HARVESTING PEACE:

Food Security, Conflict, and Cooperation

BY Emmy Simmons

USAID
FROM THE AMERICAN PEOPLE

Wilson Center

ecsp

HARVESTING PEACE:
Food Security, Conflict, and Cooperation

BY Emmy Simmons

CONTENTS

Abbreviations

CAF   Conflict Assessment Framework (U.S. Agency for International Development)

DES   Demographic and Environmental Stress

FAO   Food and Agriculture Organization of the United Nations

GDP   Gross Domestic Product

IDP   Internally Displaced Person

NGO   Nongovernmental Organization

QDDR   Quadrennial Diplomacy and Development Review (U.S. Department of State)

UNDP   United Nations Development Program

UNHCR   Office of the United Nations High Commissioner for Refugees

USAID   U.S. Agency for International Development

WDR   World Development Report 2011 (World Bank)

WFP   World Food Program

Acknowledgments

Executive Summary

SINCE 2008—A YEAR IN WHICH rapid increases in the global prices for major grains helped to trigger outbreaks of civil unrest in more than 40 countries—scholars and policymakers have paid increased attention to the potential influence of global food prices on social and political instability. Since that time, spiking prices have periodically sparked public protests and governments have struggled to respond. In September 2010, citizens in Maputo, Mozambique, rioted over a government decision to raise the price of bread. Efforts to control the crowds resulted in deaths and injuries. In 2011, governments in the Middle East reduced subsidies for bread, a critical staple for the majority of the population. This decision was blamed, at least in part, for the popular uprisings of the Arab Spring.

But the compelling headlines associating rising food prices, hunger, political instability, and conflict are likely to be only part of the story. People reacting to unexpected food price increases may use these opportunities to give voice to other grievances—unemployment, inadequate incomes, or government policies more broadly. When national governance fails, as in Somalia, recurrent food scarcity and famine become part of a vicious cycle of instability. Food insecurity both results from and contributes to repeated rounds of armed conflict in that country. In other countries, such as Sudan, food shortages and hunger have been intended outcomes of confrontation and armed conflict.

This report explores the complex linkages between conflict and food security, drawing insights from

Women shelling maize in Chipata, Zambia. Photo courtesy flickr user Swathi Sridharan (ICRISAT).

When national governance fails, as in Somalia, recurrent food scarcity and famine become part of a vicious cycle of instability.

scholarly work to help inform more effective programming for practitioners. There is no doubt that conflict exacerbates food insecurity. Conflict can reduce the amount of food available, disrupt people's access to food, limits families' access to food preparation facilities and health care, and increase uncertainty about satisfying future needs for food and nutrition.

Deaths directly attributable to war appear to be declining, but war and other kinds of conflict continue to take a toll on human health, often through food insecurity. Conflict induces the affected populations to adopt coping strategies that invariably reduce their food consumption and nutrition. Poor nutritional status in individuals of any age makes them more susceptible to illness and death.

But the acute food insecurity caused by conflict has especially potent and long-lasting effects on children. Children whose nutrition is compromised by food insecurity before they are two years old suffer irreversible harm to their cognitive and physical capacities.

Analysis of the causes of conflict and war has been an area of growing academic interest. Both theoretical work and empirical analyses substantiate the many ways in which food insecurity can trigger, fuel, or sustain conflict. Unanticipated food price rises frequently provide a spark for unrest. Conflict among groups competing to control the natural resources needed for food production can catalyze conflict. Social, political, or economic inequities that affect people's food security can exacerbate grievances and build momentum toward conflict. Incentives to join or support conflicts and rebellions stem from a number of causes, of which the protection of food security is just one. Food insecurity may also help to sustain conflict. If post-conflict recovery proves difficult and food insecurity remains high, incentives for reigniting conflict may be strengthened.

Given the complexity of factors underlying food security, however, we do not yet understand what levels or aspects of food insecurity are most likely, in what circumstances, to directly contribute to or cause conflict. More explicit integration of food security variables into theories of conflict could help inform external interventions aimed at mitigating food insecurity and preventing conflict.

The high human and economic costs of conflict and food insecurity already provide substantial incentives for international humanitarian and development organizations to intervene in order to alleviate food insecurity in fragile states and conflict-affected societies. Experience suggests, however, that effective efforts to address food insecurity in these situations may require external actors to reconsider the ways in which they intervene.

Modifying operational approaches to ensure greater complementarity and continuity between humanitarian and development interventions, for example, could help to improve effectiveness and impact. External support could help to strengthen institutions critical to food security and conflict prevention in fragile states. Engaging more closely with households caught in conflict-created poverty traps could alleviate persistent food insecurity and potentially sustain conflict recovery. And mobilizing civil society and private businesses as partners could enable both humanitarian and development organizations to broaden the capacities for conflict recovery and food security.

But experience also shows that actions taken without an adequate understanding of the complex and confounding events associated with conflict and food insecurity may fail to achieve those goals and could make things worse. There is, therefore, broad agreement that rapid assessments conducted on the ground in specific situations are essential to guide short-term interventions that address acute needs. To break a cycle of recurring violence and food insecurity, rapid assessments must be

complemented with cross-country and multi-location analyses that take a broader and longer view of the causes and consequences of conflict, especially violent conflict.

Approximately 1.5 billion people live in conflict-affected, post-conflict, or fragile countries. In recognition of the fact that violent conflict can impede or even reverse the processes of economic, social, and political change, organizations such as the U.S. Agency for International Development (USAID) have developed comprehensive approaches to conflict prevention, management, mitigation, and recovery.

USAID programs nearly 60 percent of its total resources as humanitarian aid or development assistance in fragile and conflict-affected countries. USAID, therefore, has a huge stake in better understanding the dynamics of conflict. To the extent that food insecurity is a causal or contributing factor for conflict, USAID's efforts in fragile countries to improve access to food and increase the availability and stability of food supplies could also help to reduce the risks of conflict.

Since 2009, the United States and the other Group of Eight (G-8) members have made significant commitments to improving global food security. They have committed more than $22 billion over a three-year period to expand investments in agricultural development. The United States launched its flagship initiative, Feed the Future, in 2010 and USAID has taken the lead in the program's implementation.

Of the 19 priority countries initially targeted for Feed the Future assistance, 11 have experienced violent conflict within the last 10 years. At least 5 experienced food riots or demonstrations in 2008.

The immediate challenge for USAID is to integrate analytical efforts on conflict and food security, with a view to shaping more effective interventions. This report provides a first step toward meeting this challenge.

Drawing on some of the findings that emerge from a review of both experience and analysis, this report lays out the following broad observations and recommendations to guide USAID's future engagement:

- USAID has immediate opportunities to apply and refine its guidance on program implementation related to conflict and food security in Feed the Future focus countries. USAID is already programming both humanitarian and development assistance in 16 of the 19 countries. Nine of them are currently identified as "fragile or conflict-affected."

- USAID will, however, need to pay close attention to setting its priorities for work in fragile and conflict-affected countries. Of the 10 countries ranked at the top of the Failed States Index, only 1 (Haiti) is a Feed the Future country. All, however, are recipients of other USAID assistance. Expanding commitments in these fragile or failing states will pose serious trade-offs in terms of policy, staffing, and funding.

- USAID could build on its long experience with community-based food security programs, using a mix of emergency and development programming to expand grassroots efforts in other conflict-vulnerable contexts.

- USAID should clarify its learning goals on conflict and food security, deliberately supporting additional research, improving food security monitoring and evaluation efforts in conflict-affected areas, and partnering with others to deepen knowledge on violence, fragility, food security, and development.

I. Introduction

Targeted food distribution by USAID partner Save the Children in Barisal region of Bangladesh.
Photo courtesy flickr user Save the Children.

GLOBAL CORN AND SOYBEAN PRICES rose in mid-2012 as drought in the American Midwest devastated crop yields. The possibility that increasing prices would translate into a new round of increased worldwide food insecurity in 2013 was worrying news. The negative political and human security effects of the food riots that began in 2008 were fresh in leaders' minds. The eruption of violent conflicts in rural areas of Mali, Sudan, and South Sudan continued to link the issues of food and conflict in the media headlines.[1]

Even in Togo, protests seemingly grounded in political issues included food among the issues. A 2012 *New York Times* article highlighted the concerns of the opposition-led campaign, "Save Togo," when violent protests were taking place during the summer of 2012. "We're asking for a radical change in our country," said Jil-Benoît Afangbedji, a lawyer who was helping to run Save Togo at the time of the article. The reason cited by Afangbedji? "The Togolese are not eating three times a day. The authorities are deaf to our demands. But we are not going to shut up" (Nossiter, 2012).

Since 2008, both the levels and volatility of global food prices have come to the fore as important causes of social and political instability. In early 2008, rapid increases in the global prices for major grains—rice, wheat, and corn—triggered outbreaks of civil unrest in 48 countries around the world (Brinkman & Hendrix, 2011). In April of that year, the government of Haiti fell after a week of food riots, as people protested against the rising costs of basic food staples. In spite of a proposal to slash the price of rice, Haiti's prime minister was voted out of office (Delva & Loney, 2008).

Further, both the Food and Agriculture Organization of the United Nations (FAO) and the World Bank estimated that, as hard-pressed low-income consumers had to pay more for staple grains, an additional 75 million to 160 million people were likely to be experiencing hunger and poverty.[2] The then-president of the World Bank, Robert Zoellick, predicted that the skyrocketing prices would lead not only to immediate hardships but to "'seven lost years' in the fight against world poverty" ("Riots, Instability Spread," 2008). Governments scrambled to moderate the higher prices, especially for poor urban consumers, by blocking grain exports, reducing tariffs on imports, and releasing security stocks to calm markets (Benson et al., 2008).[3]

The United Nations Secretary-General convened a High-Level Task Force on Food Security in an effort to enable the many UN agencies involved in food, health, and agriculture to respond in a coordinated way to a threat of global instability (Ki-moon, 2011).

World grain prices declined again by the end of 2008 and were relatively low in 2009 (Figure 1; FAO, 2013). But levels in 2010 and 2011 were higher than the peak of 2008, repeatedly rising to levels associated with growing food insecurity, again sparking public protests; again, governments struggled to respond. In September 2010, citizens in Maputo, Mozambique, rioted over a government decision to raise the price of bread. Government efforts to control the crowds resulted in deaths and injuries (Reuters, 2010). In 2011, the inability of governments in the Middle East to sustain subsidies for bread, a critical staple for the majority of the population, was blamed, at least in part, for the popular uprisings of the Arab Spring (Zuryak, 2011; Rosenberg, 2011).

However, compelling headlines that suggest a direct link between hunger and political instability or conflict capture only part of the story. Analysts suggest that a more complex picture needs to be painted if we are to understand the relationship between conflict and food insecurity. Spiking food prices may provide an incentive for people to give voice to underlying grievances on other conditions that affect their food security—for example, jobs, incomes, or government policies (Bush, 2010). Where there has been a failure of governance, such as in Somalia, recurrent food scarcity and famine become part of a vicious cycle of instability, with food insecurity both resulting from and contributing to repeated rounds of armed conflict. In other countries, such as Sudan, food shortages and hunger are intended outcomes of confrontation and conflict, although a host of economic, political, and ethnic factors combined to drive that country toward civil war.

This report explores more deeply the complex linkages between food insecurity and a range of forms of conflict: from the short-lived but sometimes violent

FIGURE 1: Global Food Price Trends
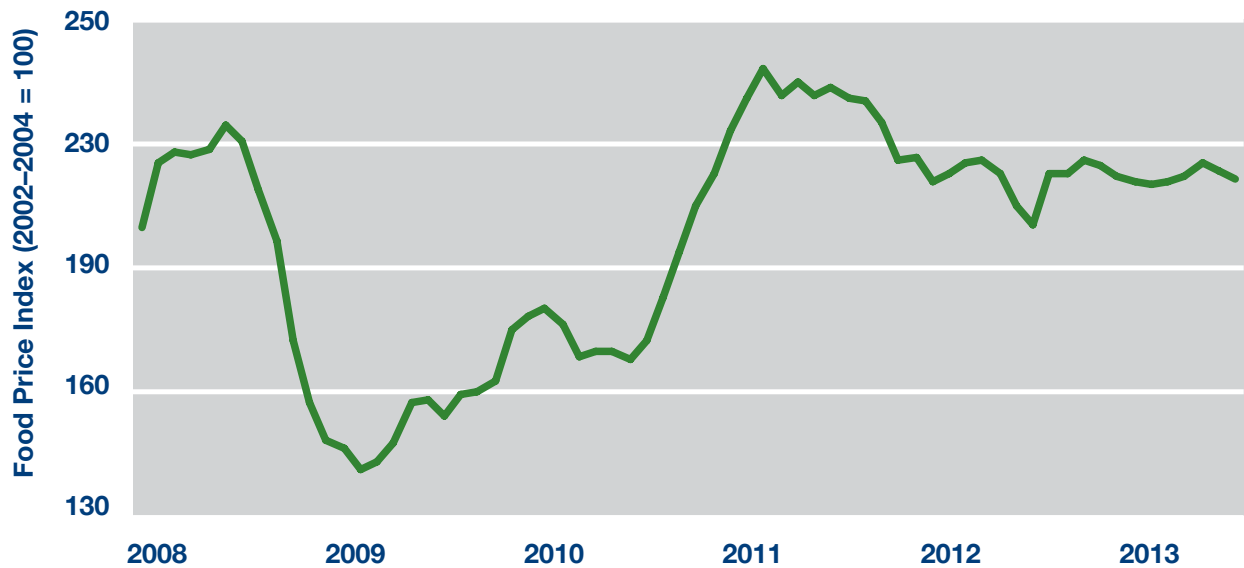
Source: FAO, 2013

public protests and demonstrations that constitute food riots; to violent clashes between communities over access to the natural resources that are fundamental to food production and rural livelihoods; to the sustained armed conflict that occurs both within and between nations, devastating lives and livelihoods as food becomes scarce. Deaths directly attributable to war appear to be declining (Goldstein, 2011), but war and other kinds of conflict continue to take a toll on human health and mortality, often through food insecurity. Conflict induces affected populations to adopt coping strategies that invariably reduce their food consumption and nutrition (Maxwell & Caldwell, 2008). These indirect effects will have negative economic and social effects for decades to come (UNICEF, 2009).

The World Bank's 2011 *World Development Report* (WDR), which focuses on conflict, security, and development, states that a lack of collective security "has become a primary development challenge of our time" (p. 1):

One-and-a-half billion people live in areas affected by fragility, conflict, or large-scale, organized

criminal violence, and no low-income fragile or conflict-affected country has yet to achieve a single United Nations Millennium Development Goal. New threats—organized crime and trafficking, civil unrest due to global economic shocks, terrorism—have supplemented continued preoccupations with conventional war between and within countries. While much of the world has made rapid progress in reducing poverty in the past 60 years, areas characterized by repeated cycles of political and criminal violence are being left far behind, with their economic growth compromised and their human indicators stagnant.

