity in soils and groundwater, shifting patterns of pests and diseases and growing heat stress in crops and livestock. Such environmental deterioration can compromise the quality of essential agricultural inputs, such as land, clean water and fertile soils, leading to a decline in agricultural productivity. Climate shocks and environmental loss often mutually reinforce each other, forming a vicious circle.

In addition, the climate crisis acts as a risk multiplier for development, making existing problems worse. In contexts that are already prone to social tensions, climatic factors amplify existing inequalities around access to natural resources, including competition over land between herders and crop producers or access to water for production and domestic use, intensify conflicts and trigger migration and forced displacement. Climate change could further spark an explosion of inequalities in human development over the coming years and decades, with the Arab States, South Asia and sub-Saharan Africa most impacted.[42]

The number of climate disasters has increased substantially over time (Figure 3). Between 1963 and 1982, an average of 70 events were recorded annually; between 2003 and 2022, this number rose to 336. In 2022, there were 31.8 million internal displacements due to extreme weather events, the highest number in a decade.[43]

FIGURE 3. Climate shocks per year



Note: Climate shocks include droughts, extreme temperature, floods, glacial lake outbursts, landslides, storms and wildfires.

Source: CRED (Centre for Research on the Epidemiology of Disasters) & UCLouvain (Université Catholique de Louvain). 2024. Public EM-DAT: The International Disaster Database. [Accessed on 26 April 2024]. https://public.emdat.be/data.

Shocks to plant, zoonotic and human health

Human pandemics, and most notably COVID-19, pose significant threats to poverty and global food availability and stability. They can have multifaceted impacts on income sources, agricultural production, supply chains, and trade. For example, income losses due to the COVID-19 pandemic's direct impact on people's ability to work and social distancing measures, accounted for most of the reduction in total food consumption in this period, but this was further exacerbated by supply disruptions that increased the logistical costs included in food prices[44]. In addition, movement and social distancing measures had direct negative consequences on the feasibility and provision of essential services, which could have also affected the poor nutritional status in the vulnerable areas. Even if such shock-induced increases in food insecurity are short-lived, the impacts through inadequate nutrition could be long lasting, especially for young children, whose growth and cognitive development tend to be affected by undernutrition. Further, evidence from the Food and Agriculture Organization of the United Nations (FAO) from varied contexts shows that it takes anything between three to five agricultural seasons for farmers and herders to recover from a shock in one production season, thereby amplifying their food insecurity, as well as vulnerability and exposure to subsequent shocks. Pandemics also have the potential to disrupt public food distribution systems and safety nets, with school closures affecting feeding programmes and trade restrictions leading to export limitations on staple foods, contributing to price volatility and market instability.

BOX 1. Overlapping shocks in Haiti

Multiple overlapping and reinforcing hazards can lead to protracted food crises. Haiti is facing a major food crisis, which was caused by multiple shocks in the last six years. The country has been affected by multiple natural disasters, including hurricanes, floodings and major earthquakes, which caused fatalities and damage. Due to the intensifying gang violence and the control by armed gangs of the capital and other parts of the country, insecurity and violence has been worsening the situation. A major shock with large political consequences has been the assassination of President Moise in 2021. The economy has also been in a crisis for several years and has been shrinking every year since 2019.[45] Following the recent global food price spike, food inflation peaked in late 2022 and remains elevated until now, which further reduced Haitian households' purchasing power.[46]

Between 2018 and 2024, the number of people facing acute food insecurity (IPC Phase 3+) more than tripled from 1.3 million to 5.0 million.* Even worse, the number of people affected by IPC Phase 4 (Emergency) levels of acute food insecurity has increased more than twelvefold in the same period—from 130 000 to 1.6 million people. In 2023, for the first time in an IPC analysis in the country, people were found to be facing IPC Phase 5 (Catastrophe) levels of acute food insecurity.[47] According to the last WFP and FAO Hunger Hotspots analysis, the country is a Hunger Hotspot of very high concern, which means that acute food insecurity is expected to increase further by April 2024. This situation severely threatens survival, growth, and development of children. Over 300 000 children under five years of age suffer from wasting, including almost 100 000 children suffering from severe wasting. The national prevalence of wasting is 5 percent reaching a shocking 19 percent in certain areas of the country.[48]

*Note: We compare the numbers of acute food insecure from the IPC analyses for March to June 2024 (*https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1156884/?iso3=HTI*) and October 2017 to February 2018 (*https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1068538/?iso3=HTI*).*

Plant pests and disease outbreaks, such as locusts, armyworm, fruit flies and wheat rust, have historically been a destabilizing factor for agricultural production. Epidemics and

outbreaks can devastate crops and grasslands, jeopardizing the livelihood of vulnerable farmers and the food security and nutrition of millions. High-impact animal diseases such as foot-and-mouth disease, lumpy skin disease, classical or African swine fevers—while not directly affecting human health—have the potential to adversely affect human populations by reducing the quantity and quality of food, other livestock products, and animal power (for example, for traction, transport, etc.).[49]

In humans, 60 percent of known infectious diseases are zoonotic and 75 percent of emerging infectious diseases are zoonotic. Various factors such as deforestation, urbanization and climate change have led to an increase in zoonotic diseases.[50] Comparing the periods 2001–2011 and 2012–2022, the number of zoonotic outbreaks in Africa has increased by 63 percent.[51]

BOX 2. Recurrent drought in the Horn of Africa

Recurring extreme weather events have had a dire impact on acute food insecurity in recent years. Multiyear droughts in the Horn of Africa, Angola and Madagascar or recurring floods in South Sudan have pushed many people into acute hunger and displaced many.[52] Some of these crises were the consequence of a prolonged *La Niña* event between 2020 and 2022, which influenced weather patterns in regions such as the Horn of Africa.

According to the 2023 Global Report on Food Crises, one of the most dramatic events in the recent past has been the drought in the Horn of Africa between 2020 and 2022, which was the worst drought in the region in more than four decades. Southern Ethiopia, the Arid and Semi-Arid Lands in Kenya and Somalia have been most affected. In December 2022, up to 22.6 million people faced acute food insecurity in the three countries. Additionally, 2.7 million people were facing Emergency levels of acute food insecurity (IPC Phase 4) and more than 200 000 people were in Catastrophe (IPC Phase 5) in Somalia. Over 11 million children under five years of age suffer from wasting, of which almost 3 million children suffer from severe wasting.

The drought mostly affected pastoral livelihoods. As of January 2023, 10.8 million livestock had died due to the drought in the region.[53] Additionally, agricultural production in the affected area dropped. Even worse, high food prices in the affected areas worsened the access to food of those households who were already experiencing low returns from their livestock and crop production activities. Despite returning rainfall in early 2023, due to the severity of the drought over multiple years, the recovery will continue well beyond 2024.

3.2. The current state of hunger, poverty and malnutrition

Countries display varying levels of hazard exposure, influenced by factors such as their geographic location, integration in the global economy or the experience or proximity to a conflict. Furthermore, the repercussions of diverse hazards on food security and poverty exhibit variation across nations, contingent upon specific national vulnerabilities. The increase in shocks in recent years has influenced the dynamics of global and national poverty and food insecurity.

Various measures are used in this report to describe the current extent of poverty and hunger. Extreme poverty is the number of people living with an income below the international poverty line of less than USD 2.15 (purchasing power parity [PPP] 2017) per day. Multidimensional poverty, as measured through the Multidimensional Poverty Index (MPI), is a more comprehensive concept of poverty that encompasses the dimensions of health, education and standard of living.[54] Chronic food insecurity refers to a persistent condition

caused by structural factors. It is usually measured as the prevalence of undernourishment, that is, the share of the population that does not have sufficient dietary energy for a healthy and active life. Acute food insecurity is a more immediate and severe condition that threatens lives, livelihoods or both, and can manifest itself in a population within a short period of time.

