

## **FRAGILITY AND CONFLICT**

### Addressing Crises and Building Resilient Food Systems

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#### **Key messages**

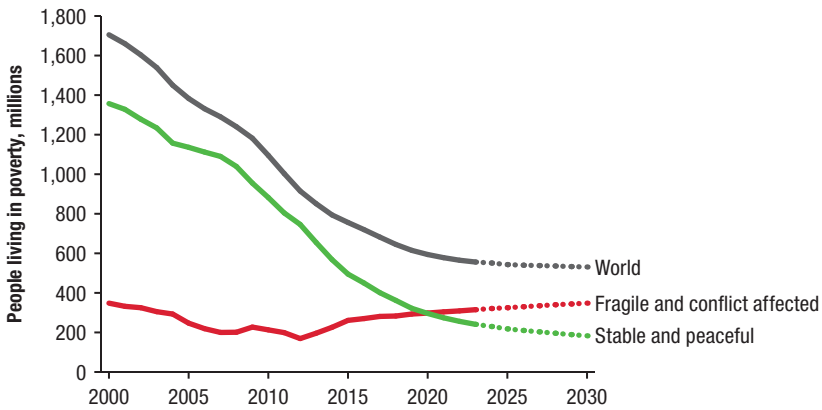
- Poverty, hunger, and undernourishment are increasingly concentrated in fragile and conflict-affected settings. As the incidence of conflict grows and climate change compounds fragility, projections show two-thirds of the world's extreme poor will live in these places by 2030.
- Early research used cross-country and macro-level analysis to understand links between poverty, economic growth, and conflict. A shift to household-level surveys highlighted the vicious circle of conflict and hunger and the need to consider conflict prevention within hunger interventions.
- Research on conflict impacts has spurred development and aid organizations to integrate short-term relief with long-term resilience- and peace-building efforts.
- Evaluations of specific programs and policies—before, during, and after crises—inform adaptations and improvements. This includes substantial work on mechanisms for effective food aid, conducted in partnership with providers. Much of this work points to the benefits of food aid, but it also highlights possible challenges in delivering food aid in protracted conflicts.
- Research is difficult in fragile and conflict-affected settings, but new tools such as satellite data and cellphone surveys have opened new possibilities.

Looking to the future, research and policy should:

- **Pursue a food-system-wide perspective.** More research on how conflict affects the entire food system—from local food systems to governance at all levels—is needed to inform investments for facilitating recovery and stabilizing food systems.
- **Support adaptation and contextualization of interventions.** Building resilient food systems in fragile and conflict-affected settings requires a comprehensive approach that addresses both short-term local humanitarian needs and long-term development and peace-building objectives.
- **Build local governance capacity.** Improving local governance in fragile and conflict-affected settings requires both top-down and bottom-up approaches to strengthen institutions, improve service delivery, and foster trust between governments and citizens.
- **Document differences in how vulnerable groups fare and adapt to conflicts.** Further empirical work is needed to understand what types of interventions may best serve these groups.
- **Address ethical and practical challenges of research in fragile settings.** As technology rapidly evolves, using it to support actionable research while continuing to protect individuals and partners on the ground is critical.

**H**unger and malnutrition are, more than ever before, concentrated in fragile and conflict-affected areas around the world. This chapter summarizes and reflects on the evolution of food policy research conducted in these areas over the past 50 years and looks ahead at challenges and opportunities anticipated for the next 25 years. Looking back, we identify major themes and topics in the literature—including links between food insecurity and conflict, the effectiveness of food aid, the role of climate change, the consequences of price shocks, and resilience-building among displaced people—highlighting important contributions from IFPRI researchers and other scholars. Looking ahead, we consider how policy solutions will need to evolve to address the critical challenges that fragility and conflict present for building resilient food systems.

We define a “fragile setting” as a place characterized by a low level of institutional and governance capacity that significantly impedes the state’s ability to function effectively, maintain peace, or foster economic and social development (World Bank 2024). A “conflict-affected setting” is a place characterized by acute