There are few more sensitive and important indicators of human welfare than those relating to hunger and food security. Life cannot continue without food. "Hunger" indicates a lack of food. It is measured by the degree to which a person's intake of calories falls below the levels needed to sustain good health.

The concept of food security is more complex. It encompasses not only individuals' intakes of nutrients

but also the production, processing, and marketing systems that determines its cost and shape people's food choices and concerns about acquiring food in the future as well as today. As defined at the 1996 World Food Summit, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2006a).

Food security is generally characterized as having four dimensions:

- *Availability*: the sufficiency of supply through production and/or trade;

- *Access*: the ability to purchase food in markets or produce food for oneself;

- *Utilization*: being able to meet all physiological needs for a healthy and productive life through the diet, without (or in spite of) losses due to lack of clean water, sanitation, and health care; and,

- *Stability*: the ability to access food at all times, in all seasons, in spite of price changes or other factors affecting availability.

Many factors—bad weather, expensive transportation, income loss, illnesses—can reduce food security. Food *in*security occurs when people's access to the food that they produce themselves or to food in markets is disrupted, reducing the volume and quality of foods available to them; the resulting diets provide them insufficient nutrients for an active and healthy life. Food insecurity can be experienced either as a normal condition of life (*chronic* food insecurity) or as something more extreme (*acute* food insecurity) (FEWS NET, 2011).

Conflict adds another dimension to this mix of factors driving food insecurity. As is discussed in Section II of this report, conflict clearly contributes to both chronic and acute food insecurity in many ways. An FAO report finds that the mortality caused by conflict through food insecurity and famine "can exceed the deaths caused directly from violence" (FAO, 2000). Poor nutritional status in individuals of any age makes them more susceptible to illness and death.[4] But acute food insecurity and associated malnutrition that derive from conflict will have an especially potent and long-lasting effect on children. Children whose nutrition is compromised before they are two years old suffer irreversible harm to their cognitive and physical capacities.[5]

Also of concern is whether food insecurity itself is a factor in the outbreak of conflict; sustains or amplifies it; or facilitates its recurrence. Section III draws largely on material from case studies to suggest ways in which factors related to food insecurity figure into conflict. Conflict among groups competing for control of resources or power (*horizontal* conflict), for example, can stem from a scarcity of the resources needed for food production (e.g., of land, water, or other environmental services). In some cases, governments seek to exert dominance over their citizens and

Acute food insecurity and associated malnutrition that derive from conflict will have an especially potent and long-lasting effect on children. Children whose nutrition is compromised before they are two years old suffer irreversible harm to their cognitive and physical capacities.

use the levers of food insecurity to bring those citizens to heel (*vertical* conflict). In other cases, vertical conflict results as citizens organize rebellions, sometimes violent, against a central government when they believe their interests, including their food security, are compromised.

Section IV draws on both empirical case studies and theories to suggest ways that external interventions could better respond to the challenge of reducing food insecurity and conflict, especially in fragile or weak states. Each situation requires an in-depth assessment to understand the dynamics of conflict and the role that factors underlying food insecurity in that specific context may play in that conflict. Without such assessments, interventions run the risk of making things worse rather than better.

Section V considers the implications of the conflict–food security discussion for development programming. Approximately 1.5 billion people live in conflict-affected, post-conflict, or fragile countries. In recognition of the fact that conflict, especially violent conflict, can impede or even reverse the process of economic, social, and political change underpinning development, organizations such as USAID have developed a comprehensive approach to conflict prevention, management, and mitigation over the last decade (USAID, 2012b). USAID implements nearly 60 percent of its resources for humanitarian aid or development assistance in these countries (U.S. Department of State & USAID, 2010).

USAID has a huge stake in better understanding the dynamics of conflict, both to prevent it and to identify potential interventions that could be effective in addressing the food insecurity that it causes. Further, to the extent that food insecurity is a causal or contributing factor for conflict, efforts to improve the availability, access, and stability of food supplies should also help to reduce the threat of conflict and instability.

Since 2009, the United States and other G-8 members have made significant commitments to improving global food security, committing more than $20 billion over a three-year period to expanded investments in agricultural development (L'Aquila Food Security Initiative, 2009). The United States launched its flagship food initiative, Feed the Future, in 2010 and USAID has taken the lead in implementing the program. Of the 19 priority countries initially targeted for Feed the Future assistance, 11 have experienced violent conflict within the last 10 years. At least 5 experienced food riots or demonstrations in 2008 (see Figure 2) (Schneider, 2008).

The immediate challenge for the U.S. government in general—and USAID specifically—is to integrate analytical efforts on conflict and food security with a view to shaping more effective interventions. This report provides a first step toward meeting this challenge.

Notes

1. WFP (2012) highlights conflicts in Mali, South Sudan, the Democratic Republic of Congo, and Yemen—all of which are experiencing rises in food insecurity. See also Kristof (2012).
2. Headey (2011) questions the validity of these estimates.
3. For snapshots of and government responses to food riots by country, see Schneider (2008).
4. "Maternal and Child Undernutrition" (2008) provides a recent review of these data.
5. See "Maternal and Child Undernutrition" (2008) and UNICEF & World Bank (2011).

II. How Does Conflict Affect Food Security?

Livestock on the way to market near Mekele, Tigray, Ethiopia. Photo courtesy flickr user Kelley Lynch.

THERE IS SUBSTANTIAL EMPIRICAL EVIDENCE that conflict has a negative impact on food security. The impact may be minor, as when spontaneous protest demonstrations over rising food prices take place in or around food markets and disrupt or close down vendors' operations. At the other extreme, there are food wars—"a concept which includes the use of hunger as a weapon in active conflict and the food insecurity that accompanies and follows as a consequence," according to Ellen Messer et al. (2000, p. 1). They reported that such wars affected nearly 24 million people in 28 countries in 2000.

Western Sudan's Darfur conflict, which broke out in 2004, presents an enduring case of a "food war." UNICEF (2004) estimates that 4.7 million people are currently experiencing direct effects of the conflict. Sudan political analyst Alex de Waal (2004) describes the approach used by the government of Sudan in responding to the demands of rebellious groups as "counter-insurgency on the cheap—famine and scorched earth their weapons of choice":

> Each time, they sought out a local militia, provided it with supplies and armaments, and declared the area of operations an ethics-free zone…The atrocities carried out by the Janjawiid [one such militia]…are systematic and sustained; the effect, if not the aim, is grossly disproportionate to the military threat of the rebellion…In Darfur, cutting down fruit trees or destroying irrigation ditches is a way of eradicating farmers' claims to the land and ruining livelihoods.

Such deliberate assaults on food and agriculture are not waged in all wars, but there are no conflicts in which additional hunger and food insecurity are not an outcome. Conflict negatively affects all four dimensions of food security: availability, access, utilization, and stability.

Conflict Reduces the Availability of Food

Food availability, one of the four dimensions of food security, is affected by conflict, even when the duration of conflict is relatively short.

First, conflict disrupts production. Hostilities, especially armed hostilities, prevent normal farming, fishing, and herding operations from being carried out. For the millions of poor households whose principal source of income—and much of their food supply—is derived from agricultural production, conflict can inflict significant damage to livelihoods and food security. For example, a study of 14 countries found that production levels were, on average, 12.3 percent lower in conflict periods than in peacetime in 13 of those countries, with Angolan farmers experiencing reductions as high as 44 percent (Messer et al., 2000).

There is also evidence that households in conflict-affected areas deliberately make choices that reduce their production and, thus, the risks of predation, looting, or loss of crops or livestock. In northern Uganda, for example, households shifted their livestock holdings from cattle to small ruminants, reducing the value of their herds by two-thirds (Rockmore, 2012). An FAO analysis concluded that global agricultural losses due to conflict between 1970 and 1997 averaged $4.3 billion annually (in 1995 constant U.S. dollars), exceeding the value of food aid to these countries. This implies a net reduction of food availability not just to producers but also to the consuming population as a whole (FAO, 2000, Table 7).

Recruitment of young males into conflict reduces the supply of labor for herding or farming. Women and children may be left to work the fields and tend the animals, but in many cases they do so under conditions that threaten their safety and well-being.

Often, members of rural households in conflict zones simply flee their farmlands, leaving most of their assets (including stored crops) and livelihoods behind. In many cases, they end up as displaced persons in communities where they have few claims to land or in camps managed by the international humanitarian community. For example, the Office of the United Nations High Commissioner for Refugees (UNHCR) estimates that more than 400,000 Malians, many of them pastoralists or farmers, were displaced across borders with neighboring countries or within Mali beginning in January 2012, when communal conflict, insurgency, and military actions broke out.

There are no conflicts in which additional hunger and food insecurity are not an outcome. Conflict negatively affects all four dimensions of food security: availability, access, utilization, and stability.

The way that conflicts are carried out can reduce food and agricultural production capacities—and the availability of food—even when peace is achieved. When landmines are placed on agricultural land or rural roads during conflict, or unexploded ordnance is widely scattered in rural areas, the resumption of farming and herding operations can take years after the termination of hostilities. Tree crops abandoned when households flee from conflict are attacked by pests and diseases, and productivity levels cannot be recaptured immediately when peace is achieved.

Other actions can reduce productive capacity and result in permanently reduced food availability. For example, armed conflict in the Democratic Republic of Congo permitted the growth of unregulated mining of valuable columbite-tantalite (also known as coltan) deposits underlying arable land in the North and South Kivu regions. The mining rendered significant amounts of land unusable for agriculture (UNDP, 2010). Civil war in Liberia and Sudan caused environmental damage through extensive deforestation, with resulting effects on ecosystem services that "compromise prospects for food security" (UNDP, 2010, p. 66).

Second, conflict disrupts flows of food. Conflict reduces physical security, even for people not directly engaged as combatants or victims of violence. This insecurity disrupts normal commerce, directly reducing flows of food through market channels, as marketing agents face high risks of loss through theft and high costs if they try to protect their stocks. Further, international humanitarian organizations are only too aware that, since food is a valuable commodity in a resource-constrained environment, supplies of food readily become targets for competing parties, and food assistance pipelines are adjusted accordingly.

In Somalia in 2008 and 2009, for example, food aid was a "source of competition, diversion, and manipulation. To prevent losses, food aid transporters were required to pay a deposit equal to the value of the food in order to ensure its arrival at the intended destination. …Fears about the loss or diversion of food aid made donors more wary and access by agencies more difficult" (IFRC, 2011, pp. 127–28). The lack of physical security thus contributed to a downward spiral regarding food availability, even though needs increased as the numbers of internally displaced persons (IDPs) jumped from 300,000 in 2007 to nearly 1.4 million two years later.

Third, the pipeline of public and private investments in food production and marketing activities dries up. Governments, either intentionally or because conflict is threatened, divert funds from agricultural development to conflict-related expenditures (e.g., acquiring armaments and financing military operations). In other cases, governments must adjust their budgetary priorities to support the emergency relief and reconstruction activities necessitated by communal conflict. International borrowing capacity to sustain investments may also shrink as current account deficits pile up (especially if earnings from trade are dependent on agricultural commodities), debt payments are missed, and sovereign defaults seem likely (Chapman & Reinhardt, 2009).

The risk of conflict generally discourages private investment in agriculture, although the possibility of private investors aligning themselves with particular warring factions in order to acquire both production assets

and protected rights to markets has been noted (Bennett, 2001). Domestic investors hesitate to invest in regions with agricultural potential, especially when the conflict is horizontal, and competition over potentially productive land and water resources is at the root of the conflict. Estimates of capital flight from Africa, prompted in part by potential instability, range around 35 to 40 percent of all private wealth (Collier, 2007; Collier et al., 2001).

Foreign investors, too, generally perceive the risks of loss to be unacceptably high. An FAO analysis of experiences in conflict-affected sub-Saharan countries during the period of 1975 to 1997 found that, while agricultural losses were compensated by donor capital flows, foreign direct investment levels were significantly lower than losses (FAO, 2000, Table 9).

Thus, foreign assistance funds have helped to compensate for the lack of public and private investments in conflict-affected countries. But donors also often seek to promote agricultural investments aimed at reducing the risk of conflict in the future with their financing. In Afghanistan, for example, donors have promoted agricultural investments that encourage farmers to move away from opium production that, although profitable, provides funding for insurgent war efforts. Investments in developing licit and profitable agricultural activities whose principal benefit would be the food security of the producers are, however, not always successful (Ward et al., 2008; USAID Office of Inspector General, 2008).

Reduced agricultural production and slowed investments in processing and trading activities resulting from violent conflict contribute in many agriculture-dependent low-income countries to what the Global Poverty Project describes as "development in reverse… a shortcut to extreme poverty." The World Bank estimates that civil conflict causes a 2.2 percent reduction in gross domestic product (GDP) per year. Of the 29 conflict-affected countries included in a report from the United Nations Development Program, just 3 reported any growth in GDP during the conflict and 9 experienced GDP declines of over 50 percent (UNDP, 2010).

Decreased food production and availability is likely to accompany such a decline in GDP. As less foreign exchange is available to be allocated for the importing of food and fertilizers, food production and processing enterprises are less likely to grow and there will be less investment in the market infrastructure necessary to link food producers and consumers.

Finally, conflict results in outright loss through the destruction of food and food-producing assets. Production equipment, animals, seed supplies, and food stocks are often casualties of conflict, deliberately destroyed by competing factions. Such destruction reduces food availability in the short term, but it also prevents a resumption of productive activities and recovery of livelihoods in post-conflict periods. During the Mozambique civil war, "there was a two-thirds reduction in operational dams and plant nurseries, with 40 percent of rural facilities destroyed or eroded" (Brown et al., 2011, p. 11; Brück, 2001). Additionally, as Collier et al. (2003) point out, "the national cattle stock was reduced by almost 80 percent during the course of the conflict." Similarly, during the 1994 genocide in Rwanda, the national cattle stock declined 50 percent (Verpoorten, 2009).

Post-conflict recovery of agricultural production is often further impeded by the increased poverty of people affected by the conflict. Even when they are able to reoccupy their lands or homes, they have lost their economic ability to reinvest in lost assets (Ibáñez & Moya, 2010).

Conflict Reduces Access to Food

Access to food is the most defining aspect of an individual's food security. "Access" implies that consumers have both the physical and economic ability to acquire the food they need. *Physical* access is provided either by production on one's own farm or by going to markets in which supplies are available. *Economic* access to food depends upon prices, incomes, and households' competing expenditure needs. Delivery of food aid to populations by national or international humanitarian organizations can compensate, to some extent, for disruptions to either physical or economic access.