Poverty

Despite many years of progress towards eradicating extreme poverty, the number of people living on less than USD 2.15 (PPP 2017) per day is estimated to have increased by 61 million people to 762 million people in 2020. The COVID-19 pandemic was a major setback to poverty reduction, with 2020 marking a reversal of 25 years of global poverty reduction and likely greatest setback to poverty eradication since World War II. The negative impacts and slowness of recovery were disproportionate for the poorest, and overall, the longer-term trend of poverty reduction appears to have slowed.[55] Even though the projected global poverty numbers have returned to pre-COVID-19 levels in 2023, with 691 million people living in extreme poverty, three years have been lost in the fight against poverty. In low-income countries as well as countries affected by fragility, violence, and conflict extreme poverty rates remain higher than before the pandemic. There, poverty even modestly rose between 2022 and 2023.[56]

Extreme poverty is highly concentrated in sub-Saharan Africa, where 35 percent or 432 million people lived from less than USD 2.15 (2017 PPP) per day in 2023.[57] Other countries with a high population below the international poverty line are often fragile and conflict-affected economies, for example Afghanistan, Yemen, and Papua New Guinea.[58]

Multidimensional poverty

In terms of multidimensional poverty, the latest United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI) estimates show that 1.1 billion people are affected, half of whom are children. The regions with the highest number of cases are sub-Saharan Africa (534 million people) and South Asia (389 million people). Using mainly data from before the COVID-19 pandemic, harmonized trends of the global multi-dimensional poverty index (MPI) are reported for 81 countries, showing progress in multidimensional poverty reduction.[59]

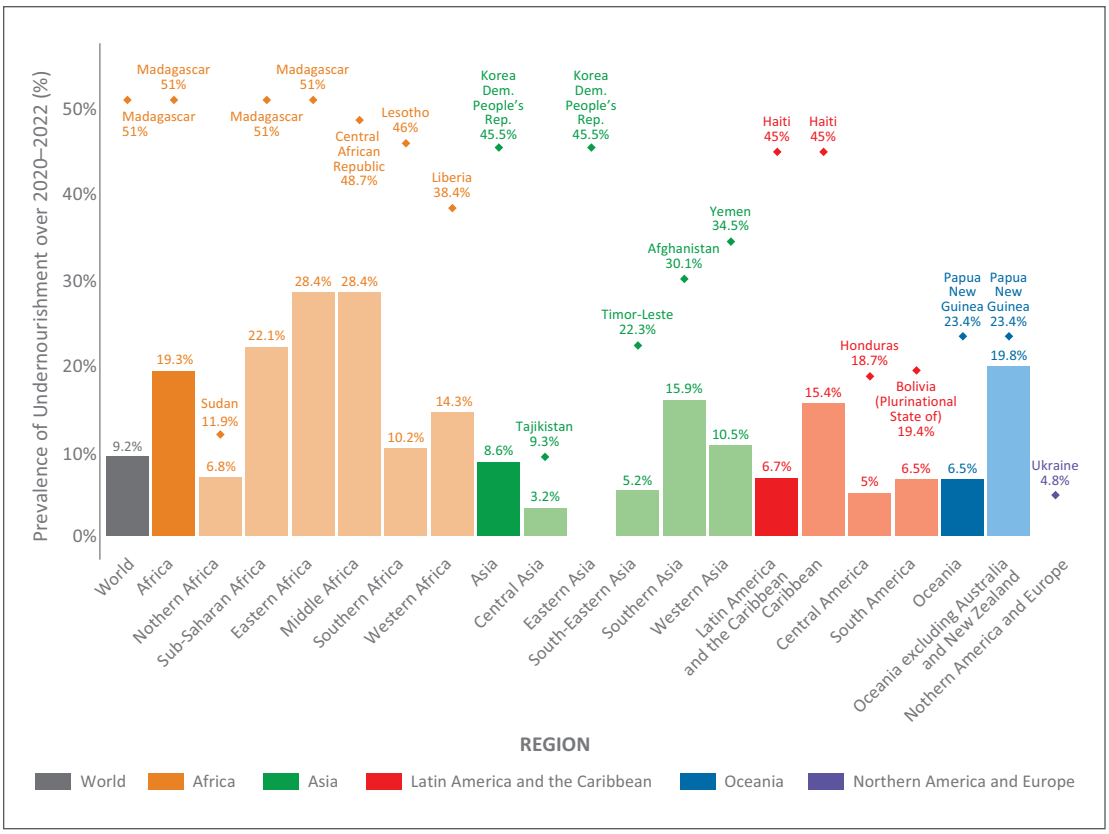
Chronic food insecurity

In 2022, 735 million people worldwide have been affected by chronic food insecurity, with 148 million children under the age of 5 years reported as stunted.[60] The decline in chronic food insecurity came to a halt in the 2010s and, after remaining stable for several years, the number of chronically hungry people globally started to rise. The sharpest increase took place in the COVID-19 years, particularly in 2020. 122 million more people were affected by chronic food insecurity in 2022 compared to the period before the COVID-19 pandemic.

In 2022, the number plateaued at a global level, but continued to rise in West Asia, the Caribbean and all regions of Africa.

The continent with the most people facing chronic food insecurity has been Asia, with 402 million people affected, followed by Africa, where 282 million of the chronically food insecure lived in 2022. Figure 4 shows the countries with the highest prevalence of chronic food insecurity.

FIGURE 4. Prevalence of undernourishment in percent



Note: For each region, the point indicates the maximum value of prevalence of undernourishment, with the corresponding country indicated. Data are available on FAOSTAT (https://www.fao.org/faostat/en/#data/FS).

Source: FAO, IFAD, UNICEF, WFP & WHO. 2023. The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural-urban continuum. Rome, FAO. https://doi.org/10.4060/cc3017en.

Acute food insecurity

The Global Report on Food Crises estimated that 282 million people were acutely food insecure in 59 countries in 2023, an increase of more than 100 percent when compared to 2019 and the highest number in the eight-year history of the report.[61] There are tens of millions more people living in hunger who are not counted because of lack of consensus on available information. In 2022, 45 million children were wasted, of which 13.7 million children were severely wasted.[62]

TABLE 1. Hunger hotspots between November 2023 and April 2024

Region	Country	Level of Hotspot	Key drivers and aggravating factors						
			Conflict / insecurity	Displacement	Dry conditions	Economic Shocks	Flood	Political Instability / unrest	Tropical cyclone
Africa	Burkina Faso	Hotspot of highest concern	x	x					
	Chad	Hotspot	x	x	x		x		
	Democratic Republic of the Congo	Hotspot of very high concern	x	x					
	Djibouti	Hotspot			x	x			
	Ethiopia	Hotspot of very high concern	x	x	x	x	x		
	Malawi	Hotspot			x	x			x
	Mali	Hotspot of highest concern	x	x					
	Niger	Hotspot	x			x		x	
	Somalia	Hotspot of very high concern	x	x	x	x	x		
	South Sudan	Hotspot of highest concern	x	x		x	x		
	Sudan	Hotspot of highest concern	x	x		x			
	Zimbabwe	Hotspot			x	x			
Asia	Afghanistan	Hotspot of very high concern				x			
	Pakistan	Hotspot of very high concern				x			
	Palestine	Hotspot of very high concern	x	x					
	Syrian Arab Republic	Hotspot of very high concern				x			
	Yemen	Hotspot of very high concern	x			x			
Latin America and the Caribbean	El Salvador	Hotspot			x	x			x
	Guatemala	Hotspot			x	x			x
	Haiti	Hotspot of very high concern	x		x	x			x
	Honduras	Hotspot			x	x			x
	Nicaragua	Hotspot			x	x			x

Notes: Hotspot of highest concern: This category includes hotspots already with populations in Catastrophe (Integrated Food Security Phase Classification [IPC]/Cadre Harmonisé [CH] Phase 5), as well as hotspots at risk of deterioration towards catastrophic conditions. At risk are those hotspots where an extremely vulnerable population in Emergency (IPC/CH Phase 4) is facing severe aggravating factors—especially access constraints—that indicate a further deterioration and possible occurrence of catastrophic conditions in the outlook period. Per definition, this category also includes hotspots with Famine or Risk of Famine. Hotspot of very high concern: These are hotspots with sizeable populations—over 500 000 people—estimated or projected to be in Emergency (IPC/CH Phase 4) levels of acute food insecurity or identified as severely acute food insecure as per WFP's Consolidated Approach for Reporting Indicators of Food Security (CARI) or remote CARI (rCARI) methodology; or hotspots with more than 10 percent of the population analysed in Emergency (IPC/CH Phase 4) or severely acute food insecure, and at least 50 percent of the population analysed. In the included countries/territories, life-threatening conditions are expected to further intensify in the outlook period. Hotspots: Other countries/territories, in which acute food insecurity is likely to deteriorate further during the outlook period, and which were identified as hunger hotspots.

Source: WFP & FAO. 2023. Hunger Hotspots. FAO–WFP early warnings on acute food insecurity: November 2023 to April 2024 Outlook. Rome. https://doi.org/10.4060/cb8376en.