**FIGURE 13.1** Poverty and fragility

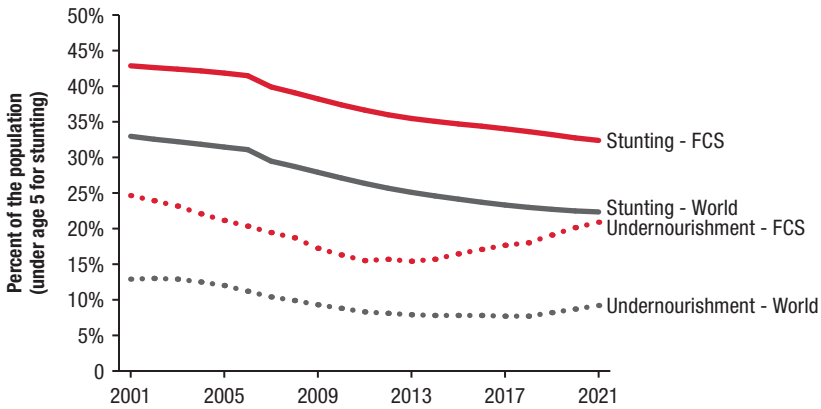
**Source:** Mahler et al. (2020b).

**Note:** Projections indicated by dotted lines.

physical insecurity and the use of violence by a group—including state forces, organized non-state groups, or other irregular entities—with a political purpose or motivation. Such force can be two-sided, involving armed conflict between groups, or one-sided, targeting civilians (World Bank 2024). Poverty and hunger are increasingly concentrated in fragile and conflict-affected settings. Although the number of people living in poverty has declined globally since 2000, this decline has occurred mostly in stable and peaceful settings (Figure 13.1). In fragile and conflict-affected settings, in contrast, poverty declined only slightly between 2000 and 2012, and since 2012, the number of people estimated to be living in poverty in these settings has increased. Most strikingly, as of 2020, more extremely poor people were living in fragile and conflict-affected settings than in stable and peaceful ones. Projections suggest that by 2030, two-thirds of the world's extreme poor will live in fragile and conflict-affected settings.<sup>1</sup>

Undernourishment and stunting, two important indicators of hunger, are also concentrated in fragile and conflict-affected settings. The global rate of undernourishment declined from roughly 13 percent in 2001 to about

<sup>1</sup> These dynamics are driven by persistent rates of poverty in countries categorized as fragile or conflict-affected in all years between 2000 and 2020, increasing rates of poverty in countries that became fragile or conflict-affected between 2000 and 2020, and declining rates of poverty in countries that became stable and peaceful or were always stable and peaceful between 2000 and 2020 (Mahler et al. 2020a).

**FIGURE 13.2** Prevalence of stunting and undernourishment in fragile and conflict-affected settings

**Source:** Stunting data are from UNICEF, the World Health Organization, and World Bank joint child malnutrition estimates. Undernourishment data are from the Food and Agriculture Organization of the United Nations. Both datasets are published in the World Bank's World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators>

**Note:** Stunting rate indicates the percentage of children under five years old who are stunted. Undernourishment indicates the share of the population with insufficient caloric intake to meet the minimum energy requirements necessary for a healthy individual. FCA = fragile and conflict-affected areas.

9 percent in 2021, but in fragile and conflict-affected settings, the rate of undernourishment is on average roughly 10 percentage points higher, and this gap has been growing in recent years (Figure 13.2). Similarly, rates of stunting (among children under five years old) are consistently 10 percentage points higher in fragile and conflict-affected settings than the global rate.

The coalescence of poverty and hunger with fragility and conflict suggests the importance of analyzing conflict as part of development research. Moreover, the incidence of conflict in the world today appears to be growing—with the past 3 years being the most violent of the last 30 (Rustad 2024). While conflict has not always been a central subject within development research (Blattman and Miguel 2010; Collier and Hoeffler 1998), it is increasingly identified as a key impediment to development (Collier et al. 2003; Corral et al. 2020; Gates et al. 2012; Ray and Esteban 2017; Verwimp et al. 2019). In response, international development and humanitarian organizations have increased their efforts to prevent or reduce conflict and its adverse effects. They are also working to connect short-term humanitarian relief with long-term development and peace-building efforts to create more sustainable solutions, described as working along the “humanitarian-development-peace

nexus.” All of this is happening amid the ongoing climate crisis, which also fuels—at times leading to and other times exacerbating—conflict, poverty, and hunger within fragile settings.

## Early work on conflict

Early research on food systems in fragile and conflict-affected settings, conducted in the 1980s, applied economic models and theories to explain the causes of civil wars. This work highlighted economic drivers of conflict, such as the availability of natural resources, and emphasized how poverty and weak governance increase vulnerability to conflict (Collier and Hoeffler 1998; Collier et al. 2003; Collier 2007). Cross-country empirical work triggered major debates on the direction of causality between conflict on the one hand and poverty and economic growth on the other (for example, Blattman and Miguel 2010).