Populations forcibly displaced by violent conflict suffer the greatest reductions in their access to food. Their economic access is hit hard as they are separated from their

sources of livelihood and income. Their physical access may be further compromised if they move into areas where markets are limited. In some cases, refugees liquidate their assets to generate cash in hopes of being able to purchase foods that will sustain them in exile. A crisis sale of livestock or grain, however, often drives prices down and generates returns that are less than anticipated. In some cases, fleeing households are able to take food stocks with them, but often they leave with few reserves and quickly become dependent on international assistance.

Populations fleeing violent conflict for the relative safety of refugee camps claim priority attention from international organizations, such as the UNHCR and World Food Program (WFP). The provision of emergency food assistance is often rapidly organized using the Central Emergency Response Fund until donors respond to specific appeals for financing and commodities. Given limitations on the volume of internationally donated or financed food assistance, however, only a portion of the directly affected people are likely to receive food deliveries or income support adequate to assure food security. Households relocated to camps established by the international community for the purpose of accommodating refugees are likely to be first in line for basic rations of the food aid package—grain, oil, and a corn-soy blend—but they will be hard-pressed to find the vegetables or meat that would enrich the nutritional value of their diets. The most vulnerable households and individuals among the displaced (the elderly, the chronically sick, orphans, and the disabled) are likely to remain more food-insecure than others (Bukuluki et al., 2008).

When the displaced people move to established towns or cities experiencing peaceful conditions, physical access to food supplies in markets may be within reach, but the migrants' economic access is likely to be seriously affected. Displaced households are likely to have left many assets behind and to have limited amounts of funds with them. They then confront inflated market prices as traders anticipate the growth in demand and/or raise their prices to cover the costs associated with increased risks, especially when conflict is ongoing. For households displaced to relatively peaceful areas, humanitarian programs are increasingly likely to use some form of cash or voucher-based assistance as an appropriate way to address food security (Meyer, 2007). This access-focused approach allows markets to play a major role in food supply and gives recipients greater ability to exercise their consumption preferences.

The provision of such economic assistance to displaced populations, however, may reduce the food security of people in the receiving community. The increased demand created by the additional purchasing power of migrants, for example, may boost prices for the original residents as well. When receiving communities are home to many food-insecure people, the perception that humanitarian efforts are providing unequal access to refugees may itself give rise to grievances. To prevent conflict at this community level, food assistance may need to be extended to all, at least until markets adjust (Refugees International, 2012).

Evidence from several conflicts demonstrates that markets do adapt to conditions of instability or conflict. Private sector marketing agents respond to demand, perhaps in recognition that food is such a basic need that, in spite of high costs or poor quality, people will be prepared to spend money—and even borrow money—to get it.

In some cases, however, food markets do not adjust and do not provide access to food supplies. Markets are deliberately disrupted by factions in the conflict and pose unacceptable risks to marketing agents. High prices for transportation and communications reflect these risky conditions; in other cases, the destruction of infrastructure makes it physically impossible to move supplies to markets. Markets become less competitive as the credit small traders need to support their activities is constrained by the prospect of violence.[1] Further, due to the general lack of physical security in conflict zones, people may simply not feel safe traveling to markets (Perry & Borchard, 2010).

Both physical and economic access to food in these cases becomes problematic, sometimes forcing the affected populations to undertake further migration or to adopt coping behaviors that permit survival.

When governments are not active parties in a conflict, it may be possible for them to extend food safety nets to the affected populations, complementing or

supplementing international food relief efforts.[2] These safety nets can improve either physical access, by ensuring nonmarket distributions when markets no longer function, or economic access, by providing cash grants or food- or cash-for-work to vulnerable households.

Conflict Impairs the Effective Utilization of Food

The effective utilization of food is a measure of how well food supplies accessible to consumers are used to promote their health and productivity. According to the FAO, "[u]tilization refers to the proper use of food and includes the existence of appropriate food processing and storage practices, adequate knowledge and application of nutrition and child care and adequate health and sanitation services" (Cohen et al., n.d., p. 14).

In low-income developing countries, food utilization is more often compromised than either food availability or access, even under peacetime conditions. Many consumers routinely incur significant health risks when they eat unsafe food (e.g., infected with aflatoxin or harmful bacteria), and drink, wash, or cook food in contaminated water. Insufficient knowledge of appropriate nutritional and child care practices for young children continues to exacerbate both high infant mortality rates and high levels of stunting (low height for age) and wasting (low weight for height).

Limited access to health care also reduces individuals' effective utilization of food. To increase the biological benefits of food, it is essential to curb the incidence of communicable diseases; the relationship between infections and malnutrition is increasingly well articulated (Ambrus, Sr. & Ambrus, Jr., 2004). There is also a greater appreciation of the role that hookworm and other neglected tropical diseases associated with poor water and sanitation practices play in micronutrient malnutrition (Smith & Brooker, 2010).

Conflict makes effective food utilization much more difficult. It not only reduces both the availability of and access to safe and nutritious food—and especially perishable foods of high nutritional value (vegetables, fruits, milk, meat)—but it also makes proper preparation and storage of the food that is available more complicated. Conflict also makes it dangerous for women and children to collect firewood and clean water for cooking in many situations, even within supposedly secure camp areas where women and children constitute the vast majority of the population. The possibility of further displacement or the threat of theft discourages people from storing food to smooth their consumption patterns over time.

The reduced access to health care associated with conflict, however, seems to have the greatest impact on food utilization. Health facilities are destroyed during violent conflict. The killing or flight of trained health workers and the lack of public financing for medications and vaccinations exacerbate the loss of public health facilities. Very high mortality and morbidity rates are routinely reported among populations affected by conflict.[3]

Health services such as vaccinations are often provided in camps that receive international humanitarian support, including food, but crowding and poor shelter conditions give rise to epidemics of communicable diseases, which often prove fatal in populations with poor nutritional status. A *Lancet* review of health care in conflict settings, moreover, finds that people internally displaced by conflict often do not go to camps. Paul B. Spiegel et al. (2010) find that "high coverage of health interventions outside of camp settings is especially challenging because of poor security, intermittent accessibility, and the incapacity of fragile states to effectively provide services to their own populations or to those who are displaced."

Conflict Increases Uncertainty Regarding Food Availability, Access, and Utilization

Conflict by definition involves social, economic, and political instability. The impact of such instability on households varies, but there is evidence that the fourth dimension of food security—predictability, stability, certainty—is strongly affected by conflict. Conflict-related uncertainty affects the decisions made by farming and rural populations about whether to invest resources in future agricultural production and risk its loss or to flee with no assurance of future supplies.

Often, according to the 2012 *Africa Human Development Report*, conflict means that "[f]arm households [themselves] become food insecure—unable to buy or sell food. Even when warring parties allow exchanges, farmers and traders might hesitate, fearing confiscation, theft, or taxes (often in the form of the forced supply of food to the more powerful warring side). During Mozambique's civil war, for instance, small-holder farmers retreated into subsistence farming" (UNDP, 2012, p. 43). Such choices by producers have knock-on effects, affecting food supply for towns and cities and influencing future prices. Greater volatility in markets may increase urban consumers' perceptions of risk and spark panic-buying or hoarding to improve the security of their food supplies (Nellemann et al., 2009).

External interventions intended to reduce conflict-related uncertainties associated with food supplies and prices (e.g., increased imports of food, free distributions of food aid, or the provision of price subsidies for poor consumers) may improve the situation for some, but increase uncertainties for others in the food and agricultural system. For example, traders who normally manage the flow of food from producers or importers through markets may find themselves competing with free food distributors or having their stocks commandeered (if not stolen) to meet the needs of those who cannot pay.

Households have developed and demonstrated a range of coping behaviors for dealing with impending food insecurity. Daniel Maxwell and Richard Caldwell (2008) have found that responses fall into four categories: dietary change, short-term measures to increase household food availability, short-term measures to decrease the number of people to feed, and rationing to manage the shortfall. Extended conflict and the uncertainties related to both availability and access to food are likely to lead to the most extreme of these behaviors: rationing food. Rationing could transform chronic food insecurity into acute food insecurity for some households, with long-term effects on adequate diets for pregnant and lactating mothers and young children and a potential loss of productivity in jobs requiring physical effort. Households' responses to conflict-driven uncertainties

with regard to food supply and accessibility will, thus, plant the seeds for lasting uncertainty regarding future food security.

It is now understood, for example, that an adequate quality and quantity of food and feeding in the first 1,000 days of a child's life is critical to their future development ("Maternal and Child Undernutrition," 2008). Conflict—and the strategies that people adopt to cope with uncertainties of food supply and access—inflicts irreversible damage on the children of war and on their chances for a more food-secure future.

Research by the Households in Conflict Network at the Institute of Development Studies, for example, found that war-exposed children in Eritrea and Ethiopia from 1998 to 2000 were more stunted than children from outside the war zone and that children on the losing side (Eritrea) were more severely affected (Akresh et al., 2010). As is frequently the case in conflict, families were displaced and suffered the consequences: loss of assets, worsened access to water and health care, and disruption of agricultural production. This displacement and its impact on food intakes and nutritional status are, therefore, projected to have imposed permanent negative effects on the children's educational attainments and their earnings as adults (Verwimp & Van Bavel, 2004; Justino, 2009; Justino, 2012).

Notes

1. For a good discussion of the interacting factors that reduce market access, see World Food Program (2010a).
2. For example, Colombia provides active coordination of both government and NGO efforts to support the food security of IDPs in that country. While Matthew Finger (2011) notes that Colombia, with the second-largest number of IDPs in the world, "arguably has one of the most advanced systems for providing assistance," many others criticize the government's performance in implementing its policies.
3. For data on effects in Mozambique, East Timor, and Sierra Leone, see Waters et al. (2007).

III. How Does Food Insecurity Contribute to Conflict?

Haitians in Cité Soleil queue for food. Photo courtesy flickr user UN Photo/Sophia Paris.

WHILE THE EVIDENCE that conflict causes food insecurity is clear and unassailable, the case that food insecurity directly causes conflict is more difficult to make, in part because there are so many underlying causes of food insecurity. There is, however, an emerging consensus that food insecurity joins with other factors to worsen instability in societies, economies, and polities (Bora et al., 2010). A new body of research is under way to identify how this plays into the dynamics of conflict (Brinkman & Hendrix, 2011). Case studies and other analyses of food insecurity and conflict suggest there are several ways in which food insecurity could spark conflicts.

Sudden Food Price Rises Can Trigger Conflict

An unexpected or higher-than-normal rise in food prices, which has an immediate impact on purchasing power and thus access to food, has already been noted as a key mechanism linking food insecurity and conflict. Food prices can rise rapidly in response to shifts in global markets, local shortfalls in supply that cannot be or are not compensated by trade, or deliberate changes in policies, especially those that lead to the removal of subsidies or price controls. Such price increases often bring protesting people into the streets. Food protests—sometimes peaceful, sometimes violent—ensue.

Food riots have a long history. Prior to the French Revolution in 1789, protests were directed at producers, traders, and merchants with the goal of forcing them to lower food prices. Since the French Revolution, however, food riots have become more political in nature and are largely an urban phenomenon (Bellemare, 2011).

Protests against extraordinary increases in the price of rice (and, to a lesser extent, the prices of wheat and corn) led to a number of outbreaks of civil unrest in 2007 and 2008. Most involved nonviolent demonstrations that lasted a few days at most. Others turned violent and resulted in deaths. Demonstrations have continued sporadically from 2008 to the present as price volatility continues to affect global commodity markets and as national governments react to international price changes in different ways.

Marc Bellemare (2011) has explored the causal pathways between rising food prices, the volatility of food prices, and political unrest. Using monthly information on global food and cereal prices and newspaper reports of food riots from January 1990 to January 2011, he concludes that rising food prices, and specifically cereal prices, caused political unrest, but that price volatility did not.

Marco Lagi et al. (2011) examined the coincidence of high global food prices in 2011 and the riots that led to the revolutions of the Arab Spring. They conclude that it was highly likely that, while there were many other factors in play, high food prices were a precipitating condition for the unrest.

The potential for protests to become violent likely depends on contextual factors such as perceived government effectiveness and average income levels. For example, in recent research Joachim von Braun noted that the ratio of violent to nonviolent food price-related protests in 2008 was higher in low-income countries and in countries with lower government effectiveness (von Braun, 2008; Brinkman & Hendrix, 2011). There were 19 food protests in low-income countries, and 11 involved violence. Of the 15 protests in lower-middle-income countries, only 7 were violent; of the 6 protests in upper-middle-income countries, 2 were violent; and of the 9 food protests in upper-income countries, none were violent (Torero, 2008). Rabah Arezki and Markus Brückner (2011) also show statistically that increases in international food prices lead to greater incidence of anti-government demonstrations, riots, and civil conflict in low-income countries, but not in higher-income countries.

Many have explained these differential responses by pointing to the higher relative share of household income devoted to food in lower-income countries (FAO, 2011). Any price change that reduces their purchasing power has a relatively greater impact on their food security.

Brett L. Carter and Robert Bates (2012) introduce another perspective on the relationship between rising food prices and food riots. They look not only at the initial impact of the price increases but also at the result of governments' efforts to mitigate them. They examine

how price rises—due not just to changes in global food prices but also to changes in government policies, exchange rate variations, and so on—contribute to the potential for creating unrest and civil war. They find that food price shocks alone increase the likelihood of conflict. However, when they expand the analysis to take into account governments' responses to the price shocks, they find that governments tend to implement policies that favor urban consumers and the probability of instability disappears. Urban consumers, they conclude, are both more sensitive to price changes for their staple commodities and better able to influence policy through their protest actions.

Competition for Food Production Resources Can Catalyze Recurrent Conflicts

Water, land for cultivation, and grazing lands are contested resources in many regions of the world. Communal conflict is often associated with localized competition among rural groups within a country, each seeking to ensure adequate access to production resources and, through the use of these resources, to their food security. Cattle-rustling, land grabs, and the diversion of water resources are signs of such conflict and communities' inabilities to negotiate acceptable compromises peacefully.[1]

When weather conditions result in drought or flooding or when population growth and in-migration add new stresses, farmers and herders who see their food security and livelihoods threatened may escalate conflict to the point of violent clashes. Colin H. Kahl (2006) finds that there is much to suggest that "rapid population growth, environmental degradation, and competition over natural resources play important causal roles" in civil strife, although he does not draw a direct link to (or through) the food security status of those participating in the conflict.