Table 1 displays the findings of the October 2023 World Food Programme (WFP) and FAO Hunger Hotspots Report, highlighting countries which are currently at highest risk of deteriorating acute food security and indicating the often-interconnected drivers of such risk.[63] Hotspots of highest concern are the food crises in Burkina Faso, Mali, Palestine, South Sudan and Sudan. In Palestine and the Sudan, the conflicts add to an already dire situation. In Gaza, the hostilities, led to more than 580 000 people facing Catastrophe levels of acute food insecurity (IPC 5).[64] In Mali and Burkina Faso, which are experiencing localized violence, pockets of the population are expected to face Catastrophe levels of acute food insecurity (IPC 5) in the first half of 2024. In South Sudan, a combination of climate events, economic shocks, and violence are expected to drive a deterioration in early 2024. In areas bordering the Sudan, the crisis might be further exacerbated by the continuing influx of forcibly displaced persons.[65]

Malnutrition

The global prevalence of **stunting** in children under five years of age has declined steadily from 26.3 percent in 2012 (177.9 million) to 22.3 percent in 2022 (148.1 million children)—the latest year with available data. Assuming the trend observed since baseline persists, it is projected that in 2030, 19.5 percent of all children under five will be stunted. The world is currently not on track to achieve the 2030 target of halving the number of stunted children under five by 2030 (13.5 percent stunted). The slower decline also means that the number of children, adolescents and adults suffering the lifelong consequences of early childhood stunting will remain high.[66]

The global prevalence of **wasting** in children under five years of age remained relatively unchanged over the past decade. In 2012, 7.5 percent of all children under five (50.7 million) were wasted. This prevalence declined to 6.8 percent in 2022 (45 million). The world remains off track to attain the 3 percent prevalence global target for 2030 based on progress exhibited since baseline, with 6.2 percent of children under five projected to be wasted by 2030, in other words, more than double the global target. In addition, the prevalence of wasting can spike at national level during acute food insecurity contexts such as lean seasons and emergencies, or during times of increased incidence of illness (for example, diarrhoea, measles outbreaks).[67]

3.3. Risk of humanitarian crises and disasters

Shocks do not necessarily lead to humanitarian crises and disasters. Their disastrous effects can only fully unravel when feeding off existing vulnerabilities. The COVID-19 pandemic illustrates the vast difference in impact that the same shock can have across contexts that vary, for example, in their social protection coverage. The crisis quickly became life-threatening for informal labourers in poor countries while hardly having any impact on the livelihoods of workers in advanced economies participating in furlough schemes. Impacts differed also by the degree of integration and modernization of agrifood value chains. Low and middle-income countries often have "traditional" or "transitional" value chains, which were particularly vulnerable during the pandemic. High-income countries with modern, integrated chains were better able to adapt and innovate, for example, via the expansion of e-platforms for supply and delivery.[68] Similarly, certain countries in the Middle East and

North Africa (MENA) region have demonstrated heightened susceptibility to the food and fertilizer price crises, engendered by the war in Ukraine. This vulnerability stems from their reliance on imports from the Black Sea region, exposure to other suppliers imposing export restrictions, and low stock levels that hinder their ability to withstand trade disruptions.[69]

Countries at risk of humanitarian crises and disasters

The INFORM Risk Index provides a risk assessment for humanitarian crises and disasters and identifies countries that may be overwhelmed due to a lack of response capacity (Figure 5). The three dimensions of the index are hazards and exposure, vulnerability, and lack of coping capacity. Under hazards and exposure, the index summarizes natural disasters including climate shocks and epidemics as well as the risk and intensity of conflicts. Economic shocks are not directly covered in the index.

FIGURE 5. 2024 INFORM Risk Index

Note: For each region, the bar chart value corresponds to the simple average of the region's country values; the point indicates the maximum value of the 2024 INFORM Risk Index with the corresponding country.

Source: European Commission Disaster Risk Management Knowledge Centre. 2024. INFORM Risk Index. https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk.

The average risk score of 2024 over all countries is the highest since the index was launched in 2015. Africa is the continent with most countries at very high risk; the countries with the highest scores are the Central African Republic, Somalia and South Sudan. Asia's risk score is the second highest, with Afghanistan, Yemen, and Syrian Arab Republic most at risk. Haiti is the only country outside Africa and Asia that ranks in the top ten countries with the highest risk score.

Different groups of people at risk within countries

Different groups of people within countries face varying vulnerabilities to shocks, with the impact on subgroups, households, and individuals influenced by their unique characteristics. This heterogeneity underscores the need for a resilience-building approach that specifically addresses the distinct realities of various population subgroups.

People living in rural or urban areas are more exposed to different types of shocks. While climate and zoonotic shocks usually affect rural areas more due to their higher reliance on agriculture, health shocks affect more urban areas, due to higher population density and population inflows from disease-prone areas.[70] Rural and urban areas are also intricately connected, and the adverse consequences of shocks can permeate between them. For instance, diminished agricultural production in rural areas due to a climate shock can result in food supply shortages, elevated food prices, and increased migration to urban areas. The substantial influx of people into urban centres can strain basic services, housing, and job availability.

Across urban and rural areas, the most vulnerable are the poorest households, which allocate about 70 percent of their incomes to food and face limited access to financial markets, heightening their susceptibility to income shocks.[71] Moreover, these households often reside in risk-prone areas and face increased vulnerability due to restricted access to financial resources, markets, savings, credit, and insurance, making them less resilient to crises and disasters. The impact of shocks on poor households extends to their ability to afford a healthy diet, as food shortages and lower incomes lead to consumption adjustments. For instance, with declining incomes, many poor households that spend 50 percent of their income on fruits, vegetables and animal products are likely to reduce consumption of these non-staples.[72]

Indigenous peoples are disproportionally affected by poverty, making up 6 percent of the global population but more than 19 percent of the extreme poor.[73] Their wages are a third of those earned by non-indigenous people, they are more often employed in the informal economy, suffer from low levels of social protection and statistical invisibility, as evidence from the International Labour Organization (ILO) for Latin America shows.[74] Often highly vulnerable, indigenous peoples are on the front line of climate change. They achieve high levels of self-sufficiency without depleting natural resources. However, climate shocks put the environment from which they generate hundreds of food items at risk, threatening the continuity of traditional practices. For example, eating habits following seasonality, considered a strength for enhancing food diversity and resilience, are becoming a weakness in the face of the effects of increased weather variability on food generation.[75]

Forcibly displaced people are among the most vulnerable groups to humanitarian crises. Conflict, insecurity and climate shocks trigger displacement—uprooting individuals, households and communities from their homes, livelihood systems, and societies. This leaves displaced populations heavily reliant on humanitarian assistance. A large influx of refugees in a region could also increase the vulnerability of the host population, especially if there is already an increased risk of humanitarian crisis. This is the case in many refugee situations, since about 76 percent of refugees globally live in low- and middle-income countries,[76] and 75 percent of countries facing acute food insecurity are home to internally displaced people.[77]

Most shocks also have gender-specific effects on poverty and food insecurity. Women are disproportionately impacted by shocks. For instance, globally, 22 percent of women lost their jobs in off-farm agrifood-system work in the first year of the COVID-19 pandemic, compared with only 2 percent of men. The gap in food insecurity between men and women widened from 1.7 percentage points in 2019 to 4.3 percentage points in 2021.[78] Gender inequalities in access to the means of production, decent employment opportunities, education, health services and social protection increase women's and girls' risk of poverty, food insecurity and malnutrition. Despite playing a key role in agriculture and agrifood systems, discrimination of rural women prevents them from being fully productive, with negative consequences for their income and access to adequate food.[79] Additionally, women-headed households are vulnerable to shocks as they often lack rights and have a lower status in rural communities. Girls are also disadvantaged in many households, both rural and urban, frequently deprioritized as the least safeguarded across household members in terms of access to food and resources.

Despite constituting 31 percent of the global population, children comprise more than 50 percent of the population living in extreme poverty,[80] which also exposes them to hunger and other vulnerabilities. Children and pregnant and lactating women (PLW) have the highest nutrient requirements to support rapid growth and development. They are therefore particularly exposed to the impact of shocks that affect the availability and access of households to nutritious food and essential nutrition services. For example, the rising cost of food and simultaneous loss of income during the COVID-19 pandemic made a nutritious diet unaffordable for many households, resulting in an overall deterioration in diet quality, with the strongest impact on children and PLW. Shocks, especially pandemics or conflicts are also known to severely disrupt health services and lead to reduced access to essential nutrition services. In all contexts, households with children and adults with disabilities face magnified vulnerabilities due to the related costs and the need for family members, often women and girls, to give up education and work opportunities to provide additional care required.

4. THE RETURN ON INVESTMENT OF BUILDING RESILIENCE

Multiple shocks have been driving hunger and poverty and this era of global events carries the risk of further humanitarian crises. Resilience building is a necessary preventive measure to stop hunger and poverty from increasing as a result of shocks. By reducing the damage of a shock or preventing a disaster, investments in resilience building are generally cost-effective strategies with a high return on investment. Measures to strengthen the resilience to shocks of vulnerable communities contribute to reducing humanitarian needs and, consequently, future funding needs.