In the 1990s and 2000s, researchers began studying how fragility and conflict influence hunger, health, and nutrition. The cross-country and macro-level analyses that dominated the previous decade were tested using household survey data (Messer et al. 1998; Smith and Haddad 2000; von Braun et al. 1998). Other studies examined how policy responses affected conflict and hunger (for example, de Waal 1997). An IFPRI book described conflict as a policy failure that was driving famine in Africa (von Braun et al. 1998), and others highlighted the vicious cycle in low- and middle-income countries driving conflict and various indicators of hunger, including child malnutrition (Messer et al. 1998; Smith and Haddad 2000). Taken together, this stream of work stressed that emergency and development interventions, including food aid, should consider conflict prevention in the targeting and delivery of interventions.<sup>2</sup>

Although these macro-level contributions helped shape the debate on the causes and consequences of conflict, this research faced major methodological limitations and data shortcomings that challenged the identification of causal relationships between conflict and key development and welfare outcomes at the sectoral, community, and household levels (Blattman and Miguel 2010). Thus, in the 2010s, research began to focus more directly on the micro-level causes and consequences of armed conflict. Using household and other micro-level data, several studies offered alternative perspectives on fragility and conflict, including

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2 Additional work includes that of Pender and Hazell (2000) assessing how sustainable development can be promoted in “less-favored” areas, which included settings facing multiple sources of fragility and conflict. Alderman et al. (2006) examined the effect of conflict on educational attainment among children in Zimbabwe. Gilligan and Hoddinott (2007) studied the effect of emergency food aid in conflict-affected rural Ethiopia.

the complex relationship between conflict and poverty (for example, Justino et al. 2013; World Bank 2011). As part of this pivot, IFPRI produced several flagship reports drawing attention to fragility and conflict (Fan 2011; von Grebmer et al. 2010, 2015). Notably, IFPRI's *2014–2015 Global Food Policy Report* included a chapter highlighting how conflict contributed to humanitarian tragedies characterized by widespread food and nutrition insecurity in places such as Gaza, Syria, and Yemen (Breisinger et al. 2015). The direct parallels with current conflicts around the world illustrate the persistence of these crises.

Generally, this body of research acknowledges the bidirectional relationship between fragility and conflict on the one hand and food insecurity and famines on the other. This work demonstrates that, while there are large incentives for peace (Blattman 2022), the presence of conflict in fragile settings makes it difficult to rebuild a stable and peaceful environment. Incentives for peace stem from the enormous costs associated with conflict in fragile settings, in terms of both human life and livelihoods. Once actors turn to conflict, however, the perceived costs and benefits become skewed by uncertainty, intangible incentives, and misperceptions, among other factors, making conflict seem like the only option (Blattman 2022). These political, social, and psychological forces push against prevailing economic forces to generate an environment that challenges the re-establishment of stability and peace.

## **Impact evaluations of interventions in fragile and conflict-affected settings**

Early scholarship on the impact of conflict on development outcomes spurred international aid and development agencies to respond to conflict-related crises through new types of relief and emergency measures. Initial efforts focused on promoting diets with sufficient caloric intake via short-term humanitarian relief interventions. However, concerns soon emerged about the sustainability and potential unintended consequences of these programs, prompting a shift toward integrating short-term humanitarian relief with long-term development and peace-building efforts. Beginning in the 2010s, IFPRI and other researchers deepened this exploration, analyzing the effects of specific policies and programming designed to combat food insecurity and build resilient food systems in fragile and conflict-affected settings. This body of research spans programming implemented before, during, and after (that is, during recovery) crises, whether caused by or exacerbating fragility, and provides evidence to inform strategies that balance immediate humanitarian needs with sustainable, systemic solutions in fragile contexts.

## Examining mechanisms for effective food aid

Food aid, typically provided by humanitarian agencies, aims to reduce hunger and food insecurity in fragile and conflict-affected areas. Much of the work by IFPRI researchers on food aid has been conducted in close partnership with governments and development organizations. In rural Ethiopia, for example, IFPRI has evaluated the impact of emergency aid and the country's main social protection program, the Productive Safety Net Program, for many years (see Chapter 11).<sup>3</sup> The challenges associated with delivering and evaluating food aid in fragile and conflict-affected settings have required close collaboration among implementing partners and research organizations. For example, to inform the World Food Programme's (WFP) food assistance in fragile and conflict-affected settings, IFPRI conducted a series of studies looking at the impact of different delivery modalities, including studies in Ecuador, Mali, Niger, and Yemen.<sup>4</sup> Each of these studies generally found that food aid helps reduce hunger in these settings; they also provided critical guidance on the relative effectiveness of specific distribution mechanisms (for example, in-kind versus cash) and complementary policies. This work contributed to IFPRI becoming an important knowledge partner for WFP, a partnership that continues today.<sup>5</sup>