Henk-Jan Brinkman and Cullen S. Hendrix (2011, p. 8) also note that communal conflicts over scarce resources, particularly land and water, have involved groups with permanent or semi-permanent armed militias and have been particularly important in recent cases of violent clashes in Kenya, Nigeria, the Sudan, and Uganda:

Repeated clashes between Fulani herders and Tarok farmers in Nigeria's Plateau State killed 843 people in 2004. Similar clashes between Rizeigat Abbala and Terjam herders in the Sudan killed 382 in 2007. Cattle raiding in the Karamoja cluster, a cross-border region of Ethiopian, Kenyan, and Ugandan territory, resulted in more than 600 deaths and the loss of 40,000 heads of livestock in 2004 alone.

And in August 2012, the farming Pokomo and cattle-herding Orma groups in Kenya instigated a violent conflict over access to the water and riparian lands of the Tana River. Newspaper reports indicate that the collapse of irrigation schemes along the river had reduced employment and incomes for the Pokomo and catalyzed the resurgence of a long-running conflict between the groups ("Kenya to Disarm Tribes," 2012).

Water is a unique natural resource that can affect food security in many ways. Sandra L. Postel and Aaron T. Wolf (2001, p. 2) warn that "unlike oil and most other strategic resources, fresh water has no substitute in most of its uses. It is essential for growing food, manufacturing goods, and safeguarding human health…. Whether or not water scarcity causes outright warfare between nations in the years ahead, it already causes enough violence and conflict within nations to threaten social and political stability."

Inequities Affecting Food Security Can Exacerbate Grievances and Build Momentum Toward Conflict

Perceived social, political, or economic inequities that affect people's access to food can exacerbate grievances that, in combination with other factors, appear to build momentum toward conflict. Messer and Cohen (2006, p. 15) note that "historically, most individuals, households, communities, and peoples denied access to resources adequate to feed themselves and to live their

Where weak post-conflict governments are unable to provide either agricultural inputs, health care, or food safety nets to impoverished and food-insecure populations, the opportunity costs for individuals to join efforts to reignite conflict are low because little is forfeited by shifting towards insurgency.

lives with dignity have failed to rebel because they are (1) insufficiently organized and (2) overly terrorized and repressed." However, they continue, "[t]hese conditions of unchanneled frustration and hopelessness can lead to violence and conflict once there emerges political leadership that can successfully mobilize this discontent in ways that serve a leader or group's particular political ends, usually articulated as a struggle for social justice or political identity."

The grievance linkage between food insecurity and civil conflict seems to be of particular importance in resource-rich countries, where the wealth and benefits of an exported natural resource (e.g., oil) are subject to elite capture or corruption and do not translate into greater food security for all.

Brinkman and Hendrix (2011, pp. 5–6) concur in this view, noting that "[s]ome of the countries most plagued by conflict the past 20 years are characterized by widespread hunger, such as Angola, DRC [Democratic Republic of Congo], Papua New Guinea, and Sierra Leone. The mixture of hunger—which creates grievances—and the availability of valuable commodities—which can provide opportunities for rebel funding—is a volatile combination."

Droughts in northern Mali led to reductions in food supply in the 1970s and 1980s. The greater food insecurity that resulted did not directly lead to conflict. Tor Benjaminsen (2008) argues, however, that the scarcity of food led to the migration of young men to Algeria and Libya, where they became exposed to revolutionary discourses. They returned to Mali to support an incipient rebellion launched by the nomads and Tuaregs of northern Mali, who believed that they were being unfairly treated by the national government, including being forced to settle in towns and villages rather than continuing their nomadic lifestyle. "Embezzlement of drought relief funds by government officials in Bamako added further to the anger felt by the young men who took up arms against the Malian state," writes Benjaminsen (2008, p. 819). Thus, reduced availability of food and perceived inequities in systems intended to increase access to food combined with a complex set of cultural and political drivers to ignite violent conflict in northern Mali.

Food Insecurity May Give Individuals Incentives to Join or Support Conflicts and Rebellions

Poverty-based food insecurity may give incentives to individuals—likely, in Paul Collier et al.'s (2008) analysis, to be unemployed or underemployed young men—to join conflicts and rebellions. By participating in the conflict, they increase their chances of securing production resources (land, financial assets) through predation and/or acquisition of the spoils of conflict, thereby increasing their food security.

Anecdotal information suggests this to be the case in countries where population growth has resulted in a "bulge" of poorly educated rural youths who see little prospect of gaining resources through other means. Studies of demobilized combatants in Sierra Leone

and Liberia provide some evidence that such opportunities for material gain for young people played a role in recent civil wars in those countries (Brinkman & Hendrix, 2011).

Micro-level research shows that households and communities take steps to protect their food security when conflict is imminent or already ongoing. Patricia Justino and others have found that households appear to initiate different strategies to mitigate the impact of conflict on their food security: staying neutral, moving (or escaping), being altruistic and providing assistance to others, or actively participating in the conflict and attempting to improve one's own conditions (Justino, 2009; Verwimp, 2011; Zetter & Verwimp, 2011).

While neutrality, or "sitting on the fence," appears to be the option preferred by most households, even when successful this strategy often results in malnutrition, a gradual depletion of assets as economic opportunities are constrained, and increased poverty. There are, therefore, strong incentives—rooted in the quest for food security—for individuals and households to participate in or actively support violent conflict.

The hope of protecting or even improving their food security leads some households to seek the protection of local armed factions to increase their chances of survival as they continue to farm their land. They might even increase their chances of acquiring more land or opportunities to better their future food security by offering their support (food, some labor, etc.) to the armed groups (Justino, 2009).

Food Insecurity May Help to Sustain Conflict

Food insecurity may play a role in sustaining conflict as it becomes part of a vicious circle of recurring instability and civil strife. The 2011 WDR cites "the challenge of repeated cycles of violence" as the top challenge for the global community in the 21st century. Rather than following the old linear paradigm of conflict (escalation of dispute, full-scale hostilities, victory or defeat, post-conflict phase, peace), the WDR asserts that the new

paradigm involves repeated violence, weak governance, and instability (World Bank, 2011b). In this view:

[C]onflicts often are not one-off events, but are ongoing and repeated: 90 percent of the last decade's civil wars occurred in countries that had already had a civil war in the last 30 years.… [N]ew forms of conflict and violence [such as crime] threaten development… [and] different forms of violence are linked to each other.… International ideological movements make common cause with local grievances… [and] grievances can escalate into acute demands for change—and the risks of violent conflict—in countries where political, social or economic change lags behind expectations, as in the Middle East and North Africa.

Since evidence shows that conflict leads to food insecurity, it seems likely, in this new perspective on conflict, that continued food insecurity could well contribute to continuing or restarting conflict. Where agricultural production assets have been destroyed, for example, the difficulties of regaining higher productivity levels may affect availability of food supplies or incomes (and thus food access), especially when export commodities are involved.

Where weak post-conflict governments are unable to provide either agricultural inputs, health care, or food safety nets to impoverished and food-insecure populations, the opportunity costs for individuals to join efforts to reignite conflict are low because little is forfeited by shifting towards insurgency. Social or political inequities that affect the potential for regaining food security and are unaddressed by government may also help to maintain a cycle of conflict. External price shocks that are not buffered by government action could again trigger or catalyze actions that could refuel conflicts.

Note

1. See Kurtz & Scarborough (2012), which discusses a situation where training in negotiations reduced reignition of communal conflict.

IV. Intervening to Reduce Conflict and Food Insecurity

A Bangladeshi woman cuts up feed for her family's livestock.
Photo courtesy flickr user S. Mojumder/Drik/CIMMYT.

THE HUMAN AND ECONOMIC COSTS of failing to avert food insecurity related to conflict are very high. These costs provide substantial incentives for humanitarian and development organizations to intervene by providing food and agricultural assistance and promoting the emergence of peace-building efforts, in which greater food security is a key outcome.

Experience, however, shows that effective interventions are likely to require the external actors to change their operational approaches; accept risks of working with fragile states; engage more closely with households caught in conflict-created poverty traps; and mobilize civil society and private businesses as partners. Experience shows, further, that actions taken without adequate understanding of the complex and confounding events that contribute to conflict and food insecurity may fail to achieve those goals and could make things worse.

This section reviews lessons that emerge from both empirical and theoretical work.

External Actors

External actors face internal organizational challenges in responding appropriately to food security and conflict. One of the key principles articulated at the 2009 World Food Summit is that food insecurity, in all settings, requires (1) direct action to immediately tackle hunger for the most vulnerable, action that generally involves urgent food or income assistance; and (2) medium- and long-term sustainable agricultural, food security, nutrition, and rural development programs to eliminate the root causes of hunger and poverty (World Food Summit on Food Security, 2009).

Addressing "immediate" and "medium- and long-term" food security challenges simultaneously is easier said than done. Julia Steets (2011, p. 3) has reviewed the difficulties that external actors face in trying to supply appropriate types of assistance across the range of conflict-related scenarios. She finds that the two broad types of external support—humanitarian assistance and development cooperation—"pursue different aims and follow different principles."

International humanitarian organizations are likely to be the principal external agents for the immediate work of addressing the acute food insecurity associated with ongoing conflict. Their mission is to independently supply both resources and expertise in response to need. Food emergencies, extensive nutritional stress, and elevated mortality are universally seen as unacceptable assaults on human security that warrant international intervention even in harsh and insecure conditions.

In taking on these responsibilities, humanitarian organizations are expected to be neutral and, just as important, be perceived as neutral by the combatants. Humanitarian actors must not favor any side in an armed conflict or other dispute where they are carrying out programs of support. This expectation limits the incentives and capacities of any humanitarian organization to interact with national or local governments in ways that could directly address either conflict recovery or prevention.

Organizations providing development assistance, on the other hand, are expected to mount medium- and long-term sustainable programs to eliminate the root causes of hunger and poverty and to build the foundations for sustainable food security. Using a "results-based management" approach to achieve more effective outcomes and provide greater accountability for their actions, development organizations have incentives to partner with reasonably capable and accountable governments on an agreed agenda, operating in conditions that are at least somewhat stable.

Not surprisingly, few development assistance organizations are eager to make substantial commitments of support to weak governments in fragile states where there is a high risk of not achieving desired results.

These diverging sets of organizational interests and incentives lead to "a disconnect between the two forms of assistance that results in an excessive short-term orientation of humanitarian assistance, a discontinuity of project implementation across the two forms of assistance and an insufficient focus on disaster risk reduction and preparedness among development actors" (Steets, 2011, p. 55).

Several initiatives to address the lack of coordination between humanitarian and development agencies

focusing on food insecurity and conflict have been undertaken in recent years.

The FAO and the WFP have attempted to bridge the divide between humanitarian assistance and development assistance by forming the Food Security Cluster. Although its principal function is to coordinate humanitarian assistance, the Food Security Cluster's responsibilities also include early recovery activities and collaboration with other programs providing longer-term assistance for food security. The activities of Food Security Clusters, co-led by the FAO and WFP, could reach into the domain of development assistance.

The Organization for Economic Cooperation and Development has helped to form the International Network on Conflict and Fragility. International agencies have adopted guidelines on Good Humanitarian Donorship (2003) and principles for Good International Engagement in Fragile States and Situations (OECD, 2007).

The World Bank proposed a new approach to operationalize the findings of the 2011 WDR on conflict, security, and development. The proposal echoes the Food Summit's call for simultaneous immediate and long-term support. "[V]iolence and other challenges plaguing [fragile and conflict-affected situations] cannot be resolved by short-term or partial solutions in the absence of institutions that provide people with security, justice, and jobs," the World Bank writes. What is required is "much greater partnership and discipline by external actors, as well as revised procedures to permit greater speed, allow for longer engagements, and better manage the inevitable risks inherent in assisting countries facing fragility, conflict, or violent crime" (World Bank, 2011a, p. iii).

Repeated experience shows that conflict recovery is the work of a generation or more, requiring commitments that will run well beyond the normal timeframes of humanitarian assistance and development projects. But with acute food insecurity as a key element of conflict, long-term perspectives must accommodate short-term solutions as well. Both humanitarian assistance and development tools must be wielded with skill and sensitivity—and in tandem.

Institutional Development

Institutional development in conflict-prone fragile states is both fundamental and difficult. The WDR argues that "building capable and legitimate institutions to deliver citizen security, address injustice, and create employment is key to breaking these cycles of violence." Noting that "deficits in institutional capacity, inclusion, accountability and legitimacy are the root cause of vulnerability to different forms of violence and conflict," the report calls upon external actors to invest in efforts to strengthen government institutions in fragile states (World Bank, 2011a, p. 3).

There is substantial evidence that deficits in institutional capacity are also root causes of food insecurity in fragile states. Governments in fragile states are unlikely to command adequate fiscal resources for investments in infrastructure necessary for safe and efficient markets. They are also unlikely to carry out public agricultural research and extension programs, support trade robust enough to compensate for production shortfalls, or provide the food safety nets and health care services that will protect the poor. New governments, brought into office through military victory or brokered peace negotiations rather than democratic processes, may be overwhelmed with responsibilities and unable to deal with the food insecurity consequences that the conflict has generated.

Luca Alinovi et al. (2007) provide useful insights into the complexity of dealing with government institutions in fragile states. Their case study review found that institutional weaknesses at all levels of society in the Democratic Republic of the Congo, Somalia, and Sudan—from state to community to household—were both the cause and the result of the food insecurity. Formal and traditional/informal institutional systems broke down *before* the emergence of violent conflict. Access to land and other issues related to land tenure, key to household food security, emerged as a critical area of institutional breakdown. Social norms also collapsed, and societal regulatory functions were unable to mediate emerging communal conflicts, such as cattle-raiding or conflicts between nomadic groups and sedentary farming populations.

With acute food insecurity as a key element of conflict, long-term perspectives must accommodate short-term solutions as well. Both humanitarian assistance and development tools must be wielded with skill and sensitivity—and in tandem.

With neither state nor local institutions capable of providing governance, both public services and traditional social safety nets eroded, with negative effects on livelihoods and food security. Food insecurity thus contributed to the onset and duration of conflict. As conflicts went on for years, households' short-term coping behaviors failed them and people had to adapt their livelihoods strategies as best they could (Alinovi et al., 2007).

The crisis nature of the situations in the Democratic Republic of the Congo, Somalia, and Sudan led to immediate humanitarian aid from the international community. Food aid and inputs for farming were provided quickly, but without sufficient recognition that the failed government and community institutions had to be somehow enabled to provide farmers secure access to land and water for production, and to govern the operations of markets.

On the other hand, the NGOs providing the humanitarian aid were perceived as having replaced some government functions, which may have further weakened the credibility of the public institutions.

The countries examined in the case studies were "characterized by institutional dysfunctioning or collapse and the disruption or collapse of livelihoods, with an overall reduction in the society's resilience. Further complicating matters is the fact that in some cases, the interaction of institutional breakdown and conflict has provoked the development of new, non-state centers of authority that consolidate themselves around alternative patterns of social control, protection, and profit" (Alinovi et al., 2007, p. 19).