The economic impact of conflict and violence was estimated at USD 14.4 trillion (constant PPP) or 10.5 percent of the global gross domestic product (GDP) in 2019.[81] Due to the enormous cost of recovery post shock, prevention of conflicts and investments in peacebuilding bring large cost benefits. Over the medium- to long-term donors would save between USD 2 and USD 7 for each dollar invested in preventing violent conflict.[82] For the case of Rwanda from 1995 to 2014, the Institute for Economics and Peace even finds a cost-effectiveness ratio for peacebuilding of 1:16.[83] Simulations considering a conservative and

neutral scenario show that prevention has a net return of USD 16 for each dollar invested in conflict prevention.[84] There is also a growing literature on food-related instability, showing that food insecurity is not only a byproduct but also a driver of conflict.[85] Insights from WFP's operations, such as asset creation activities in rural Niger helping to reduce natural resource conflicts in communities, confirm this.[86]

Similarly, prevention of and preparedness to climate shocks comes with enormous cost advantages. The Commission for Adaptation estimates that building resilience to climate change comes with a cost-benefit ratio of between 1:2 and 1:10.[87] Modelling confirms that investments in early response and resilience measures before a drought in Kenya yielded benefits of USD 2.8 for every dollar invested.[88]

Investments in poverty reduction through social protection can reduce hunger and vulnerability to shocks, but it also has major cost advantages. A simulation exercise conducted in eight countries[89] underscores that allocating 1 per cent of GDP to social protection reduces poverty, with a multiplier effect ranging from 0.1 and 1.1 across countries. The same level of investment yields a multiplier effect on GDP of between 0.7 and 1.9.[90]

Additionally, directing investments at scale to support production of nutritious food and protection of productive assets as part of humanitarian lifesaving activities not only helps to address the acuteness of the humanitarian crisis, but it also creates a pathway to transition smoothly to recovery and development. Thereby reducing the potential humanitarian caseload of subsequent shocks. In 2022, Niger faced its worst hunger crisis in a decade following a particularly poor agro-pastoral season and food price crisis. WFP resilience intervention areas were among the most impacted—nonetheless, data from a WFP impact assessment in Niger showed that for two consecutive years, 80 percent of communities that had implemented integrated resilience programmes did not require humanitarian assistance despite experiencing the worst drought in a decade.[91] Also, a study evaluating FAO Disaster Risk Reduction (DRR) good practices at the farm level, specifically focusing on the prevention of devastating impacts from natural hazards, revealed benefits that are 2.2 times greater than those derived from conventional practices employed by farmers during hazard conditions.[92] The observed average benefit–cost ratio surged from 3.7 in hazard cases to 4.5 under non-hazard conditions. These benefits encompassed heightened agricultural production as well as the prevention of damage and losses associated with hazards.

5. POLICY AND PROGRAMMING PRIORITIES TO BUILD RESILIENCE IN A MULTI-SHOCK ERA

The following section provides an overview of six policy and programming areas that should be prioritized in the work of the G20 Task Force for the Establishment of a Global Alliance against Hunger and Poverty to prevent hunger and poverty rising as a result of the different shocks described in Section 3. This is not intended to be an exhaustive list, but rather a spotlight on some of the areas that should be prioritized in resilience building efforts in lower- and middle-income countries and supported by G20 Member States and other countries.

5.1. Integrated and people centred approaches to resilience building

As risks and shocks have become increasingly interconnected and systemic, so too must resilience-building measures. In today's multi-shock era the integration, sequencing, layering and convergence of policies and programmes are paramount if resilience is to be built. A global paradigm shift is needed in how policy, investment, and programmatic prioritization of humanitarian, development, and financing is done. This paradigm shift should be matched with investments at scale on sets of mutually complementing and interacting interventions, rather than standalone interventions, to holistically enhance development and resilience at household, community and system levels.

Under this approach, resilience-building programmes should logically and strategically layer, integrate and sequence activities for optimal convergence, coverage, and impact over several years. By recognizing the intricate and interdependent connections between social, economic and environmental factors, integrated resilience strategies help communities and nations navigate uncertainties caused by shocks. By integrating resilience building into humanitarian and development initiatives, there is the potential to build robust, inclusive, and forward-looking systems that can withstand challenges and contribute to the long-term well-being of households and communities.

The forthcoming Global Nutrition Resilience Report shows that despite the immense challenges and disruptions caused by the COVID-19 pandemic, combined with other shocks, many countries successfully demonstrated the integrated resilience of key systems for safeguarding nutrition by their ability to concurrently adapt, absorb, and transform prior to and in response to the multiple shocks faced.[93] Governments successfully strengthened and adapted social protection, agrifood, health, education, and water and sanitation systems to maintain and even expand critical services to protect nutrition among the most vulnerable groups. Furthermore, countries that were already leveraging multiple systems to deliver critical nutrition services were better equipped to maintain and scale up services. Additionally, leveraging community-based actions allowed countries to build trust, tackle misconceptions and bring services closer to where vulnerable women, children and their families live.

In this integrated approach, collaboration among diverse stakeholders is crucial, necessitating a collective approach that involves national and local governments, international organizations, and local communities working in unison. This collaborative approach must put people, communities, and governments in the driving seat of resilience-building efforts and ensure no one is left behind. Realizing a people-centred, needs-driven approach includes ensuring that national and local authorities, communities, and people have decision-making power and are able to express their priorities, the risks and challenges that they face, and how they can overcome them. Community-based approaches, such as participatory assessments and local knowledge integration, empower vulnerable populations to contribute to their own resilience.

Additionally, incorporating conflict-sensitive approaches and promoting local capacity-building are essential to ensuring sustainable resilience. Status-based targeting should be avoided and minimized, with support to populations based on their needs and

vulnerabilities. This can be informed by conflict sensitivity risk assessments, which can ensure targeting will not have a negative effect on social cohesion and feed perceptions of marginalization or exclusion.

5.2. Context and shock-specific resilience programming: a portfolio of tailored and integrated solutions

Resilience outcomes emerge more sustainably from multisectoral and sequenced integrated programmes.[94] Investments at scale are required across multiple categories of interventions to adequately address systemic shocks and stressors, taking trade-offs and intervention dynamics into account. Yet, contextualization matters, acknowledging that one-size-fits-all solutions are rare.

In particular, resilience against shocks and to food insecurity, malnutrition and poverty hinges on a multifaceted strategy that integrates preventive, preparedness, response, and recovery interventions, along the humanitarian–development–peace (HDP) nexus. *Preventive risk reduction and management strategies* are designed to reduce the likelihood and/or severity of hazards, such as natural disasters, pests and diseases, and market volatility, or their impact. The persistence of residual risks and the inherent uncertainty necessitate the implementation of additional interventions. These interventions are centred on strengthening *disaster preparedness* to act right before the shock strikes (such as anticipatory action), and ensure that capacities at all levels (national, regional and local) are in place for effective *response and recovery* after the shock (also see *the Sendai Framework for Disaster Risk Reduction 2015–2023*).[95] Interventions should be combined into portfolios of solutions that can address both the immediate needs, risk and impacts from multiple shocks, but also tackle the root causes of vulnerabilities and weak capacities—in line with the strategic layering and sequencing of activities outlined in Section 5.1.

Resilience building can be achieved through direct interventions aimed at the population or by focusing on the community or systems to which this population belongs. For instance, in tackling food insecurity driven by drought, collaborating with the government to expand the groundwater monitoring network, accompanied by proper watershed management practices that will help groundwater recharge sustainably, may prove to be a strategic approach alongside engaging with the drought-affected households.

Appendix A illustrates examples of preventive, preparedness, response, and recovery categories and interventions targeting diverse household, community, or system levels within the agrifood system. The relevance of the interventions and integration of interventions and policies will depend on the context and exposure to hazards. For instance, farm households in areas with high past stress exposure to food insecurity, malnutrition and low agricultural potential are less likely to resist future shocks due to depleted absorptive and production capabilities. In these areas, the focus should shift to enhancing absorptive capacities through measures such as social protection, health systems and asset building, including those which restore soil health and biodiversity, while transformative actions are needed to promote alternative livelihoods beyond agriculture

combined with improving long-term nutrition practice and gender empowerment where these are barriers. Early-warning systems must monitor frequent natural and biological hazards, and failsafe strategies should prioritize protecting basic needs on a seasonal or year-round basis, depending on the frequency of food insecurity. In areas with moderate to high past stress and favourable agro-ecological potential, preventive measures and building adaptive capacity should complement absorptive capacity. This involves changing practices to produce nutrient-rich foods, adopting technology at the farm and value-chain level, reducing food loss and waste, strengthening integrated management of soil and water, and implementing insurance mechanisms to maintain agricultural production capacity in the face of shocks. Due to its long-term risk reduction nature and high upfront costs, protective infrastructure is most appropriate in medium and high hazard areas. The type of hazard (environmental, zoonotic, or economic) will provide information on the type of most relevant protection to be put in place (for example, protection against floods, droughts, economic risks).

Resilience solutions in one domain impact others and may entail trade-offs. For instance, redundancy and diversity—the diversification and duplication of critical systems' components or functions to increase their reliability—is often put forward as an effective resilience strategy. Yet, increasing redundancy and diversity in one system's component may weaken resilience in another. For example, opting to import food or expand commercial food production in a new region might place small-scale farm households at risk of facing unsustainable competition in the wake of an unexpected shock. Also, only bigger actors may be able to afford certain levels of diversity, redundancy, and innovation, while smaller actors face financial and logistical constraints to such investments. Investment in local production capacity, where possible, to produce nutritious foods may contribute to sustaining food security and nutrition.