The literature testing these food systems interventions in fragile and conflict-affected settings was elevated and expanded by a 2017 conference on Social Protection in Contexts of Fragility and Forced Displacement, organized by UNICEF. Contributions from IFPRI researchers included a study testing the effects of an emergency school feeding program on children's educational outcomes during a period of conflict in Mali (Aurino et al. 2019), a study

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3 This extensive work includes Berhane et al. (2014), Gilligan and Hoddinott (2007), Gazeaud and Stephane (2023), Gilligan et al. (2009), Hoddinott et al. (2012), Knippenberg and Hoddinott (2019), and Sabates-Wheeler et al. (2022).

4 An experiment implemented in northern Ecuador tested the relative effects of cash transfers, in-kind food transfers, or food vouchers (Hidrobo et al. 2014). The study found that all modalities improved the quantity and quality of food consumed among recipients, but in-kind transfers led to the largest increase in calories consumed, while food vouchers led to the largest increases in dietary diversity. In Niger, a study of the relative effects of distributing cash or in-kind food transfers found that households receiving cash made more bulk purchases, and households receiving in-kind transfers experienced improved dietary diversity (Hoddinott et al. 2018). In Yemen, a similar study found that cash transfers led to greater dietary diversity and the in-kind transfers led to higher calorie intake (Schwab 2019). Finally, in Mali, a study of the effects of WFP's food assistance program in conflict-affected areas found that aid boosted household food expenditures, food consumption, and children's height (Tranchant et al. 2019).

5 IFPRI researchers continue close collaboration with WFP, including most recently through a set of projects under the CGIAR Research Initiative on Fragility, Conflict, and Migration in 2023–2024, which were designed to provide specific guidance to WFP offices. [www.cgiar.org/initiative/fragility-conflict-and-migration/](https://www.cgiar.org/initiative/fragility-conflict-and-migration/); [www.ifpri.org/interactive/fcm-wp5/](https://www.ifpri.org/interactive/fcm-wp5/)

assessing the effect of providing food aid on child nutritional outcomes during active conflict in Niger (Brück et al. 2019), and another estimating the effect of cash transfers, in-kind food transfers, and food vouchers on social cohesion among Colombian refugees and poor Ecuadorians (Valli et al. 2019).

While many studies find that the distribution of food aid leads to benefits for the receiving population, some research demonstrates that food aid may also generate some negative effects.<sup>6</sup> A recent literature review concluded that existing studies lack a convincing way of identifying causal effects, and that more rigorous research and more analysis are needed of the channels through which food aid may influence conflict and its intensity (Koppenberg et al. 2023). The possible politicization of food aid distribution is another important consideration in assessing its effectiveness. For example, a study of the political economy of food aid in Madagascar following a devastating cyclone found that aid provided by the government was more prevalent in areas with better radio coverage and stronger political support for the existing government, while aid provided by international agencies was less affected by media or political factors (Francken et al. 2012). Additionally, a study of the distribution of cash and food transfers in Malawi showed that these humanitarian aid transfers were disproportionately targeted to areas where the government perceived the need to garner votes to support its candidates in the next elections (Duchoslav et al. 2023).

### **Climate change and conflict**

As scientists began to emphasize how the ongoing climate crisis is leading to irreversible climate change, researchers started to document how extreme weather events associated with climate change can contribute to and exacerbate conflict in fragile settings (Burke et al. 2009; Hsiang et al. 2013). IFPRI and other researchers have analyzed the effects of extreme weather events on a variety of outcomes, including livelihoods, aspirations, and migration. For example, a study in Somalia examining the link between extreme weather events and conflict highlighted how, in combination, they are an obstacle to policies and interventions to promote peace, stability, and food security (Maystadt and Ecker 2014). In rural Pakistan, exposure to flooding destroyed individuals' aspirations for the future, but government disaster

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6 For example, an influential study of US food aid suggests that food aid may, in part, fuel conflict and prolong fragility (Nunn and Qian 2014). This controversial finding indicated that alternative humanitarian programs may be needed to support food security instead of, or in addition to, food aid. However, concerns have been raised about the study's methodology, calling into question the validity of these findings (Christian and Barrett 2024).

relief was shown to ameliorate this reduction in aspirations (Kosec and Mo 2017). Also in Pakistan, extreme heat stress was found to motivate individual migration from rural to urban areas (Mueller et al. 2014). Further study of this trend found that, although climate-induced migration allows migrants to increase their food consumption, they also experience worse physical and mental health outcomes (Chen et al. 2019). These findings suggest that policies and programming should support beneficial migration while also mitigating potential negative physical and psychological consequences.