Alinovi et al. (2007, p. 19) suggest that it is essential to recognize that prolonged food insecurity is "on the whole a manifestation of the social and political context" rather than "triggered basically by natural hazards such as crop failure, or at best as livelihoods crises at the household level caused by external factors."

In light of this, they suggest that the longer-term perspective calls for comprehensive analyses that go beyond immediate needs assessments (e.g., to include studies on nutrition and food economy, land tenure issues, and the dynamic nature of food systems). Such analyses should not, they warn, avoid consideration of institutional and policy contexts for fear of "politicizing" the responses.

Consistent with the WDR's emphasis on "security, justice, and jobs" as key goals for conflict recovery, it is likely that analyses in conflict-affected settings will show that "security" needs include food security as well as physical security; the "justice" most important to the most food-insecure households will include fair and secure access to land and/or water; and the "jobs" are likely to be in the food and agricultural sector.

Thus, to promote food security and reduce risks of conflict at the same time, efforts in fragile states should strengthen those institutions that:

● Govern access to, and the use of, natural resources that are key to food production and sustainable ecosystem services, which are critical to long-term productivity;

● Provide options and opportunities for increasing output and incomes in the agricultural sector;

- Manage the macroeconomy to contain inflation and price rises and curb corruption;

- Foster the operations of efficient, competitive markets, including financial markets that can help to recapitalize producers that have lost productive assets, as well as commodity markets that will provide agricultural production inputs and food;

- Offer a food safety net to food-insecure households and individuals vulnerable to acute malnutrition; and,

- Build the confidence of citizens and private businesses in the ability and will of public institutions to support recovery of the food and agricultural sector.

Post-conflict experiences in Nicaragua, Uganda, and Pakistan further illustrate the institutional challenges posed in post-conflict recovery and the centrality of food security-related policies and institutions to success.

A joint review of Nicaragua's post-conflict history found that, 15 years after the end of violent conflict, the country was still experiencing relatively high levels of food insecurity and depending on relatively high levels of food aid. According to the assessment team, the Nicaraguan government had failed to give food security adequate policy attention and to address the grassroots-level problems that national institutions were expected to resolve. As a result, land tenure issues were not resolved and the most politically marginalized people were still vulnerable to persistent food insecurity (Sahley et al., 2005).

By contrast, Regina Birner et al. (2011) describe a conflict recovery process in northern Uganda that directly addressed governance and government capacity issues in the agriculture sector. The national government launched programs (with World Bank funding) to enable IDPs and former combatants to resume farming when armed conflict ceased in 2006. Further, the government recognized its limitations and welcomed a number of NGOs to mount projects as well.

The resulting diversity of approaches enabled multiple implementing institutions to address agriculture and food security. However, each mechanism for intervention came at a cost. Combating corruption among public officials using community-based procurement came at the expense of elite capture in community groups, for example. Using specialized organizations to deliver post-conflict programs worked well in the short run, but affected the possibilities for creating well-functioning institutions in the long run. Some interventions worked well on a small scale, but were difficult to scale up to make sure that all the affected victims had the chance to rebuild their agricultural livelihoods, escape poverty, and live in peace.

Post-conflict recovery in the Swat Valley in Pakistan highlighted the need to strengthen institutions to resolve remaining conflicts by improving governance and physical security. Initial interventions were quick fixes provided by external organizations to support agricultural recovery—seeds for planting, replacement animals, and jobs in infrastructure rehabilitation for young men.

An assessment showed, however, that these actions were not likely to strengthen food security sufficiently to avert future conflict (Nyborg et al., 2012). Among the institutional challenges identified were ensuring that the rights and interests of vulnerable groups (poor women and men) were protected as they attempted to re-engage in agriculture and resource management activities; that conflict and social change did not lead to domestic violence; that women participated in meetings organized for their support; that widows would not only receive sheep as a means of support but that they would have access to pasture; that farmers were able to market their crops without being hindered by robbers, opposing power factions, or established traders; and that daughters from poor households would not be sold in marriage to settle family debt. "In particular, unequal access to and conflicts over water and land resources lead to situations of extreme insecurity for the vulnerable," write Ingrid Nyborg et al. (2012, p. 2).

As both the Uganda and Pakistan cases show, national institutions are not the only institutions that need

strengthening in conflict-affected and fragile states. Local governments and communities may assume some of the state's responsibilities for getting agricultural development going again, especially in post-conflict recovery settings.

Ami Carpenter (n.d.) summarizes four case studies of community actions that successfully addressed food security and conflict challenges without calling upon external resources for help. When confronted with state fragility (Haiti), an impending violent takeover (Afghanistan), the potential of rising crime as young, armed men returned from war (Tanzania), and ongoing civil war (Iraq), these communities self-organized themselves and adopted measures that enabled them to survive and largely protect the social and economic assets—including food security—that the community possessed.

Patti Petesch (2011) documents a case of community-led recovery in Indonesia: Local women who had been displaced from their farms and rural villages during conflict learned new skills and acquired a "voice" that enabled them to ensure that they received their fair share of post-conflict assistance when they returned.

Often, however, violent conflict leads to a loss of social cohesion and trust at the community level, severely limiting the capacities of local institutions to undertake the kind of positive leadership in recovery that Petesch describes. Where the "social fabric is torn," as Naori Miyazawa (2011) found in Timor-Leste, community participants will look to their own needs first. Similarly, in Burundi, Marijke D'Haese et al. (2010) found that whole communities of agricultural households continued to slide more deeply into poverty, even 10 years after the end of violence, with negative consequences for their food security.

In these cases, it may be critical for external actors to focus on strengthening local institutions in order to prevent further conflict. In Ethiopia, for example, peace-building skills were taught to pastoralist groups by Mercy Corps. The training enabled local leaders to negotiate conflicts over access to resources with each other without resorting to violence, a strategy that benefited their food security (Kurtz & Scarborough, 2012).

Awa Dabo et al. (n.d., p. 3) summarize the potential benefits of external actors engaging governments in post-conflict recovery:

Local government authorities are viewed as pivotal in bringing formal state institutions into direct contact with their citizens and thus play a crucial role in establishing inclusive patterns of post-conflict governance, responsively providing services to divided populations and consolidating resilient law and order. Furthermore, attention to local governance can give voice to the local population, and enhance their participation in the reconstruction and peace-building efforts and thus alleviate tensions based on social exclusion, polarization, and regional disparities that are often at the origin of conflicts. It is also an essential means for increasing national capacities and ownership to lead recovery efforts across all the key phases, from the identification of needs, to planning, programming, implementation, and monitoring.

To realize these potential benefits, however, it is important that the critical role of local populations in post-conflict reconstruction not be overshadowed by the arrival of major international actors and that strengthening local institutions' capacities be a focus of support (Anderlini & Judy El-Bushra, 2004).

Further, echoing Alinovi et al., interventions must be grounded in a comprehensive understanding of the local situation. Otherwise, internationally led efforts to encourage and support local ownership and leadership could, in fact, contribute to continued dissension.

Dabo et al. (n.d., p. 4) explicitly address this issue:

There are risks. Strengthening local government is usually associated with some form of power shift, transfer of competencies and fiduciary responsibility from central to lower levels of government. Hence, policy choices will fundamentally relate to the structure, size, mandate and resources of the different tiers of sub-national government as well as to the powers sharing arrangements between

different groups within local constituencies. This includes both issues of representation—the extent to which local decision making bodies are genuinely representative and inclusive—and processes for direct participation. The central question of how resources are managed and how those power sharing arrangements are administered is [determinant] for the decentralization option selected and conditions the link between effective state-building and successful peace-building. If the arrangements and mechanisms of decentralization replicate and reinforce social patterns of exclusion and inequity, and furthermore do not allow for the representation and empowerment of marginalized groups, local governance arrangements are likely to fail as a peace building tool.

Helping Households

Helping households escape from conflict-created poverty traps is an important focus for intervention. While national governments have overarching responsibilities for national food security, and local governments have roles in allocating the land and water resources necessary for agricultural production, the day-to-day and year-to-year challenges of food security are principally a concern of individuals, families, and their close social networks.

The growing volume of micro-level research shows that households and communities pursue a number of strategies to protect their food security when conflict is imminent or already ongoing (Brück et al, 2010; Justino, 2009; Verwimp, 2011; Zetter & Verwimp, 2011). As was noted above, however, few households in areas affected by violent conflict appear to escape negative effects on their food security. Most suffer losses that reduce their livelihoods for many years. Additionally, most households affected by conflict are likely to find themselves in a "poverty trap" when the conflict stops, and thus are unable to recover their former livelihoods, social networks, or levels of food security. External support—either from the national or local government or from international organizations—could, in these cases, provide a helping hand.

Families that choose the strategy of neutrality are likely to adjust their food consumption patterns, safeguard assets to the extent possible, and may weather the conflict with minimal damage, perhaps using the coping mechanisms outlined by Maxwell and Caldwell (2008).

Households whose coping strategies prove to be insufficient to provide minimal food security, however, are likely to become less neutral. They may seek the protection of local armed factions to increase their chances of survival as they continue to farm their land. They might even decide to increase their chances of acquiring more land by offering their support (food, some labor, etc.) to the armed groups.

Households that have assets valuable to the conflict (e.g., men, money, and land) may find themselves targeted for looting by the armed groups or other kinds of violence and be forced to respond (Justino, 2009). For these, participation in the conflict may be involuntary. Armed groups target young men for forceful recruitment as fighters commandeer the assets of the relatively well-off to expand their economic bases.

Households that have chosen, or been forced, to flee their homes are most likely to have fallen into poverty traps by a conflict's end. Armed factions sometimes seek to clear areas of potential opponents and to open opportunities for seizing land and other assets for their own use. Displacement, whether within the country of origin or across borders, generally results in loss of assets, incomes, and familial safety nets. Displacement also cuts off access to health care and increases exposure to contagious diseases, seriously affecting the utilization dimension of food security.

However, movement to more neutral areas, including IDP camps, may position households to better meet their immediate food needs, either from public sources, such as international food aid, or through markets unaffected by the conflict. To the extent that they have been able to find alternative work, acquire new skills, and/or preserve their health, these families may be better positioned to recover their livelihoods upon return, provided that their access to land, water, shelter, and markets is assured.

Some conflict-affected households may have benefited from the altruistic behavior of others. In general,

however, conflict undermines social cohesion and trust, so altruism of a scale sufficient to mitigate a slide toward food insecurity and poverty appears to be the exception rather than the rule (UNDP, 2010).

Households in Colombia caught in the conflict between the government and the FARC insurgents tried all these strategies: neutrality, collaboration, displacement, and searching for new opportunities. However, displacement was the most commonly exercised option. Ana María Ibáñez and Andrés Moya (2010) found that, even with programs of support from the government and the Catholic Church, the conflict in general created poverty traps for displaced households from which escape was difficult. Asset loss was a key part of the picture—but so, too, were the loss of access to informal credit and risk-sharing, the loss of family members through death or forced recruitment into warring factions, and the loss of opportunities for education and employment.

The IDPs of the Philippines' Mindanao conflict also confronted the potential of an inescapable poverty trap. Displaced households tapped any number of sources to maintain their food consumption levels, including externally provided food aid. But data shows that the use of loans to purchase food combined with loss of livelihoods kept households in constant food insecurity and pushed them into a situation where they were highly likely to be caught in poverty for some years. Further, the coping strategies that families employed to smooth their consumption in constrained conditions "decreased their dietary diversity, exacerbating pre-existing deficiencies and increasing the likelihood of subsequent malnutrition" (UNICEF & WFP, 2009, p. 7).

These cases suggest that external assistance that helps rural and displaced households avert acute malnutrition during conflict must be complemented by an extended period of assistance that enables families to pull themselves out of the poverty traps in which they are likely to find themselves when conflict ceases.

Funding will certainly be a critical constraint. A number of international humanitarian organizations currently provide almost $20 billion a year in assistance to food-insecure households in fragile and conflict-affected countries (GHA, 2012).[1] Even with these significant levels of humanitarian funding, however, it was estimated that, in 2011, nearly 38 percent of the identified needs for resources went unmet (GHA, 2012).

Further, as discussed above, a blend of externally funded humanitarian and development assistance must be part of the effort to avert a "transition gap" in which vulnerable and food-insecure families are caught between humanitarian and development initiatives. Support for local governments and community institutions is likely to be necessary to solve immediate problems of governance that are important to poor households (e.g., access to land, guarantees of women's rights) and to reweave the social fabric that will enable households to rebuild their social networks. Short-term safety nets in which food aid is the dominant element must be replaced by a broader range of support mechanisms that will help poor, conflict-affected households regain livelihoods, food security, and social networks.

Mobilizing Civil Society and Private Businesses

Mobilizing civil society and private businesses could broaden the base of organizational and financial capacities for intervention. Looking to local organizations and NGOs to undertake actions critical to promoting food security after conflict or civil strife is, as in the Uganda case cited above, a common strategy for conflict-affected governments. International NGOs can step in to provide a form of local governance and build the foundations for trust while also organizing immediate service delivery to rural populations. Local civil society organizations can also help to build democracy and check the political corruption, inefficiency, and illegitimacy that may inhibit a return to peace (International Association for Humanitarian Policy and Conflict Research, 2009).

There is a risk that international NGOs, by substituting for weak governments, might actually undermine government authority and legitimacy and contribute to renewed rebellions or instability down the line. This

risk is especially likely where governmental counterparts are perceived as corrupt or unfair in their dealings with minority groups. Thus, in order to meet the humanitarian mandate of saving lives, NGOs often maintain an arm's-length relationship with local authorities (see, e.g., Jelinek, 2009).

But the benefits provided by civil society organizations in helping communities to recover and reinvest in their food security are numerous. The challenge for humanitarian NGOs is to harmonize their work with the growing number of civil society organizations, both local and international, dedicated to promoting governance, democracy, and political transitions, as well as to develop partnerships with development cooperation organizations.

Greater private-sector involvement in agriculture in fragile and conflict-affected countries is both desirable and problematic. A recapitalization of agricultural value chains is critical to boosting local food supplies and getting markets disrupted by conflict working again. However, private investors will weigh the risks of policy and political stability in recovery before making investments. Efforts to persuade them to lead in the recovery may be fruitless if there is no assurance that adequate government institutions will provide a reliable operating environment.

Private investors that appear too eager to engage in business after a conflict, moreover, may be viewed with suspicion and perceived as taking advantage of the post-conflict uncertainty and chaos to gain unfair access to resources ("land grabbing") or markets ("profiteering").