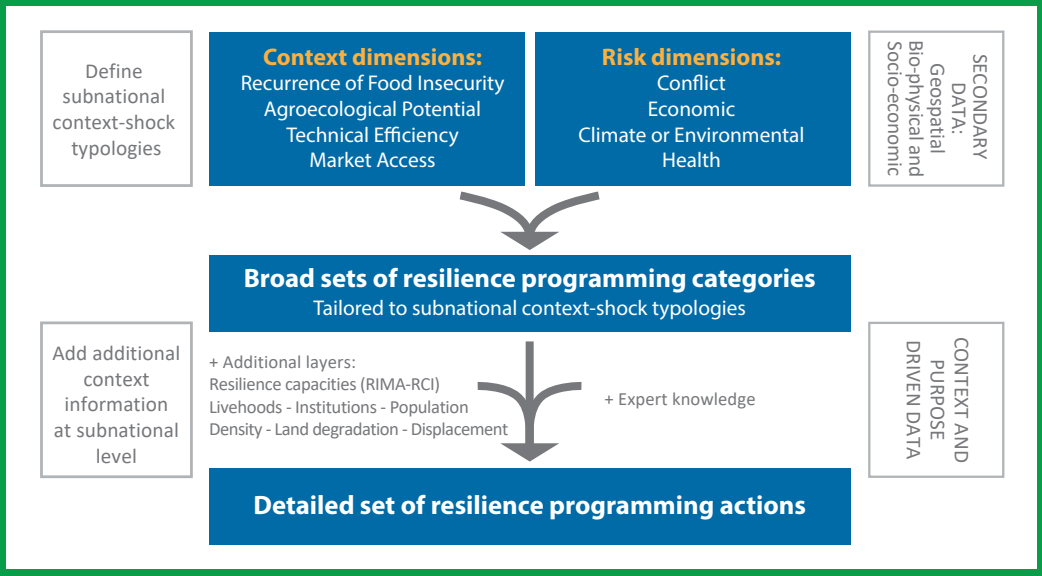
Also, the resilience of a system does not automatically guarantee the resilience of all its individual components or actors. While a system could resist and continue functioning in the face of the shock, shocks may cause disastrous damage to certain system actors. Subsequent socioeconomic costs must be minimized through complementary solutions targeting the most disadvantaged group affected by a given change. Solutions' combined effects are not merely additive, but interact in intricate ways, affecting outcomes.

Portfolios of integrated resilience-building solutions that are targeted to specific contexts and shocks are needed. These should be guided by applied tools that can articulate a tailored set of evidence based, context- and shock-specific response options along the HDP nexus, contributing to short-term and long-term needs of diverse target populations. The tool will identify the most suitable set of resilience interventions in a given context and against different types of shocks. It can both broaden the portfolio of resilience-building solutions made available at various scales and deliver support for decisions around response options that provide the highest economic returns for building resilience to hunger and poverty in different contexts. Box 3 illustrates how a dedicated tool can offer guidance on tailoring resilience programming and policies to specific contexts and shocks.

BOX 3. "Building resilience in agrifood systems"—An applied toolbox to guide context and shock-specific resilience programming and policy

The "Resilience Toolbox" serves as a practical guide for resilience programming at the country level, utilizing a landscape approach. It articulates a tailored set of evidence-based, context- and shock-specific response options across the HDP nexus. The toolbox employs a three-step approach: first, it establishes subnational context typologies through the analysis of geospatial, bio-physical, and socioeconomic data; second, it overlays these with different shock types and their probabilities; and third, it proposes broad sets of resilience interventions categories (see Appendix B) tailored to each subnational context-shock typology.

These broad programming categories will be refined into more specific resilience programming actions within each broader category. This refinement involves incorporating additional layers of context- and purpose-driven data, including factors such as resilience capacities (assessed through FAO's Resilience Index Measurement and Analysis [RIMA] tool),[96] local livelihoods, population density, and the quality of institutions, among others. This approach will provide systematic direction for evidence-based strategies to build resilience, tailored to address contextual nuances and specific hazards.



Source: FAO. (forthcoming). Resilience toolbox—An applied resource to guide context-specific resilience programming and policy. Rome.

5.3. Enhanced data and evidence for better preparedness

Data and evidence are the backbone of solution-building. Data are crucial for effective measurement and assessment of resilience at different levels. It also serves as a cornerstone for early-warning systems, as well as informing and targeting key response options, including via shock-responsive social protection initiatives.

While notable progress has been achieved in measuring resilience at the household level (for example, via FAO's RIMA tool[97] or WFP's resilience toolkit[98]), there remains a void in assessing resilience at the community, value chain and system levels. This gap prevents the identification of bottlenecks, including the ripple effects within the system, hindering the development of targeted policies and interventions. More efforts are needed to accurately conceptualize, collect quality data, and measure resilience beyond the household level

(e.g. at the agrifood system and agrifood value chain level) and thus link measurement to actionable policy and programming needs.

Early-warning systems are powerful tools to provide timely information of impending risks. Warnings will trigger anticipatory action plans and fund allocations to pre-empt, mitigate or alleviate disaster consequences, ultimately enhancing post-disaster response efforts and empowering individuals and communities to prepare and respond effectively.[99]

The effectiveness of early warning systems hinges on robust data, analysis, and monitoring to accurately predict the likelihood and severity of hazard events. Ongoing crises have highlighted several shortcomings in early warning systems. Firstly, availability of consensus-based food security analysis is restricted to a limited number of countries, differences in methodologies and population coverage can lead to differences in the estimated severity of food security crises, and frequency of data collection can be low.[100] Second, early-warning systems often remain poorly connected to each other. For example, food security monitoring systems (e.g. the Integrated Food Security Phase Classification [IPC], or Cadre Harmonisé, [CH]) are typically poorly linked to systems tracking global food and agricultural market trends such as the Agricultural Market Information System (AMIS).[101] Third, early-warning systems have traditionally focused on weather-related shocks and events, and gaps exist in areas to which these systems only expanded more recently, such as economic shocks and public health emergencies.

To address these limitations, an expansion in coverage of consensus-based analysis to include all shock-affected nations, increased real-time food security monitoring (such as WFP's HungerMap[102]) as well as improvements in forecasting could boost the effectiveness of early warning systems, enabling timely response to looming food crises.[103] More work is needed to better integrate early-warnings systems and, in particular, global agricultural market and food security monitoring systems. Efforts should further be directed towards assessing potential disruption risks at key trade hubs, currently not monitored by early-warning systems for economic shocks. Also, as 70 percent of new infectious diseases have their source in animals, improving surveillance systems for zoonotic diseases arising from animals used in the food chain is vitally important for avoiding future public-health emergencies. These early-warning systems need to trigger relevant responses in multiple systems including in the social protection system, food systems and essential nutrition services delivered through the health system.

The resilience of social-protection policies and programmes critically depends on data and evidence, ensuring that they are inclusive, tailored to the people at risk and in poverty. Evidence from research and program evaluations informs what form assistance takes, how it should be delivered and for how long. Meanwhile, monitoring relies on data to assess the resilience of social-protection programmes and determine areas for improvement. These data also allow for adjustments to programme design as new challenges emerge and needs change. Data are further used to detect fraud, and evidence underpins advocacy for policy change.

Several limitations exist to fully unleash the power of data and evidence to enable shock-responsive social protection. Existing databases of poor households are often only updated

infrequently, and systems designed to identify those who are chronically poor instead of the newly vulnerable. For social protection to be shock-responsive, more dynamic measures of poverty are needed, as the COVID-19 pandemic has clearly shown. Moreover, many social protection systems are insufficiently linked to other data and information systems, and there is a lack of evidence on what is working and what is not working to guide the design of policies and programmes.

To address these shortcomings, social registries should be broad enough to include those who are at risk of becoming vulnerable when a shock hits as well as displaced populations. Collection of disaggregated data further strengthens vulnerability analysis while embracing technologies allows for more frequent data updates. Recent evidence highlights the potential of effectively linking early warning, anticipatory action approaches and social protection.[104] Such integration not only streamlines the process but also elevates the precision and efficiency with which stakeholders can identify and subsequently assist. Systematic collection of qualitative data could help give those targeted by programmes a voice. Generating the evidence on resilient programmes takes time, involves rigorous evaluation, consultations with stakeholders as well as trial and error. Therefore, long-term investments in evidence are needed.

In summary, comprehensive data collection, integration, and analysis across different resilience levels (household, community, and systems) are paramount for robust resilience measurement, early-warning systems and shock-responsiveness, empowering informed and tailored decision-making, and effective policy interventions. This calls for sustained investments in research and evidence generation, including the identification of bottlenecks. Real-time data collection, access and analysis are essential for timely and tailored responses to emerging risks and vulnerabilities.

5.4. Technology and innovation for better preparedness

Technologies and innovations at different levels have been shown to improve resilience and to temper the effects of a shock by building long-lasting adaptive capacities, while leading to cost savings and greater performance in normal times.[105]

However, while adoption of digital technologies and innovations has been accelerating globally, the digital divide between high- and low-income countries has been widening in recent years, exacerbating disparities in poverty and productivity.[106] Therefore, to increase low-income countries' resilience, reducing this digital gap is essential, which requires investments, political will and international cooperation. Particularly, to balance the benefits and risks of frontier technologies such as artificial intelligence (AI) for developing countries, it is crucial that their expansion is driven by public interest rather than commercial incentives and geopolitical imperatives.[107]

There is a set of technological packages that could be facilitated to economic sectors, as well as to households and vulnerable groups to strengthen their *ex ante* resilience capacity and prepare for shocks. Two strategic measures are needed, tailored to address distinct levels of resilience:

1. Fostering system-level digitalization, as well as information and communications technology (ICT)

Given the looming threat of future shocks, governments must take proactive measures to empower private-sector players, regardless of size, to adapt their business strategies in the face of shocks. This entails encouraging innovations in marketing, sourcing, and technology. To facilitate such pivots, governments must prioritize investment in critical infrastructure and robust market structures to alleviate transaction costs. This, in turn, enhances a company's flexibility and their capacity to pivot in sourcing and marketing strategies.