### **Economic shocks, prices, and conflict**

Amid a world characterized by recurring economic and international food crises, another topic that continues to attract debate and scholarship is the role of economic and price shocks in conflict, including civil war and violent conflicts (Andersen et al. 2022; Bazzi and Blattman 2014; Blair et al. 2021; Dube and Vargas 2013; Ubilava et al. 2023). This debate continues to generate more nuanced understanding. However, a meta-analysis showed that, while the relationship between commodity price changes and the likelihood of conflict is weak on average, an increase in the price of agricultural commodities tends to reduce conflict, while an increase in the price of capital-intensive commodities, such as oil and minerals, tends to increase conflict (Blair et al. 2021).<sup>7</sup> These findings offer indirect evidence on the potential of price stabilization policies to contribute to reducing food insecurity and conflict in fragile settings. For example, in Ethiopia, an evaluation of several strategies for stabilizing cereal prices during a drought found that strategic grain reserves and interventions specifically targeted to vulnerable households can help mitigate the adverse effects of droughts on food security (Dorosh et al. 2018). A study of the country's grain market and disaster management system confirmed the important role of public grain stock programs in stabilizing prices and supporting food security during periods of crisis and fragility (Rashid et al. 2018).

### **Building resilience among displaced people**

More recently, the CGIAR Science Program on Food Frontiers and Security (and its predecessor, the CGIAR Research Initiative on Fragility, Conflict, and Migration) has contributed to impact evaluations of policies and programs aiming to build resilient food systems in fragile and conflict-affected settings (Kosec, Läderach, and Ruckstuhl 2023). This includes several

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7 Dube and Vargas (2013) and Blair et al. (2021) offer comprehensive theoretical explanations and mechanisms to justify these patterns and empirical relationships.

ongoing projects. For example, a randomized controlled trial in Gombe, Nigeria, studied the effects of promoting a bundle of biofortified seeds and other agricultural inputs among both internally displaced people and residents of their host community (Amare et al. 2024). In Baidoa City, Somalia, a study implemented in partnership with World Vision examined the effect of an ultra-poor graduation program (that is, a multifaceted program aiming to “graduate” households from poverty) among internally displaced people (Leight et al. 2024). Work supported by this initiative increasingly considers the role of local governments and how citizen trust of these governments is formed. For example, recipients of Pakistan’s national unconditional cash transfer program were found to become more satisfied with local government compared with those who did not receive the cash transfer—suggesting that cash transfers can contribute to building social cohesion and stability (Kosec and Mo 2024). Additionally, in rural Mali, an effective and trusted local government proved important in effectively deploying emergency aid (Bleck et al. 2024) (see also Chapter 15).

## **New research tools**

In fragile and conflict-affected settings, reliable data are often scarce, and research is difficult (see Box 13.1). Armed conflict disrupts service delivery, security, and markets—and with them, data collection efforts. This presents a critical challenge for designing and testing policies and programming. In recent years, however, new data collection methods—including remotely sensed satellite data and computer-assisted telephone surveys—have enabled rapid monitoring of economic activity, food prices, poverty, and food security during conflict events. For example, in the absence of reliable data on economic outcomes in conflict-affected contexts, researchers have used nighttime light emissions to measure economic activity (Shortland et al. 2013; Weidmann and Schutte 2017). Similarly, combined satellite data on nitrogen dioxide concentration in the air and nighttime light intensity were used to track shifting patterns of economic activity amid escalated armed conflict in Sudan in early 2023 (Guo et al. 2023).

## **Conflict event datasets**

Among the most important conflict research tools are conflict event datasets, including Armed Conflict Location and Event Data (ACLED) (Raleigh et al. 2010) and the geo-referenced event dataset from the Uppsala Conflict Data Program (UCDP) (Sundberg and Melander 2013). These datasets use

**BOX 13.1 IFPRI's Country Programs in fragile and conflict-affected settings**

Conducting research in fragile and conflict-affected settings is particularly complicated due to security issues, logistical barriers, and disruptions to traditional data collection mechanisms. Through its Country Programs, IFPRI is overcoming some of these challenges by leveraging innovative methodologies and flexible partnerships that enable the generation of timely, context-specific evidence to inform emergency responses, resilience-building, and recovery strategies.