Whether external assistance programs should prioritize agribusinesses that will support the recovery of commercial agriculture, or those that might rebuild small-holder agriculture, is also a matter of strategy and debate, especially in post-conflict settings. Investments in the (re)development of commercial agriculture, especially for export commodities, will potentially generate foreign exchange earnings and public revenues and thus promote overall economic recovery. On the other hand, prioritizing support for those agribusinesses that provide inputs and marketing services for small-holder food producers could result in immediate increases in food security and could put people—especially young people—back to work.

Obviously, the private sector engagement strategy needs to be appropriate to the structure and performance of the local agricultural sector and the potential for generating both revenues and greater food security. Institutional and regulatory issues (e.g., access to land, availability of credit, access to foreign exchange) will also define the space and risks for investment opportunities.

Deepen Understanding of Linkages

Deeper understanding of the linkages between conflict and food security must underpin strategies for intervention. Rapid assessments conducted on the ground in specific situations are essential to guide short-term interventions that address acute needs, whether they occur during, before, or after a conflict. To break a cycle of recurring violence, however, rapid assessments must be complemented with cross-country and multi-location analyses that take a broader and longer-term view of the causes and consequences of conflict, especially violent conflict.

There is a robust, growing theoretical literature on the causes of conflict and civil wars. Scholars are using sophisticated analytical techniques and multi-year data sets on civil unrest and violent conflict to attempt to identify those factors that are most clearly responsible for igniting them (see annex). Several of the key findings associated with food security and conflict have been referenced in previous sections.

For example, price shocks are identified by many scholars as a key driver of conflict, especially in low-income countries. But other factors have also been included in various theoretical models: low economic growth and poverty; weak and/or undemocratic governance; ethnic strife; demographic and/or environmental stress; the presence of underemployed youth; geographic conditions (density of populations, productive potential); availability of valuable and exportable resources; contested resource ownership; social marginalization; destabilization of social systems; lack of accurate information about potential combatants and potential gains to be made; inequitable distributions of political and/or

External assistance that helps rural and displaced households avert acute malnutrition during conflict must be complemented by an extended period of assistance that enables families to pull themselves out of the poverty traps.

economic power; and the economic feasibility of actually supporting conflict.

Still, a seminal review of theories of civil war by Christopher Blattman and Edward Miguel (2010) concludes that current theory is incomplete, leading theories are untested, and the use of cross-country regressions has produced unconvincing causal relationships. They note that new empirical work at the sub-national scale, at which it is possible to integrate quantitative evidence with case studies and historical analysis, represents a promising new approach. They conclude that a more systematic analysis of the consequences of war should complement the causality work if we are to understand postwar recovery.

Surprisingly, analytical work to develop comprehensive theories of food security is not so robust, even though global commitments, such as the L'Aquila Food Security Initiative (2009), are dedicated to improving food security. In 2002, Christopher Barrett (p. 4) noted that "thinking about food security has advanced from a first-generation focus on aggregate food availability—the supply side—through a second generation emphasizing individual- and household-level access to food—introducing the demand side—toward a nascent third-generation conceptualization that places food security in a broader framework of individual behavior in the face of uncertainty, irreversibilities, and binding constraints on choice."

Barrett's characterization of these three approaches as being from different generations implies that earlier theories have been replaced by later ones. In fact, all three approaches continue to be evident in present-day thinking. Each tends to support the interventions of different external actors.

The international economic and agricultural development community continues to focus largely on the "first-generation" theory; that is, emphasizing aggregate food supply. This thinking aligns well with national agricultural planning models and the assumption that the state is responsible for the overall provision of adequate volumes of food through production policies and programs or through trade. The supply perspective also reflects international concerns with rapidly changing global food and agriculture markets and the shrinking size of global grain reserves. Further, it highlights potential threats to supply disruptions posed by climate change.

Thinking and action in the humanitarian community are largely based on the "second-generation" theory. The concept of "vulnerability" is central to humanitarian planning and program-targeting efforts. It effectively recognizes the importance of individual and household access to food as key to food security (WFP, 2013). This approach is complemented by microeconomic theory that aims to improve understanding of household poverty, often building on the concept of sustainable livelihoods. In the livelihood perspective, access to food is strongly related to poverty as a key "root cause" of food insecurity, but other factors—physical capital, social capital, human capital, and natural capital—are also important (Morse et al., 2009).

Combined thinking about both aggregate food supply and consumers' access to quantities sufficient to make them food-secure has led to an increased focus on reducing agricultural producers' risks of yield loss

and/or price instability. The tool of choice is insurance, based on the theory that crop or livestock insurance will reduce production and/or income uncertainty for rural populations and stabilize their livelihoods. They will not only be more food secure themselves but will also be willing to risk investing their resources in greater production that will feed others (see, e.g., Smith & Watts, n.d.). The viability of this theory in practice is still being tested in the developing world, although countries like the United States have made the subsidization of such insurance a key element of their food and agriculture policies.

The "third-generation" concept of food security—framing individual behavior in the face of uncertainties and choices—is now entering into the global conversation. A rapidly growing number of middle-class consumers in the developing world are changing their dietary habits dramatically. Not only are they redefining what food security means to them, but their changing food demands are also affecting both local and global food prices as well as the mix of commodities being marketed. These changes in turn frame others' food security options.

Today, within and among countries around the globe, there is a growing divide between the hungry and food-insecure and the well-fed and food-secure. The result of the divide within developing countries is often referred to as the "double burden of malnutrition," where some segments of a country's population are unable to meet their nutritional needs and experience greater vulnerability to communicable diseases, while other segments of the same population consume foods at levels that exceed their nutritional requirements. These populations are overweight, obese, and increasingly prone to the noncommunicable diseases: cancer, diabetes, and cardiovascular diseases. The challenge of formulating food security policies that respond effectively to this "double burden" has opened up new and unfamiliar territory for many developing countries (FAO, 2006b).

An emphasis on building resilience in smallholder production systems—effectively enabling food-insecure households to adopt both production and consumption behaviors that will enable them to better deal with uncertainties and to recover from external shocks—is another thread related to third-generation theory. It may be of particular relevance to the challenges that climate change poses for food security (CGIAR, n.d.).

Deeper theoretical exploration of conflict-food security relationships would strengthen the basis for designing effective interventions. For example, "poverty" measured as average per capita GDP is often included as a key variable in current theory-of-conflict models. Models could, however, disaggregate poverty in ways that would illuminate how price volatility or rapidly rising food prices pose threats to poor urban and rural consumers.

Similarly, populations could be disaggregated to define important subnational groupings on the basis of current food security status (which some have shown is strongly correlated with future food security or insecurity) or in relation to estimated vulnerability to food insecurity, such as agricultural potential, proneness to drought, or other factors (see, e.g., Capaldo et al., 2010).

By segregating data on agricultural and nonagricultural incomes, conflict models might better predict how food insecurity related to crop failure or persistent low productivity could affect the incentives of rural households to support rebel groups.

Now may be the time for an integrative analytical effort that brings together concepts and theories of conflict and food security. As Blattman and Miguel (2010, p. 3) note, "empirical work finds low per capita incomes and slow economic growth are both robustly linked to civil war. Yet there is little consensus on the most effective policies to avert conflicts or promote postwar recovery." The annex briefly summarizes several well-known theories of conflict and suggests additional starting points for more explicitly including data relevant to food insecurity in future efforts.

Note

1. Anderlini et al. (2004) provide a useful listing of international organizations and agencies involved in post-conflict reconstruction and support.

V. Implications for Development Programming

Tomato farmers receiving support from USAID's Tanzania Agriculture Productivity Program. Photo courtesy flickr user Fintrac Inc.

USAID HAS MADE IMPORTANT STRIDES in developing its strategic thinking and programming regarding both conflict and food security in recent years. By and large, however, these efforts have proceeded in parallel rather than in concert. USAID's Bureau for Democracy, Conflict, and Humanitarian Assistance has taken the lead on conflict and on programming the world's largest volume of food assistance in response to emergencies. The Bureau for Food Security focuses USAID's efforts on the food security challenge; these efforts contribute to and are complemented by the interagency Feed the Future initiative.

The policy dimensions of broader U.S. government efforts to address crisis, conflict, and instability through non-military avenues were clearly laid out in Chapter 4 of the Department of State's first-ever *Quadrennial Diplomacy and Development Review* (QDDR) in 2010.

As the 2010 QDDR (p. 121) explains, "Our military assistance helps allies defend themselves and ward off attacks while deepening their relations with the United States. But one of the principal challenges identified by the QDDR is the need for the State Department and USAID to substantially improve our ability to address the crises and conflicts associated with state weakness, instability, and disasters and to support stability and reconstruction following conflict."

Immediate Opportunities

There are immediate opportunities to apply and refine USAID's guidance on program implementation related to conflict and food security in Feed the Future focus countries. The U.S. government's Feed the Future initiative was launched in 2009 as a concrete response to the global food insecurity challenges recognized by the G-8's L'Aquila Food Security Initiative. USAID now leads the implementation of this initiative, which explicitly links food security to conflict.

At first glance, Feed the Future's intentions to work where conditions are "ripe for conflict" seem to be limited. Indeed, criteria for selection of Feed the Future focus countries emphasize positive factors: opportunities for partnership, potential for agricultural growth, opportunities for regional synergy, and resource availability.

A closer look, however, indicates that many of the Feed the Future countries exhibit significant manifestations of conflict vulnerability, suggesting many opportunities to link food security programming with conflict prevention and mitigation efforts (see Figure 2).

- USAID considers nearly half of the 19 Feed the Future focus countries to be fragile or conflict-affected.

- Fourteen Feed the Future countries were classified by the World Bank as "low income" in 2013, with per capita gross national income of $1,035 or less (World Bank, 2013c). Low income countries are more likely to experience violent conflict than higher-income countries.

- A total of 17 countries (all except Ghana and Honduras) were scored as having "serious" hunger problems in the 2012 Global Hunger Index, indicating a high degree of food insecurity (IFPRI, 2012). A total of 16 countries received U.S. food assistance in 2010 (USDA & USAID, 2010).

- Three low-income Feed the Future countries (Haiti, Liberia, and Nepal) are listed as "fragile situations" by the World Bank (2013b). Each country hosts an international peace-keeping force. In Haiti, 64 percent of the population was estimated by the World Bank to live below the poverty line; in Liberia, 77 percent were classified as poor. Haiti's hunger index score was the most serious of all 19 Feed the Future countries in 2013.

- Three countries (Ethiopia, Haiti, and Uganda) are ranked among the top 25 on the Failed States Index for 2013, indicating weak governance and high vulnerability to conflict (Fund for Peace, 2013).

- Only 3 of the 19 Feed the Future countries (Ghana, Senegal, and Honduras—all lower-middle income countries) are not receiving U.S. food assistance or development assistance (USDA & USAID, 2010).

FIGURE 2: Key Indicators for *Feed the Future* Focus Countries

Feed the Future Focus Country	Income Status[a]	Fragile and/or Conflict-Affected[b]	Failed States Index 2013 (1 = most fragile; 179 = least fragile)[c]	Food Riots or Demonstrations (2008)[d]	Percent of Population Below Poverty Line[e]	Global Hunger Index Score (0 = lowest hunger)[f]	U.S. Emergency Food Aid FY 2010 (US$MM)[g]	U.S. Developmental Food Aid FY 2010 (US$MM)[h]
Bangladesh	Low		29	●	31.5	24.0		$50
Cambodia	Low	●	41		30.1	29.6		$18
Ethiopia	Low	●	19	●	38.9	28.7	$390	$65
Ghana	Lower-middle		110		28.5	8.9		
Guatemala	Lower-middle		70		51.0	12.7	$17	$40
Haiti	Low	●	8	●	77.0	30.8	$141	$36
Honduras	Lower-middle		75		60.0	7.7		
Kenya	Low		17		45.9	19.3	$102	$9
Liberia	Low	●	23		63.8	18.9		$25
Malawi	Low		40		52.4	16.7		$26
Mali	Low	●	38		47.4	16.2		$10
Mozambique	Low		59	●	54.7	23.3		$43
Nepal	Low		30		30.9	20.3	$4	
Rwanda	Low	●	38		58.5	19.7	$4	$9
Senegal	Lower-middle	●	64	●	50.8	13.7		
Tajikistan	Low	●	51		47.2	15.8	$10	
Tanzania	Low		65		33.4	19.3	$6	$10
Uganda	Low	●	22		24.5	16.1	$15	$38
Zambia	Lower-middle		45		59.3	23.3		$7

Sources:

a. World Bank, 2013c. Low income countries are $1,035 or less GNI per capita; lower-middle income countries are between $1,036 and $4,085 GNI per capita

b. USAID, 2012a

c. Fund for Peace, 2013

d. Schneider, 2008; Berazneva & Lee, 2011

e. United Nations, 2013

f. IFPRI, 2012. ≤ 4.9 Low hunger; 5.0–9.9 moderate hunger; 10.0–19.9 Serious hunger; 20.0–29.9 Alarming; ≥ Extremely alarming

g. USDA & USAID, 2010

h. USDA & USAID, 2010

- Of the 9 Feed the Future countries that received U.S. Title II emergency food aid, 7 also received development food aid.

- A total of 14 of the 17 countries receiving U.S. food aid in fiscal year 2010 hosted food aid-supported development activities (including food for education). Five countries also participated in the Local and Regional Procurement Pilot Program, meaning that small-holder farmers in those countries sold food to food aid agencies (the WFP or NGOs) for distribution elsewhere.

Altogether, 10 of the 19 Feed the Future focus countries (Cambodia, Ethiopia, Haiti, Liberia, Mali, Nepal, Rwanda, Senegal, Tajikistan, and Uganda) offer substantial opportunities to align or integrate food aid-based humanitarian programs and Feed the Future development efforts to address issues related to both food security and conflict.

Such an effort would respond to the QDDR's call for improved practices with regard to preventing, resolving, and recovering from conflict. USAID missions could be encouraged to take a proactive approach to conflict prevention and/or recovery; develop coordinated organizational approaches, both within the diplomatic and development communities and with multilateral organizations and the military; propose and develop new tools tailored to conflicts and crises, other than traditional diplomatic and development strategies; and recognize the need to understand and plan for the unintended consequences of large-scale operations and assistance by engaging in the kinds of comprehensive analyses discussed in previous sections.

USAID's 2012 Conflict Assessment Framework (known as CAF 2.0) reflects its initial efforts to pivot from reactive approaches for addressing conflict to a forward-looking approach that links evidence-based assessment to program recommendations. CAF 2.0 builds on an earlier assessment framework as well as the preparation of many sector-specific toolkits to provide guidance by "generating practical recommendations that seek not only to mitigate conflict drivers but also to bolster social and institutional

resilience, effectiveness, and legitimacy" (USAID, 2012, p. i). Better food security may serve as a goal for both conflict prevention and recovery efforts.