Recent evidence agrees that a higher digitalization in companies leads to lower revenue losses during and following recessions, where results are robust across a wide range of digitalization measures—such as ICT input and employment shares, robot usage, online sales, intangible assets and digital skills listed on online profiles.[108]

Evidence specific on agrifood value chains confirms that value chain actors with higher innovation capacity were better positioned to adapt and "pivot" their business operations to keep value chains functioning during the COVID-19 pandemic.[109] Upstream innovations can include modern (farm) inputs or new process or product technologies, while downstream innovation can include investments in product differentiation.

The promotion of digitalization, artificial intelligence (AI) and ICT use requires workers who are trained to use these technologies. According to IMF estimates, low-income countries are far less prepared for AI than advanced economies.[110] There are major inequalities in enhanced capabilities around the world, meaning that the proportion of people in categories such as higher education is still low, putting them at risk of being left behind.[111] Therefore, increased investment in capacity building and education is crucial for governments of low-income countries.

Investments in digitalization and ICT can boost the resilience of social-protection systems. Countries that could leverage pre-pandemic investments in digital public infrastructure were better able to target COVID-19-response social assistance programmes, reach more beneficiaries and more effectively deliver funds.[112] This necessitates exploration and investment in future pathways for digital innovations to deliver social protection in rural areas, while considering the potential exclusion of more vulnerable groups.

2. Foster technologies and innovations at (farm) household level

Exposure to recurrent shocks and stresses calls for capacities at the (farm) household level to adapt to a changing environment and growing conditions. Innovative techniques and technology that foster resilience and sustainability in rural areas can encompass farm-management techniques and technology, alongside the acquisition of knowledge and skills and broader digital technologies in rural villages and communities.

Examples of innovative farm-technologies include the promotion of novel agronomic practices and agroforestry systems, along with the adoption of conservation agriculture methods to enhance soil health, curtail erosion, and encourage biodiversity. Supporting the introduction of drought-tolerant or pest-resistant crop varieties is another pivotal

strategy. This entails the careful selection of crop and seed varieties, or livestock breeds with heightened resilience to drought, pests, or diseases, bolstering crop yields and livestock health in the face of environmental challenges. Implementing advanced irrigation technology, rainwater harvesting, and storage tanks optimizes water usage and enhances water security on agricultural lands. These innovations are critical while also maintaining the selection and production of nutritious foods.

Broader digitalization via digital innovations and technologies, services and solutions have been identified as a key instrument to improve rural households' economic livelihoods, resilience, and create social cohesion through better connectivity (see FAO's Digital Village Initiative).[113]

5.5. Shock-responsive social protection systems for better response and sustainability

Social protection plays a critical role in breaking the cycle of poverty and vulnerability to hunger and malnutrition while protecting households from shocks and contributing to their resilience. Prepared and resilient social-protection systems can protect people from the impacts of shocks by reducing poverty and vulnerability through routine benefits, and adaptation of the system to deliver emergency assistance in the contexts of shocks, i.e. by absorbing the impact of shocks and disasters. This can happen, for instance, by providing cash "top-ups" to people already benefiting from a given social-protection programme ("vertical expansion") and/or by including additional people who require assistance as a result of an emergency into a specific programme ("horizontal expansion"). Social-protection programmes also contribute to increased productive capacity, particularly in the context of climate adaptation, with cash payments and other measures to reduce the liquidity constraints of households or allowing them to take more risks like favouring the adoption of new technologies or practices. Social protection can have a pivotal role in the prevention of malnutrition, particularly where social transfers are targeted to the nutritionally vulnerable. For example, during the first 1 000 days, and building synergies and convergence with essential nutrition interventions such as including a nutritious supplement for children, increased access to information, counselling and support on positive nutrition practices and referring participants to services.[114]

It is important to rethink social-protection systems in the context of resilience action and increasing shocks, and through the lens of access to healthy diets and the need to achieve higher inclusiveness. Achieving this requires optimizing both the **responsiveness** and **financial sustainability** of the system.

Strengthening the social protection system for effective response in case of crises entails embedding an analysis of risk in the policy framework, in programmes, and in the administrative system.[115]

Policy framework: Policy, strategy and legal frameworks reflect the vision of social protection in the country. It is important that these instruments clearly outline the purpose of specific social protection programmes in different crisis contexts and the responsibility of relevant ministries/authorities as well as their coordination for effective implementation. All changes in policies must go hand in hand with earmarking financing arrangements. Climate and

disaster risk financing instruments, when linked with social-protection systems, can enable faster, more cost-effective and predictable responses to shocks. Linking the two at national, regional, local, or household levels can better support climate vulnerable people and help provide people-centred climate financing.

Programmes: Social protection includes a range of contributory and non-contributory programmes. Their selection for shock response must be guided by the purpose and stage of the response. Evidence suggests that non-contributory social transfer programmes are effective in reducing poverty and hunger.[116] For mitigating impacts of shocks, it is important that social transfers be updated periodically to serve as counter cyclical measures and ensure that they align with the increased needs. It is also a useful strategy to encompass a greater focus on shocks and stresses in targeting of routine social protection programmes and predetermine selection criteria, especially for climate shocks, to scale up when needed.[117] This necessitates the development of vital operational frameworks, encompassing civil registration data, national registries, and payment/delivery systems. Special consideration must be given to individuals vulnerable to shocks, especially women and children, recognizing that their vulnerabilities may differ from those prevalent during normal circumstances.[118] Furthermore, the inclusion of migrant and displaced populations into social protection is not automatic, therefore, special efforts are required to enable their *de jure* and *de facto* access.[119]

Administrative system: Timely and efficient support delivery is critical to poverty reduction and response and recovery objectives. This requires strong and integrated information systems that can support the expansion of one or a combination of programmes.[120] Beneficiary registries are an important part of information systems; however, as mentioned in Section 5.3, the quality of data and its regular updating require focused attention.[121]

In some contexts, the frequency of transfers in social protection may need adjustments. For example, addressing immediate hunger and malnutrition needs requires higher frequency transfers as compared to transfers for skill development, asset transfer, etc. Timing of support is equally important for shock response. It is therefore important that investments be made to strengthen the delivery mechanism as a part of preparedness of social protection systems. Depending on the context this would entail pre-agreements with service providers or development partners for scale up, digitization for transparent and efficient delivery, etc.

In conflict contexts, the humanitarian principles of impartiality, neutrality, humanity and independence will determine the extent to which social protection can play a role. Such contexts often warrant a response through the humanitarian system. If designed well, such efforts can align with the existing social-protection system or lay the foundation for a new system that is shock responsive. Social protection can also contribute to sustaining peace outcomes by working "in conflict" and "on conflict".[122] This requires embedding conflict-sensitivity in the approach.[123]

The sustainable financial scale-up of social protection systems during crises to confront poverty and hunger at scale demands adequate fiscal space and buffer capacity in the event of shocks. This can be achieved by ensuring that domestic revenue and efficiency savings are allocated to social protection. However, the potential of these sources is limited in low-income countries and levels of Overseas Development Assistance (ODA) for social

protection are also not adequate,[124] thus creating a large financing gap. The COVID-19 pandemic exacerbated the issue of limited fiscal space. It led to increased borrowing requirements and associated costs, as public expenditures surged, while at the same time revenues sharply declined. In 2022, developing countries spent a record USD 443.5 billion to service their external public and publicly guaranteed debt.[125] Currently, nearly 60 percent of low-income countries are in or at high risk of debt distress.[126] To limit the reliance on debt, or discretionary support by donors, scaling up market-based sovereign insurance mechanisms, like catastrophic insurance schemes, could provide a more sustainable source of funding, triggering additional fiscal resources by government. With proper trigger definitions, this approach also provides financial means before the realizing of crisis and allows for implementation of anticipatory social-protection solutions.

For highly indebted countries to create the fiscal space to be able to invest in building prepared and resilient social-protections systems, and to respond adequately when the next shock hits, timely debt management measures are crucial. This can include debt relief, debt swaps, debt restructuring, debt suspension as well as improving the Common Framework for Debt Treatments to more quickly deliver solutions to insolvency and protracted liquidity problems. Considering the G20 Debt Service Suspension Initiative (DSSI) helped countries concentrate their resources on fighting the pandemic and safeguarding the lives and livelihoods of millions of the most vulnerable people, innovative debt management measures should be explored by the G20 to also allow highly indebted countries to invest in building shock-responsive social protection systems. This effort must be accompanied by increasing ODA and other forms of development assistance for enhanced social protection coverage and strengthening its shock responsiveness.[127]

BOX 4. The "twin-track approach"—Building resilience through social protection in the Sahel

Social protection systems in many Sahel countries are nascent and stretched in the current context of overlapping crises and fragility. This poses capacity constraints in expanding social-protection coverage, scaling up shock response, and ensuring timely delivery of assistance to the poor and vulnerable.