To overcome the limitations of traditional data collection methods amid active conflicts, IFPRI employs satellite imagery and remote sensing. Similarly, high-frequency computer-assisted telephone interviews (CATI) have enabled researchers to gather real-time data on household food security and livelihoods facilitating real-time monitoring of economic conditions and disruptions in economic activities amid active conflict. These CATI surveys have been used in Sudan for both rural and urban household surveys (Kirui et al. 2024a; IFPRI and UNDP 2024a, 2024b). These were implemented in collaboration with humanitarian (World Food Programme) and development (United Nations Development Programme) partners operating in Sudan and have generated important insights for their work (Abushama et al. 2023). In Myanmar, telephone surveys conducted as part of the Myanmar Household Welfare Survey provided critical insights into food security and nutrition amid political and economic turmoil (MAPSA 2022). In addition, the rising costs of diets and their impact on food systems in Myanmar have been monitored through frequent surveys, such as the March 2024 round of agrifood systems monitoring (MAPSA 2024).

These innovative methods help generate critically needed information in conflict areas while also ensuring research continuity during crises. The remote data collection methods and data sources can be combined with conventional surveys, administrative databases, and model-based forecasts, which can ultimately enhance the robustness of empirical findings. By combining cutting-edge tools with conventional data sources, IFPRI has produced actionable insights that address immediate humanitarian needs while laying the groundwork for sustainable development. This dual approach exemplifies our commitment to navigating the complexities of fragile contexts and transforming evidence into effective policies that foster resilience and recovery.

local media reports to catalog conflict events, which are geo-coded, dated, and include information about the actors involved. IFPRI researchers and others have used these datasets for a variety of studies. For example, ACLED data were combined with high-frequency phone survey data from Ethiopia to provide near real-time assessments of changes in household welfare amid active conflict (Abay et al. 2023). In Myanmar, ACLED data were linked with data from phone surveys of actors within the rice value chain to document how conflict can slow food system changes that are commonly associated with structural transformation (Goeb et al. 2024). The UCDP data were used to study how exposure to conflict influences child nutrition in Yemen (Ecker et al. 2024). Finally, ACLED data were used to analyze how conflict influences civic engagement by women and men in 13 African countries, as well as how having women in office mitigates conflict's negative impacts on women (Kosec et al. 2023).

Despite the increased availability and use of conflict event data, these data suffer from limitations and are likely to include measurement error. Two broad issues can affect the reliability of conflict event data: selection and veracity problems. First, it is inevitable that local or international media will not cover all conflict events (Weidmann 2015). Selection of a conflict event for inclusion in the database is determined by supply-side factors (such as remoteness of the event) and demand-side factors (for example, small-scale events or those that do not involve actors of interest to domestic or international audiences may be systematically excluded). Second, the accuracy of information in the database is highly variable. For example, in Afghanistan, a comparison of UCDP data with a military database revealed that events in more remote areas are subject to more measurement error in both the location and severity of the conflict event (Weidmann 2015); this finding led the study's author to recommend that analyses mitigate biases by avoiding the use of geographic identifiers at any scale below the district level. A study on the role of cellphone coverage found that conflict events are more likely to be reported in areas with better coverage (Weidmann 2016). Such biases are serious and must be considered in any research using conflict event data—and findings must be interpreted with these caveats in mind.<sup>8</sup>

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<sup>8</sup> Aggregation bias is another source of measurement error in conflict data (Rockmore 2017; Rockmore and Barrett 2022; Sharma and Gibson 2020). Because of data limitations, most existing studies use aggregate measures and exposure to conflict, sometimes aggregated at first or second subnational administrative levels—a process that can generate classical and sometimes nonclassical measurement errors that can ultimately distort statistical inferences.