Mali may prove to be the most immediate test of the U.S. government's abilities to undertake mitigation, stabilization, and recovery from conflict and food insecurity at the same time. Long touted as a stable democracy making good progress in developing its agricultural sector and, thus, a prime candidate for a Feed the Future partnership, Mali's situation demonstrates how quickly the context for conflict, governance, economic growth, and food security can change. In 2012, Mali plunged into both a significant violent conflict associated with religious extremism and political instability associated with an army-led coup d'état and the declared formation of a breakaway "country" in Mali's northern reaches.

A collaborative redesign of USAID's humanitarian and development assistance programming in that country could provide a unique opportunity to apply the principles of conflict-sensitive development assistance along with integrated humanitarian assistance.[1] One goal would be to simultaneously improve food security and maintain the peace in the agriculturally productive southern regions of the country. These areas have been less directly affected by the conflict, although the coup d'état weakened governance and the capacities of national organizations to deliver services, including the health services critical to food utilization. At the same time, crises associated with drought, locusts, and people displaced by violent conflict demanded humanitarian attention throughout 2012 and will merit continued attention throughout 2013, especially in northern Mali and neighboring regions.

In addition to CAF 2.0, USAID has other sources of advice to draw upon in adapting its strategies to emerging conflict and food security challenges.

USAID's 2009 *Guide to Economic Growth in Post-Conflict Countries* provides useful lessons for recovery. Clear goals, sensitivity to context, a pragmatic approach, and ownership of the recovery by the host country (with support from multiple donors in a coordinated way) are identified as keys to success. While the guide cautions that

this may not be appropriate advice for assistance to countries that are in the midst of conflict, it may be appropriate in a geographically large country like Mali where the violence is distant from the capital and the need to maintain stability in the rest of the country is paramount.

To break the cycle of conflict and food insecurity in post-conflict societies, the guide suggests that "[a]griculture frequently offers the most promising immediate source of livelihood for the majority of the population in post-conflict countries; for this reason, it is a critical aspect of early recovery efforts. Restoring agriculture (rural security conditions permitting) can have a broad impact on growth and offers widespread benefits to returning refugees, internally displaced persons (IDPs), and other vulnerable groups" (p. 65). No doubt, agriculture-based livelihoods will not be the sole (or even the appropriate) solution in all contexts, underlying the need for investments in diverse livelihoods that may be more suitable for large populations of returning IDPs or ex-combatants.

A Rough Guide to Investment Climate Reform in Conflict-Affected Countries, on which USAID partnered with the World Bank Group, draws lessons from many countries and provides pragmatic rules for addressing the economic and commercial dimensions of conflicts in all segments of the project cycle (IFC, n.d.).

A short paper from the Governance and Social Development Resource Center provides useful summaries of case studies where "theories of change" had been used, with greater and lesser success, to guide project development. Several of these cases offer useful advice for planning interventions in which technical issues about food and agriculture systems must be addressed along with issues associated with conflict resolution (M'Cormack, 2012).

USAID's 2011 *The Development Response to Violent Extremism and Insurgency* lays out criteria for engagement and a set of program principles to guide actions. The principles envision a comprehensive and ambitious response, focusing on many of the same elements included in other guidance: focusing on the drivers of violent extremism and insurgency; promoting inclusive country ownership; selecting areas for intervention where there is a possibility of impact; taking a coordinated and integrated approach;

and, in recognition of the reality that violent conflict often spills across borders, considering transnational strategies. These actions are likely to fall more in the domain of diplomacy and military cooperation, but regional programming initiatives involving those neighboring countries that have taken in Mali's displaced populations could help to prevent the spread of the insurgency.

Many of the specific recommendations included in the USAID/CMM (2005) toolkit *Livelihoods and Conflict* resonate with the more generalized guidance in the Economic Growth and Development Responses papers and echo findings of many of the food security-related studies cited above.

Some recommendations emerge from these sources:

- promote resilience at the local level by supporting economic recovery, especially to improve food security;

- promote peace-building and reconciliation; and,

- use livelihood support at the household and community levels.

Where state legitimacy is lacking:

- work with trusted local actors;

- develop gender-focused programming;

- build economic linkages through the informal economy; and,

- support livelihood efforts for populations displaced by conflict.

How Are Priorities for Action to Be Determined?

The previous section makes it clear that several Feed the Future partner countries provide ready opportunities for developing food security program approaches that are conflict-sensitive. But USAID also works in many other

countries that are fragile, conflict-affected, or conflict-vulnerable, with Afghanistan and South Sudan topping the list. In these countries, a proactive rather than reactive approach to preventing more conflict would require USAID to address drivers of food security that are likely to contribute to worsening grievances and generate new outbreaks of conflict or lead to a continuing cycle of conflict and instability.

The QDDR defines the mission of dealing with crises and conflict in fragile states in comprehensive terms. At the same time, it recognizes that staffing, funding, management systems, and capacities to coordinate and integrate actions between the Department of State and USAID are constrained. Such resource constraints imply that, in the short term, choices will have to be made with regard to allocation of resources to conflict prevention, response, and recovery.

The QDDR is relatively silent on the issue of setting priorities. However, the section on "Executing Conflict Prevention and Response in the Field" employs the concept of "surge capacity," which would appear to indicate that the immediate situation (i.e., crisis response and conflict mitigation and resolution) is likely to command a higher priority than medium- and long-term prevention or recovery efforts.

Given that USAID has been designated in the QDDR as the lead in operations responding to humanitarian crises, it is likely that USAID's attention will disproportionately be directed to meeting the urgent and immediate food security-related needs associated with ongoing conflicts: food aid, the provision of water and shelter for displaced populations, health care aimed at preventing outbreaks of communicable diseases, and similar emergency responses.

Yet, as suggested above, an allocation of equal or greater priority to agricultural development and food security efforts that could contribute to conflict prevention and support recovery might be a more effective and lower-cost strategy in the long run—both for the U.S. government and for the many millions of poor people living in low-income, conflict-vulnerable countries.

Deeper consideration of these trade-offs—and their implications for policy, staffing, and funding—is

needed. The United States' political interests will clearly play a role in determining these priorities, but a more detailed analysis of potential interventions, costs, and results could help to refine commitments. Of particular importance is the evidence that conflict recovery requires the commitment of a generation—that is, consistent support over a decade or more.

The track record to date shows a much shorter political attention span, with the result that recoveries remain stunted and the chance for devastating conflict reignition remains high. Further, once priorities have been set, implementing agencies such as USAID need substantial flexibility in program authority to permit the shaping of support to the local context (i.e., the strength of local institutions and leaders, economic conditions, social and cultural factors), other external support, and the technical challenges involved.[2]

A More Modest Approach

A more modest approach might focus on reducing rural households' risks of food insecurity to prevent conflict and mitigate its most negative effects. Evidence from many microeconomic analyses shows that rural households, while not so likely to join in food riots when prices rise unexpectedly, are both more likely to suffer serious reversals in their food security status and to be ready, on the basis of grievances associated with their ability to produce and market food, to contribute to conflict.

An approach that integrates humanitarian and development assistance to reduce small-holder rural households' risks of acute food insecurity and, simultaneously, build their resilience to external shocks could help to dampen the potential for, and perhaps the feasibility of, conflict.

Such an approach would require USAID to take an innovative and flexible approach to programming, but could, if targeted to areas that are conflict-prone or conflict-affected, contribute to food security and reduce the probabilities of conflict.

First, USAID could accept greater risks and responsibilities for financing and technical support by seeking to boost agricultural production and provide food safety

nets for the chronically poor at the same time. A "smart subsidy" approach that maximizes participation by the private sector is likely to yield the most sustainable results.[3] Targeting long-term food assistance to chronically poor individuals and households, combined with the provision of development resources aimed at building household and community assets to support market-oriented productivity increases, is another approach. The concepts developed under Ethiopia's Productive Food Safety Net Program have been well tested and could be adapted to other settings (Hoddinott et al., 2012; USAID Ethiopia, 2013).

Other interventions that would enable households to escape poverty traps have been found to work even when conditions are far from ideal. Such interventions include:

● Recapitalization of households, communities, and businesses to position them for resumed production by providing specialized credits (e.g., through microfinance institutions or through private banks with donor guarantees) (Woodworth, n.d.; Ersenkal, 2007).

● Grants and technical assistance to support an accelerated revision of resource governance rules (e.g., property rights, both to permit the recovery of damaged ecosystems and also to ensure adequate and secure access to productive resources by women, marginalized groups, and others displaced by conflict).

● External grant monies for construction or rehabilitation of infrastructure (power, transportation, health care centers, schools) to pave the way for greater private investment and food and agricultural market recovery. Targeted cash-for-work or food-for-work modalities could also pump needed incomes into local communities.[4]

Second, USAID and its partners could work with both national and local governments to establish partnerships that are focused on clear goals but are also flexible. Focused assistance for export crop recovery, for example, could produce immediate catch-up growth and lay the groundwork for sustained growth and peace-building in post-conflict situations, as it did through the coffee sector in Rwanda (Tobias & Boudreaux, 2009). Cocoa and palm oil operations in Côte d'Ivoire, livestock in Ethiopia, and rubber and timber in Liberia are possible targets for such assistance.

However, the macroeconomics need to be well managed to avert "Dutch disease," because an excessive focus on one export sector could cause price inflation and/or shrink the availability of credit to all other sectors, including the domestic food and agribusiness sectors. The potential for corruption to divert resources to the elite and thus amplify prior grievances due to inequities must also be addressed. Further, recovery efforts should not be focused on the export sector at the expense of the local food economy, which is key to addressing the distributional issues that underpin conflict as well as to establishing the broadest possible base for improved food security.

Third, USAID could support and collaborate with externally and privately financed programs that encourage and enable people to pursue multiple employment opportunities, such as donor-subsidized jobs on the reconstruction and rehabilitation of public infrastructure as well as job training and vocational education programs for youth. Multiple jobs are likely to provide a broader income safety net, even for farming households (re)engaged in food production. The seasonality and price variability associated with agricultural production make total reliance on it for income riskier for households.

Fourth, experimentation with community-based approaches to the management of acute malnutrition could provide immediate benefits. The wider use of ready-to-use therapeutic foods (some of which may be locally or regionally manufactured) as well as targeted distributions of food to households with children under the age of two years may improve overall nutritional outcomes in fragile and conflict-affected areas and prevent the emergence of a downward economic spiral for vulnerable households. Targeted supplementary food programs, such as those included in the Productive Safety Net Program in Ethiopia, may also help to mitigate

the risks for households and communities of recurring chronic hunger and instability.

The cost of such preventive programs is an issue, but growing experience indicates that they work (Ruel, 2008). WFP's Purchase for Progress experience offers an additional model for engaging fragile farming communities (and especially women farmers) in the process of recovery and, at the same time, furnishing a food safety net for vulnerable people in the country or the region (WFP, 2010b).

A Learning Agenda

A learning agenda that integrates food security more clearly into an analysis of conflict would contribute important insights for future work. As discussed in Section IV, a deeper understanding of the linkages between conflict and food security would help to build a better foundation for interventions aimed at both conflict prevention and recovery. While research on conflict has burgeoned in the last decade or so, the visibility of food security variables in that research is limited. Yet many of the variables that contribute to food security—water availability, land tenure, community governance capabilities—also appear to be associated with the onset of intrastate and interstate conflict and merit a deeper analysis of their linkages with food security. USAID's support for this analysis could be helpful in informing future interventions.

A number of topics for an enhanced learning agenda on food security and conflict have already been mentioned. The incidence of riots, demonstrations, and communal conflicts, for example, has been less systematically studied than the phenomena of rebellions (generally rural-based uprisings against weak central governments) and violent civil wars. Better understanding of how these less-than-war conflict situations influence or are influenced by food insecurity would inform policy dialogues among development partners and national governments.

In recent years, greater attention has been paid to the microeconomics of conflict at the level of individuals, households, communities, and groups (including rebel groups). This work provides welcome insights on the

dynamics of conflict. Further analysis might help to bring into clearer focus the food security-related behaviors of key mobilizers (leaders that organize and activate groups for armed conflict) and institutions at a subnational level, a perspective consistent with the diagnostic approach advocated by the CAF.

The effects of conflict on household welfare and nutritional status are being more carefully measured as part of the microeconomic work. Progress in this area might make it possible to better estimate the benefits of external support for conflict prevention and guide the development of policies for intervention.

The lack of conceptual models and testing of institutional transformation processes for preventing conflict and achieving post-conflict recovery is a gap that might be addressed. Understanding the extent to which strengthening national or local institutions related to food security could contribute to conflict prevention or recovery would be an area of immediate benefit to USAID as it implements Feed the Future and partners with such institutions.

Continuing to increase the body of information on alternative approaches to addressing food security in conflict response and programming for conflict recovery (often using case studies and analysis of best practices) is a high priority. A learning agenda that focused on more systematic testing of approaches (based on testable hypotheses with regard to feasibility and impact) and broader sharing of results would ensure continued contributions to the field.

Neither the Department of State nor USAID is likely to be able to pursue this more ambitious learning agenda on its own, but both organizations can work with others to ensure that the conflict and food security linkages are explored. The World Bank's 2011 WDR signaled its intentions to pursue a similar agenda and establish a "shared collaborative platform for knowledge on violence, fragility, and development" (p. 290). However, given the extremely limited amount of attention that the WDR devotes to agriculture—and virtually none to nutrition and food security—it is likely that, without USAID's participation, these linkages may be ignored.

The WDR proposes looking at the cost of second-best reforms in situations of insecurity (and, presumably, fragility) as well as the sequencing of reforms and the potential for regional integration to reduce conflict (and the neighborhood effects of conflict). These themes could benefit from a food security-sensitive perspective that USAID might contribute.

Other research efforts might also be explored for positive synergies with USAID's learning agenda. The Department of Defense's MINERVA Initiative (2013), intended to build "deeper understanding of the social, cultural, and political dynamics that shape regions of strategic interest around the world," is another potential partner. While its emphasis on economics is light, one of the 2012 MINERVA awards specifically relates to conflict and food security: Lincoln Pratson at Duke University has been granted an award to do a "global value chain analysis of food security and food staples for major energy-exporting nations in the Middle East and North Africa." Additionally, an earlier award to the Center for Climate Change and African Political Stability Program at the University of Texas, Austin, could also be instructive because of its valuable research on connections between climate change and the risks of armed conflict and instability.

In sum, as this report has shown, there is a strong base of thought, analysis, and experience relevant to conflict and food security. Undoubtedly, there are also clear gaps in understanding and in the abilities of international humanitarian and development organizations such as USAID to intervene effectively.