Developed as an operational approach under the Joint WFP–UNICEF Sahel Social Protection Programme —operating in Mali, Mauritania, Niger since 2020, in addition to Burkina Faso and Chad since 2024— a "twin-track approach" to delivery of cash transfers is helping expand coverage and respond to the multidimensional needs of vulnerable households. This approach works by supporting governments to scale up the delivery of cash transfers through the national social protection systems as much as possible or through partners outside the national system (including United Nations organizations or non-governmental organizations [NGOs]) when national systems are overstretched or access is limited, for instance due to security issues. This approach seeks to have a catalytic effect on social protection coverage, by aligning interventions with national systems and providing an operational strategy to expand programmes in capacity or security-constrained environments, ensuring consistency and cost-efficiency in delivery.

Social-protection offers inroads to help address the multidimensional vulnerabilities seen across the Sahel, and the twin track can operationally support its expansion, supporting the ability of systems to expand and contract in response to (or ahead of) a shock while also expanding regular programmes, which are critical for long-term resilience building. Such an approach incrementally contributes to building and strengthening shock responsive social-protection systems.

For more information see Appendix B.

5.6. Implementation of the Sendai Framework for Disaster Risk Reduction

To prevent the further rise of hunger and poverty, particular when exacerbated by shocks, it is essential to effectively manage the multiple risks and impacts associated with climate and natural hazard-induced disasters through enhanced disaster risk management and governance at local, national, regional, and global levels. Concerted international cooperation is needed to stimulate and contribute to developing the knowledge, capacities and motivation for disaster risk reduction at all levels, but in particular, in fragile and conflict-affected settings due to the heightened vulnerability, and often limited capacities, of these environments.

The landmark *Sendai Framework for Disaster Risk Reduction (2015–2030)*[128] outlines seven global targets and four priorities for action to prevent new and reduce existing disaster risks; priority number 3 in particular is focused on investing in disaster risk reduction for resilience. In the United Nations Secretary-General's mid-term review of the implementation of the Sendai Framework, it was highlighted that while overall progress has been made, no country is on track to achieve the seven global targets of the Framework by 2030.[129] In this multi-shock era, a renewed commitment to accelerate the implementation of the Sendai Framework and its integration in humanitarian and development policy is needed.

6. CONCLUSIONS AND RECOMMENDATIONS

In order to prevent hunger, malnutrition and poverty from increasing in a world where periods of multiple shocks have become the new normal, building resilience to shocks is essential. The confluence of frequency, diversity and multiplicity of shocks, which has been outlined in Section 3, has profoundly impacted levels of hunger and poverty worldwide. A concerted global effort is needed to break the cycle of overlapping and recurrent crises by building resilience from the systems level right down to the household level.

A collective approach, that blends humanitarian, development and peace building approaches and involves national and local governments, international organizations, and local communities is needed to achieve this paradigm shift and thus prevent current and future shocks from further worsening levels of poverty, hunger and malnutrition in low- and middle-income countries. This collaborative approach must put people, communities, and governments in the driving seat of resilience-building efforts and ensure no one is left behind. The G20 Task Force for the Establishment of a Global Alliance against Hunger is uniquely positioned to lead this global resilience building effort.

The policy and programming priorities in Section 5 provided a spotlight on some of the areas that should be prioritized in resilience building efforts. This is summarized in the recommendations listed below. This is not an exclusive list of actions and the G20 Task Force for the Establishment of a Global Alliance against Hunger should also use its convening and advocacy power to help guide the translation of existing global commitments with respect to resilience into effective programmes at country level.

RECOMMENDATIONS

1. **Implement integrated and people centred resilience approaches:** In an era of polycrisis and multi-shocks, the convergence and integration of multiple systems and programmes is crucial in building resilience. By integrating resilience building measures into both development initiatives and humanitarian responses, there is the potential to build robust, interconnected, and forward-looking systems that can withstand shocks and contribute to the long-term well-being of households and communities.
2. **Enact context and shock-specific resilience programming:** Applied tools that articulate evidence-based portfolios of integrated resilience-building interventions targeted to specific contexts and shocks are needed. The tools will broaden the sets of resilience-building solutions made available at various scales and deliver support for decisions around tailored response options that provide the highest economic and social returns for building resilience to hunger, malnutrition and poverty in different contexts and face to different shocks. The proposed sets of mutually complementing and interacting interventions should be matched with investments at scale to holistically enhance development and resilience at household, community, and system levels.
3. **Enhance data and evidence for better preparedness:** Comprehensive data collection, integration, and analysis across different resilience levels (household, community, and systems) are paramount for robust resilience, early-warning systems and shock-responsiveness, empowering informed decision-making, and effective policy and programme interventions. This calls for sustained investments in research and evidence generation, including the identification of bottlenecks. Real-time data collection, access, and analysis are essential for timely responses to emerging risks and vulnerabilities.
4. **Foster technology and innovation for better preparedness:** Technologies and innovations are key to temper the effects of a shock by building long-lasting adaptive capacities. This involves strategies at the system- and household-level. At the system level, it implies fostering system-level digitalization, as well as information and communications technology to allow systems to adapt and 'pivot' their operations to maintain functionality. At the (farm-) household-level, the capacity to adapt to recurrent shocks and stresses hinges on the incorporation of innovative farm-management techniques and digital solutions, such as mobile apps, to improve rural livelihoods and social cohesion, ensuring inclusivity for vulnerable groups.
5. **Strengthen the shock-responsiveness of social-protection systems:** Ensuring business continuity of social protection systems as well as their capacity to timely respond to shocks and stresses is an essential pre-requisite to protect the poor and vulnerable from the impact of shocks, and to promote livelihoods and resilience building. Debt-management measures and increased development assistance should be used to create the fiscal space for low-income countries to invest in building prepared and resilient social-protections systems, and to respond when a shock hits. Synergies between the social protection, agrifood and health systems should also be fostered to improve nutrition security and address malnutrition.
6. **Accelerate the implementation of the Sendai Framework for Disaster Risk Reduction:** With no country on track to achieve the seven global targets of the Sendai Framework, enhanced global cooperation and investment is needed to implement disaster risk reduction at all levels, especially in fragile and conflicted-affected settings.

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APPENDIX

Appendix A. Illustrative example of agrifood system resilience interventions across different response strategies

Prevention—Risk-reduction and management strategies			
Sub-themes (and level of application)		**Intervention categories**	**Examples of actions**
Prevention policies and interventions	Landscape and community level	Physical, natural or economic infrastructure	Elevation or retrofitting of buildings, flood embankments; wetlands/forests; nature-based solutions; regulated financial, credit systems; rangelands; irrigation services; ecosystems and natural resources restoration.
		Community building	Establish community-based groups (e.g. FAO's Dimitra Clubs); community Institutions like rangeland/forest/water-irrigation management associations.
	Sectoral level	On-farm production measures	Agronomic practices, farm-technology and innovation (e.g. surface and groundwater irrigation systems, efficient on-farm water use, climate smart farmer/herder field schools and common interest groups).
		Agrifood value chain (AFVC) pre- and post-production measures	AFVC technology and equipment; Capacity building; Strengthen interlinkages between AFVC actors (e.g. credit facilities, contract farming, quality premia); strengthen formal and informal AFVC institutions.
		Risk-transfer mechanisms	Insurance; re-insurance; contingent credit; village savings and loan groups, etc.
		Livelihood diversification	Entrepreneurship training; financial support; risk-informed livelihoods including access to microfinance, productive assets and market linkages.
	Macro level	Sectoral and geographic diversification	(Trade) policies and programmes that strategically optimize sectoral and geographic diversification of production and imports.
		Geographic embeddedness	

Preparedness			
Sub-themes		**Intervention categories**	**Examples of actions**
Early warning		Early warning and multi-risk information systems	Flood, drought, locust monitoring; price and trade monitoring; cereal/staple crops' planting decisions; livestock body conditions; surface and groundwater irrigation water availability.
Anticipatory action	Shock-responsive early social protection	Anticipatory action distribution programmes; advice and information	Distribution of cash, input, feed ahead of shocks; engagement with private sector seed enterprises and local markets for increased availability of high-quality/certified seeds and other inputs; information to farmers and AFVC actors, ahead of shock.
	Emergency anticipatory action		
		Maintain pre-shock infrastructure	Drain, irrigation channels, and water tanks; temporary storage.
Response and recovery			
Sub-themes		**Intervention categories**	**Examples of actions**
Failsafe mechanisms	Social protection (institutionalized delivery)	(Shock-responsive) Seasonal or year-round safety nets	School-feeding programmes; (un)conditional cash transfers.
	Humanitarian safety nets (non-institutionalized)		
Agricultural emergency response		Input distribution; cash and voucher assistance	Fishing gears, seeds, animal treatment; (Un) conditional cash transfers; cash-for-work, etc.
Recovery, in line with HDP nexus		Agricultural and non-agricultural recovery	Cash-for-work to rebuild key community assets; agricultural infrastructure rehabilitations, etc.