## Data on food systems in fragile and conflict-affected areas

Other tools that enable rapid analysis of the functioning of food systems in fragile and conflict-affected settings include the Data in Emergencies (DIEM) database managed by the Food and Agriculture Organization of the United Nations (FAO) as well as IFPRI's Food Security Portal and the Excessive Food Price Variability Early Warning System.<sup>9</sup> The DIEM database offers high-frequency data on shocks and livelihoods in countries prone to multiple shocks, with the objective of informing humanitarian and related responses. IFPRI's tracking tools, which provide daily information on food prices, played an important role in providing timely analysis during the first year of the Russia–Ukraine war, in 2022 and 2023 (Glauber and Laborde 2023). Additionally, tools including a UN dashboard that tracks the distribution and supply of humanitarian supplies and the FAO's remote-sensing data collection efforts enabled rapid assessments of the severity of famine in Gaza in late 2023 and 2024 (Vos et al. 2024).<sup>10</sup>

## Looking ahead

Amid the increasing concentration of poverty and hunger in fragile and conflict-affected settings, the need for targeted and context-sensitive interventions has never been more critical. Looking ahead, novel interventions, programming, and policies are needed to break free from the vicious cycles in which conflict fuels poverty and hunger, which in turn exacerbate conflict. Beyond addressing immediate poverty impacts and food needs, however, interventions should focus on building the resilience of food systems. While we have highlighted many important studies and lessons, critical knowledge gaps remain regarding how to build food system resilience amid compounding crises and how strategies should be differentiated across contexts. Five policy lessons and areas for future work emerge.

**Pursue a food-system-wide perspective.** More research is needed on *how* conflict and crises disrupt the functioning of key sectors in local food systems, agrifood value chains, input and output markets, and governance at all levels. This knowledge can inform government investments to support more stable food systems. While existing work on how smallholder farmers respond and adapt to exposure to different types of conflict (for example, Adelaja and George 2019; Bloem et al. 2025; George et al. 2021) provides useful insights,

9 <https://data-in-emergencies.fao.org/>; [www.foodsecurityportal.org/](http://www.foodsecurityportal.org/)

10 UNRWA dashboard, [www.unrwa.org/what-we-do/gaza-supplies-and-dispatch-tracking](http://www.unrwa.org/what-we-do/gaza-supplies-and-dispatch-tracking)

additional work is needed for a more comprehensive understanding of effects throughout the food system.

**Support adaptation and contextualization of interventions.** Adaptation and contextualization are key for ensuring impact and sustainability of interventions. Although social protection programs, technological innovations, and other policy interventions effectively support poverty reduction efforts in stable settings, understanding what works for fragile and conflict-affected settings requires further experimentation and learning. Building resilient food systems in these settings requires a comprehensive approach that address local realities—such as mobility limitations, nonfunctional markets, dysfunctional governance, and insecurity and theft—while also considering ways to incorporate long-term development and peace-building objectives. Tailored social protection—including cash, in-kind transfers of food or assets, and vouchers—should be deployed based on the specific needs and institutional conditions of each context, should be designed mindfully to avoid unintended consequences (such as exacerbating conflict), and should empower the most vulnerable, including women and marginalized groups. For example, to ensure sustainability, food aid might be paired with complementary programs such as livelihood support and community-building efforts, which can reinforce stability and promote lasting development. To address the complex mental health challenges of living in fragile settings (Alloush and Bloem 2022), cash transfers can be combined with group therapy services (Alderman et al. 2024). Overall, it is essential to strengthen the focus on combining short-term humanitarian efforts with initiatives that build resilience and foster social cohesion.

**Build local governance capacity.** Resilient and inclusive governance is critical to tackling fragility and conflict with policy solutions and programming. Building local governance capacity in fragile and conflict-affected settings requires both top-down and bottom-up approaches to strengthen institutions, improve service delivery, and foster trust between governments and citizens. From the top down, training in budgeting, fiscal planning, resource allocation, and leadership development can enhance public sector capacity—ensuring that local officials are better equipped to manage aid and deliver essential services. From the bottom up, engaging citizens through participatory planning, feedback mechanisms, and civic education fosters accountability and strengthens the social contract between communities and their leaders. For example, in Nigeria, training women to advocate for their policy needs increases local leaders' responsiveness to them (Adida et al. 2024). In Brazil, participatory budgeting initiatives, which allow citizens to directly influence

municipal spending, yield more equitable resource allocation and increased trust in government (Avritzer 2009). And in Mali, involving local leaders and key community members—including elected officials, traditional authorities, and civil society representatives—in aid distribution can ensure that knowledge of local conditions informs aid delivery (Bleck et al. 2024). Additionally, investments that broadly strengthen citizens’ trust in government—such as contextually appropriate social protection programs—can demonstrate the state’s commitment to supporting citizens, thus promoting trust (Kosec and Mo 2024). Together, these efforts can both foster stability and create a foundation for broader service improvements and long-term development in fragile and conflict-affected areas.