Source: Authors' elaboration.

Appendix B. An integrated, humanitarian–development–peace nexus underpinned and transformation programming example from FAO Afghanistan

An illustrative example of integrated, nexus-driven, and transformative programming, aligned with the paradigm shift proposed in this paper, is currently underway by FAO in Afghanistan.

This programme emphasizes humanitarian investment in the large-scale production of staple cereals, particularly wheat, achieved through collaboration with the private sector and bolstering the resilience of irrigation services. This core initiative is complemented by a range of multi-sectoral interventions, including crop diversification, adoption of climate-smart cultivation technologies, enhancement of climate-resilient livestock productivity and animal health, restoration of rangelands and management of natural resources, and the promotion of diverse livelihood opportunities tailored towards women, coupled with market linkages and the strengthening of institutional ties and incentives between macro and local input markets.

These interventions synergistically reinforce one another while leveraging the groundwork laid by humanitarian actions and drawing upon Community-Based Drought Early

Warning Systems and cash-based interventions. Preliminary findings from this integrated programming indicate a notable reduction in the proportion of acutely food-insecure individuals in Afghanistan, decreasing from a crisis peak of 55 percent to 36 percent. This progress is significant despite substantial underfunding of the country's 2023 Humanitarian Response Plan (HRP).

Appendix C. The twin-track approach: building resilience through social protection in the Sahel

Multidimensional vulnerabilities in the Sahel and exposure to covariate shocks

The Sahel has longed suffered from shocks of economic, environmental and humanitarian nature, but over the last decade, their frequency and severity have been on the rise. Poverty remains alarmingly high across the region, driven in part by deeply rooted socioeconomic inequalities and low or limited access to productive assets and essential public services for many. Coping with—and rebuilding after—these shocks is therefore stretching thin the abilities of households to safeguard their food and nutritional security today, while ensuring the viability of their livelihoods moving forward. The countries in the Sahel are also among the most disproportionately affected by the impacts of rising food inflation and supply chain interruptions, as witnessed on the heels of the COVID-19 pandemic and because of market and trade route disruptions stemming from the war in Ukraine. In parallel, the Sahel has been increasingly facing weather extremes, including droughts and floods, threatening livelihoods and, in turn, pushing people from their homes and lands. Conflict, political instability, and insecurity have driven up forced displacement, with many countries in the Sahel hosting large numbers of internally displaced persons and refugees and asylum seekers. Economic, climate-related, and security shocks may therefore not only exacerbate underlying vulnerabilities; left unaddressed they may also heighten the frequency and impact of future shocks. In the absence of a social protection response that is shock-responsive poverty, food insecurity, and malnutrition levels—all of which are closely interwoven—may deepen.

Against this backdrop of covariate shocks and chronic vulnerabilities, social protection can play an essential role in supporting people's well-being and fomenting their resilience. This requires dramatically expanding coverage, which is now one of the lowest in the world. It will also require better linking emergency response and social protection, moving away from a short-term triage approach and seeking a more coherent, complementary, and risk-informed combination of lifesaving and resilience-building support to address chronic vulnerabilities.

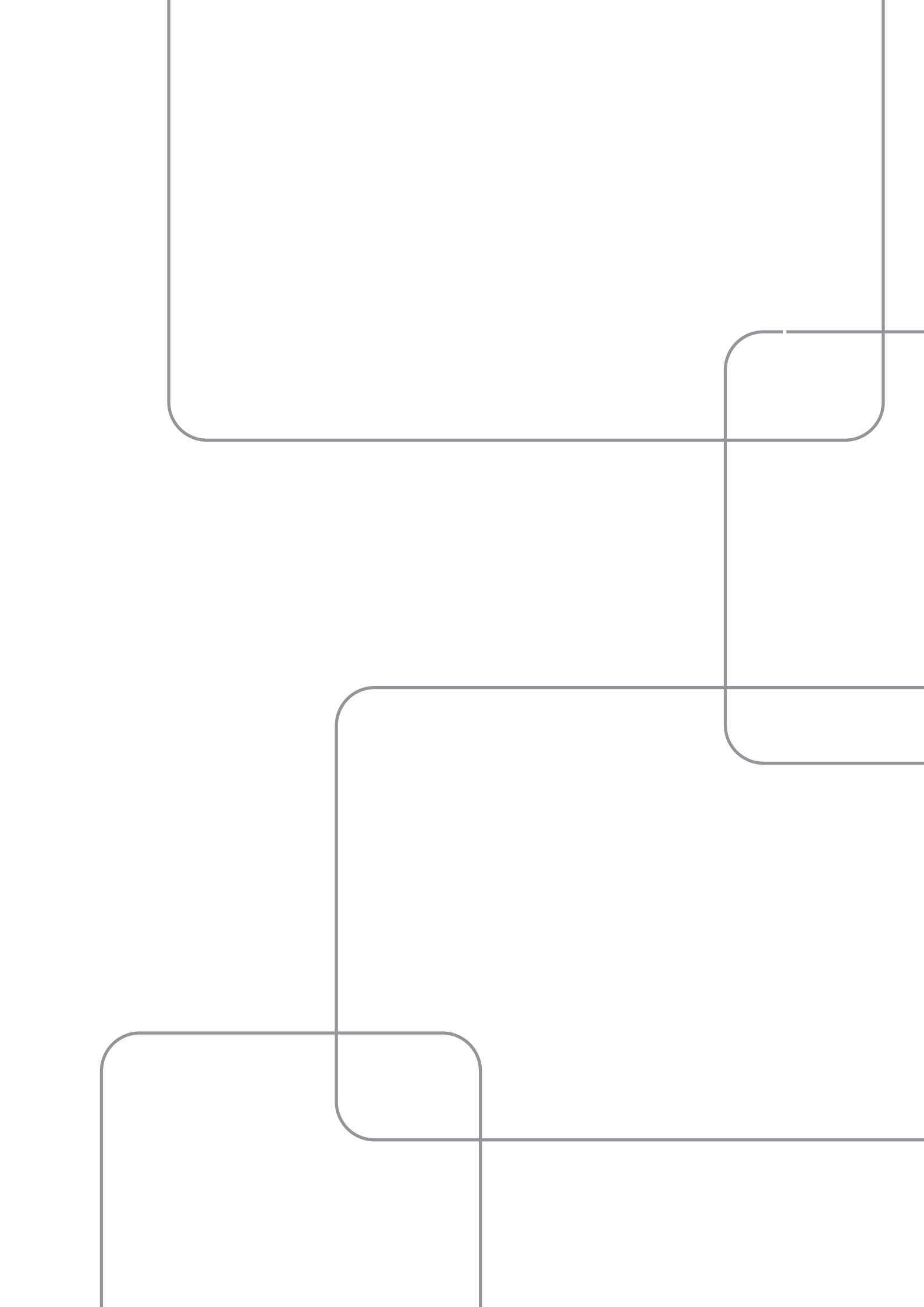
The "twin-track approach" in practice in the Sahel

Considering the currently fragile or still-nascent state of national social protection systems in the Sahel, there are capacity constraints to expand social protection coverage, scaling up shock response, and ensuring timely delivery of assistance. Developed as an operational

approach under the Joint WFP–UNICEF Sahel Social Protection Programme—operating in Mali, Mauritania, Niger since 2020 in addition to Burkina Faso and Chad since 2024—a "twin-track approach" to delivery of cash transfers is helping expand coverage and respond to the multidimensional needs of vulnerable households. The twin-track approach works by delivering cash transfers either directly through national social-protection systems as much as possible or through partners outside the national system (including United Nations organizations or NGOs) when national systems are overstretched or access is limited, for instance due to security issues. This approach seeks to have a catalytic effect on social-protection coverage, by aligning interventions with national systems and providing an operational strategy to expand programmes in capacity or security-constrained environments, ensuring consistency and cost-efficiency in delivery. Social protection offers inroads to help address the multidimensional vulnerabilities seen across the Sahel, and the twin track can operationally support its expansion, supporting the ability of systems to expand and contract in response to (or ahead of) a shock while also expanding regular programmes, which are critical for long-term resilience building.

Shock-responsive social protection as a key resilience strategy

WFP and UNICEF see risk-informed and shock-responsive social protection as a way to responds to urgent food security and nutrition needs today and strengthen systems and people's resilience to shocks ahead. This is based on the shared understanding that taking into consideration the type, complexity, interaction, and drivers of concurrent shocks is critical to navigate the Sahel risk profile. Shock-responsive social protection therefore works to prevent households from falling deeper into multidimensional and inter-generational poverty, and in turn, from experiencing hunger and risking chronic and acute malnutrition. It also sets in place the response modalities that would help prevent a fully-fledged crisis that would otherwise become far more costly to address later on. As such, UNICEF and WFP see a need for social-protection policies and programmes that can holistically address the underlying and deeply interconnected drivers of vulnerability that trap households in a vicious cycle of poverty, food insecurity and malnutrition. The twin-track approach, in turn, shows potential in driving the iterative process of strengthening shock-responsive social protection systems, where all tracks lead to increased government capacity to deliver and fosters flexibility that enables an inclusive response.



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