**Document differences among vulnerable groups.** Empirical work on how different groups, including youth and women, fare and adapt to recurring conflicts, and what types of intervention may best serve these groups, remains an important research gap (see Box 13.2). For example, while inadequate access to land and jobs combined with a growing youth population, especially in Africa, has fueled violent extremism and conflict, youth are also central to peace-building, innovation, and development. Further, while women are often excluded from influencing policy decisions about how to improve service delivery, reduce poverty, and support individual livelihoods, efforts that include their voices have shown substantial promise for bringing about more inclusive policies (see Chapter 14). Additional research is needed to understand how both the growing youth population and recent innovations to reduce structural barriers for women in food systems can be harnessed for development, peace, and prosperity.

**Address ethical and practical challenges of research in fragile settings.** An immediate challenge and frontier for researchers relates to how we can safely and ethically conduct research in fragile and conflict-affected areas. Data collection in these settings is fraught with logistical and ethical challenges, such as ensuring participants’ safety and minimizing harm in volatile environments. Innovative tools like satellite imagery, remote sensing, and conflict event datasets offer new opportunities for timely analysis but must be employed carefully to address biases and measurement errors. As technology rapidly evolves, including artificial intelligence, using it to support actionable research while continuing to protect individuals and partners on the ground is critical.

Through these key priorities, we will be able to inform and support the development of resilient food systems in fragile and conflict-affected settings around the world. This work informs and contributes to efforts that

**BOX 13.2 Research on women in fragile and conflict-affected settings**

Women face unique vulnerabilities in fragile and conflict-affected settings, where existing structural barriers limit their ability to respond and adapt effectively to crises (Bendavid et al. 2021). Lack of access to social and financial services, limitations on mobility, and low levels of political agency all disadvantage women in these settings (Swinnen and Kosec 2023). Fragility and conflict can erode the social networks and other institutions on which women rely and can separate them from their husbands and families. More data and research are needed to fully understand the conditions of women in these settings and the policy solutions that can support them (Malapit and Brown 2023). IFPRI researchers are at the forefront of new research to address these gaps.

For example, IFPRI's Sudan office has been collecting data on women in the agrifood sector during the ongoing conflict. Interviews with agrifood entrepreneurs in Kassala and Gedaref States highlight gendered experiences in navigating supply chain disruptions and rising input costs. Women, particularly those working in crop processing, have adapted by diversifying income sources and relocating businesses closer to their homes. However, many also scaled back operations, compromising both their economic security and community food supplies. Women's aspirations often include expanding businesses and achieving financial independence, but these ambitions are constrained by the war's economic toll (Kirui et al. 2024b, 2024c).

In another example, an IFPRI research team and its partners focus on anticipatory action programming in Nigeria that is designed to take preemptive action between the forecast of a disaster, such as a flood, and the event itself. They are studying how these programs can be designed to reach, benefit, and empower women—including by helping them guide programming decisions that affect their own resilience to disasters. The work extends our understanding of the challenges of reaching women with anticipatory action programming and the prerequisites for implementing programs that can go further to empower women (Gonzales et al. 2024).

Increasing women's political agency can play a role in promoting community resilience in fragile settings. In a study involving 5,800 women across three states in Nigeria where women's political participation is low, IFPRI researchers evaluated the impact of (1) a six-month training program aimed at increasing women's collective efficacy and (2) the combination of that program with a training for men aimed at increasing their allyship for women's empowerment. Results showed that trained women were more politically engaged across several measures, had increased measures of self-efficacy, and showed improvements across several measures of economic empowerment, but no additional impact was attributable to the addition of the men's training (Adida et al. 2024). This study is evidence of one successful approach for increasing women's political agency—a key component for promoting stability in fragile settings.

help support local livelihoods and also promotes global peace, security, and stability. Among other efforts, IFPRI is contributing to achieving these five key priorities through the new CGIAR Science Program on Food Frontiers and Security (2025–2030), which will continue tackling these research needs over the next five years. This program fills a critical gap in CGIAR’s ambitious effort to achieve food and nutrition security by focusing on support to neglected, “frontier” food systems: fragile and conflict-affected, urban and peri-urban, and island food systems. All three food systems are characterized by heavy constraints to food production, natural resource management concerns, vulnerable populations, high risk from climate change and global and regional trade shocks, and challenges posed by displacement and migration. The program has strong potential for advancing research on these five recommendations.

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