Programming associated with Feed the Future as well as extensive USAID activities in other low-income countries and fragile states provide opportunities for exploring approaches and decisive action that could address food security and conflict prevention at the same time. To benefit this experience, USAID should clarify its learning goals on conflict and food security, deliberately supporting additional research, improving food security

monitoring and evaluation efforts in conflict-affected areas, and partnering with others to deepen knowledge on violence, fragility, food security, and development.

Notes

1. Conflict-sensitive development refers to an approach for designing and implementing development programs that account for existing conflict dynamics, ensure that interventions do not worsen existing dynamics (Do No Harm) and incorporate peacebuilding mechanisms into activities whenever possible. For more information, see Woodrow & Chigas (2009).

2. Collier and Hoeffler (2004) have asserted that a decade of foreign assistance is needed to reduce the risk of relapse into conflict, with less front-loading of assistance in the first three years and a steady flow throughout the period. In a methodological critique of Collier and Hoeffler, Suhrke et al. (2005) suggest, using case study information from Latin America and Africa, that the patterns of assistance might be more appropriately varied to match the evolving country context.

3. A "smart subsidy" is a public subsidy that temporarily reduces the price of a particular good or service for a defined, measurable purpose; is well understood by the recipient; and works with, rather than against, private-sector suppliers of similar goods and services. Providing vouchers that can be redeemed for food or agricultural inputs at no or low cost is a smart subsidy approach.

4. A number of the papers published as part of the United Nations University WIDER program on "Reconstruction in Conflict and Post-Conflict Societies" address different approaches and issues. See http://www.wider.unu.edu/research/projects-by-theme/global-governance/en_GB/reconstruction-in-conflict/

ANNEX: Integrating Food Security Variables Into Theories of Conflict

TIMOTHY J. BESLEY AND Torsten Persson's (2008) work on the incidence of civil war suggests that re-specification of their models to more clearly highlight factors underpinning food insecurity may not be too difficult. Price changes already play a key role in their model. They include in their analytical framework indicators on prices for both exported and imported commodities, including food and agricultural commodities, and find that price increases play a significant role in the incidence of civil war. They reason that rising export prices make it more attractive for insurgents to gain control of the revenues and rents associated with those exports. Rising import prices reduce wages (presumably raising food insecurity, especially in urban areas) and lower the cost of conflict (as disaffected workers look elsewhere for employment).

However, Besley and Persson also note that the nature of political institutions makes a difference in determining the contribution of price changes to civil war. More democratic regimes, in which there are checks on executive power, they find, affect the impact of the price changes. It might be interesting, however, to consider the nature of other institutions affecting food, agriculture, and trade, and the effects that their decision-making has on food and agricultural commodity prices.

Brett L. Carter and Robert Bates (2012) concur that democratic governments are likely to respond to price changes that affect their constituents, especially when those price changes affect those constituencies' food security and make them more politically volatile. They find that, when governments implement food price policies that favor urban consumers, the probability of instability drops.

James Fearon and David Laitin (2003, p. 75) build their theory of conflict around the idea of insurgency, which they define as a "technology of military conflict characterized by small, lightly armed bands practicing guerilla warfare from rural base areas." Unlike Besley and Persson, Fearon and Laitin do not find an increased risk of conflict associated with primary commodity exports. Rather, their findings point to poverty (which they posit indicates weak governance and favors rebel recruitment), political instability, rough terrain, and large populations as causal factors.

Fearon and Laitin (2003, p. 83) find that per capita incomes are especially critical to initiation of conflict: "$1,000 less in per capita income is associated with 41 percent greater annual odds of civil war onset, on average." Given the strong relationship between income status and access to food—a critical element of food insecurity—this analysis may imply a similarly strong connection between indicators of declining food security and those associated with greater risks of civil conflict.

Colin Kahl's (2006) work addresses the possibility that demographic and environmental stress lead to conflict. He defines demographic and environmental stress (DES) as a composite variable involving rapid population growth, environmental degradation, and an unequal distribution of natural resources. These factors are familiar causal factors in the literature on food insecurity. Population growth rates that outstrip production increases can result in reduced availability of food if capacities to trade are limited. Production increases are constrained by environmental degradation and unequal or inadequate access to natural resources (land, water). A theory that links DES to conflict would, it might be reasoned, pass through the reality of food insecurity.

Kahl does not take this pathway. Rather, he identifies two causal pathways that directly translate demographic and environmental stress into conflict. The first is that of state failure, in which growing DES provides incentives for both society and the state to engage in violent conflicts. The second is state exploitation, in which DES

Displaced Pakistani men pull a cartload of rations distributed by the UN World Food Program at a tent camp in Naseerabad, Balachistan Province. Photo courtesy flickr user UN Photo/WFP/Amjad Jamal.

provides the state elites with incentives and opportunities to use violence to preserve their own self-interests.

Kahl also reviews theories put forward by others that focus on the same areas of stress but assume different dynamics. These include, in his terms: (1) the Neo-Malthusians, who are argue that scarcity associated with excessive population growth relative to availability of natural resources leads to conflict, migration (which can lead to interstate conflict), deprivation/poverty, and loss of state legitimacy or failure; (2) the Neoclassical Economists, who argue that resource abundance, the competition for control of those resources, and the poor management of their benefits, causes conflict; and (3) the political ecologists, who place the politics of resource control and distribution at the center of their analysis.

Paul Collier (2006) has taken yet another approach to developing a theory of conflict. In his theory, conflict is likened to organized crime. Insurgents' interests in economic gain (greed) and aspirations for the levers of power are the drivers to conflict. However, Collier argues, these interests are masked in the language of grievance against political authorities. This permits insurgents to gain public support and to motivate recruits to fight. But, Collier maintains, if it is economic predation that motivates insurgency, it is the economic feasibility of mounting an insurgency that makes it more likely to happen. Collier et al. (2008) find that what makes insurgency feasible is the availability of primary commodity exports (oil and minerals, but also agricultural commodities such as cocoa or coffee); a dispersed population within the country of conflict and a wealthy and supportive diaspora outside it; a stock of poorly educated young males whose potential incomes are relatively low; and low levels of national income and a slow-growing economy (in many cases due to prior outbreaks of conflict).

Many of the variables in Collier's analysis could serve as proxies for variables often associated with food

insecurity: low incomes, especially in the agricultural sector; slow growth in the national economy, making national food systems more vulnerable to external economic or climatic shocks; and a dispersed population with constrained physical access to markets. Since Collier and his colleagues do not explicitly include indicators of food security in the economic theory of conflict that they have developed, however, any causal inferences that could be made at this point from the proxy indicators must be strictly indicative.

Finally, it is important to note again the work of Henk-Jan Brinkman and Cullen S. Hendrix (2011). They review a number of studies that explicitly link food insecurity with different forms of conflict and violence: protests and rioting, communal violence, civil conflict, and interstate war. They conclude, on the basis of this broad review, that the answer to the question, "Is food insecurity itself a cause of conflict?" is a "highly qualified yes."

Their review, however, provides potential guidance for future analysts. They suggest, for example, that each form of conflict is associated with somewhat different causal factors and, perhaps, indicates some future directions for more formal development of conflict theories. Given these variations, some of the work to identify typologies of conflict (and post-conflict) may help to sort through the competing theories of conflict and align food security-associated drivers with varying levels of conflict expression, escalation, or reignition.

Brinkman and Hendrix, like others, find that protests and rioting are directly linked to changes in prices, either because of market factors or because government policies (e.g., with regard to subsidies on foods) are altered. Communal violence often does not directly involve the government and occurs in politically isolated areas; it derives from competition over scarce resources (e.g., land or water). Government actions to respond to communal violence, however, quickly become important and can contribute to the escalation of communal violence into civil war, especially when the government appears to be supporting one group at the expense of another.

But Brinkman and Hendrix recognize that more work needs to be done. They highlight, for example, contradictory evidence on causality. In some cases, weather conditions that reduce agricultural productivity—drought, floods, warmer temperatures—seem to lead to food insecurity and contribute to civil conflict. Young men find fighting a more attractive option than farm work if the returns from that work are low. Or poor households may voice their grievances in the face of inadequate governmental responses to their poverty and hunger. In other cases, good agricultural weather conditions and high levels of agricultural productivity provide both incentives and opportunities to engage in conflict.

Chris Blattman and Edward Miguel's (2010, p. 3) review of the literature suggests to them that "[c]ross-country analysis of war will benefit from more attention to causal identification and stronger links to theory." They argue that "micro-level analysis and case studies are also crucial to decipher war's causes, conduct, and consequences." Perhaps highlighting the dimensions of food insecurity in this effort could help to strengthen understanding of these important and associated phenomena and suggest potential avenues for effective interventions that would jointly prevent conflict and rising food insecurity.

References

Akresh, Richard, Leonardo Luchetti, & Harsha Thirumurthy. (2010, December). *Wars and Child Health: Evidence From the Eritrean-Ethiopian Conflict* (Households in Conflict Network (HiCN) Working Paper 89). Brighton, UK: Institute of Development Studies, University of Sussex. Available online at http://www.hicn.org/wordpress/wp-content/uploads/2012/06/wp89.pdf

Alinovi, Luca, Günter Hemrich, & Luca Rosso. (2007, July). *Addressing Food Insecurity in the Fragile States: Case Studies From the Democratic Republic of the Congo, Somalia and Sudan* (ESA Working Paper 07–21). Rome: FAO. Available online at ftp://ftp.fao.org/docrep/fao/010/ai028e/ai028e00.pdf

Ambrus, Sr., Julian L., & Julian L. Ambrus, Jr. (2004, June 1). "Nutrition and Infectious Diseases in Developing Countries and Problems of Acquired Immunodeficiency Syndrome." *Experimental Biological Medicine 229*(6), 464–72. Available online at http://ebm.sagepub.com/content/229/6/464.full.pdf+html

Anderlini, Sanam Naraghi, & Judy El-Bushra. (2004, November). "Post-Conflict Reconstruction." In *Inclusive Security, Sustainable Peace: A Toolkit for Advocacy and Action*. London & Washington, DC: International Alert & Women Waging Peace. Available online at http://www.inclusivesecurity.org/wp-content/uploads/2013/05/101864251-Toolkit-for-Advocacy-and-Action.pdf

Arezki, Rabah, & Markus Brückner. (2011, March). *Food Prices and Political Instability* (IMF Working Paper WP/11/62). Washington, DC: International Monetary Fund. Available online at http://www.imf.org/external/pubs/ft/wp/2011/wp1162.pdf

Barrett, Christopher. (2002). "Food Security and Food Assistance Programs." In Bruce L. Garnder, & Gordon C. Rausser (Eds.), *Handbook of Agricultural Economics* (2nd Edition, vol. 2, no. 4). The Netherlands: Elsevier B.V.

Bellemare, Marc F. (2011, June 28). *Rising Food Prices, Food Price Volatility, and Political Unrest*. Available online at http://ssrn.com/abstract=1874101

Benjaminsen, Tor A. (2008, November). "Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel? The Case of the Tuareg Rebellion in Northern Mali." *Journal of Peace Research 45* (6), 819–36. Available online at http://jpr.sagepub.com/content/45/6/819

Bennett, Juliette. (2001, January). "Business in Zones of Conflict: The Role of the Multinationals in Promoting Regional Stability." *United Nations Global Compact.* Available online at http://www.unglobalcompact.org/issues/conflict_prevention/meetings_and_workshops/Reg_stability.html

Benson, Tood, Nicholas Minot, John Pender, Miguel Robles, & Joachim von Braun. (2008, September). *Global Food Crises: Monitoring and Assess Impact to Inform Policy Responses.* Washington, DC: IFPRI. Available online at http://www.ifpri.org/sites/default/files/pubs/pubs/fpr/pr19.pdf

Berazneva, Julia, & David R. Lee. (2011, March). *Explaining the African Food Riots of 2007–2008: An Empirical Analysis.* Ithaca, NY: Cornell University. Available online at http://www.csae.ox.ac.uk/conferences/2011-EdiA/papers/711-Berazneva.pdf

Besley, Timothy J., & Torsten Persson. (2008). *The Incidence of Civil War: Theory and Evidence* (NBER Working Paper 14585). Cambridge, MA: National Bureau of Economic Research. Available online at http://www.nber.org/papers/w14585

Birner, Regina, Marc J. Cohen, & John Ilukor. (2011). *Rebuilding Agricultural Livelihoods in Post-Conflict Situations: What Are the Governance Challenges? The Case of Northern Uganda* (Uganda Strategy Support Program Working Paper 7). Washington, DC: IFPRI. Available online at http://www.ifpri.org/sites/default/files/publications/usspwp07.pdf

Blattman, Christopher, & Edward Miguel. (2010). "Civil War." *Journal of Economic Literature 48*(1), 3–57. Available online at http://chrisblattman.com/documents/research/2010.CivilWar.JEL.pdf

Bora, Saswati. Iride Ceccacci, Christopher Delgado,& Robert Townsend. (2010, October 22). "Food Security and Conflict." *World Development Report 2011 Background Paper*. Washington, DC: World Bank. Available online at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/06/01/000333037_20110601012349/Rendered/PDF/620340WP0Food00BOX0361475B00PUBLIC0.pdf

Brinkman, Henk-Jan, & Cullen S. Hendrix. (2011). *Food Insecurity and Violent Conflict: Causes, Consequences, and Addressing the Challenges* (Occasional Paper 24). Rome: World Food Programme. Available online at http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp238358.pdf

Brown, Graham, Arnim Langer, & Frances Stewart. (2011, September). *A Typology of Post-Conflict Environments* (CRPD

Working Paper 1). Louvain, France: Centre for Research on Peace and Development. Available online at http://soc.kuleuven.be/web/files/12/80/wp01.pdf

Brück, Tilman. (2001). "Mozambique: The Economic Effects of the War." In Stewart, Frances & Valpy Fitzgerald (Eds.), *War and Underdevelopment, Volume 2: Country Experiences.* Oxford: Oxford University Press.

Brück, Tilman, Patricia Justino, Philip Verwimp, & Alexandra Avdeenko. (2010, July). *Identifying Conflict and Violence in Micro-Level Surveys* (Economics of Security Working Paper 38). Berlin: Economics of Security. Available online at http://www.economics-of-security.eu/sites/default/files/WP38_Identifying%20Conflict.pdf

Bukuluki, Paul, Firminus Mugumya, Stella Neema, Agatha Kafuko, & Eric Ochen. (2008). *Gender, Food Security, and AIDS in Internally Displaced People's Camps in Uganda: Implications for HIV Responsive Policy and Programming (*International Food Policy Research Institute Brief 17). Washington, D.C.: IFPRI. Available online at http://programs.ifpri.org/renewal/pdf/RFbrief17.pdf

Bush, Ray. (2010, January). "Food Riots: Poverty, Power and Protest." *Journal of Agrarian Change 10*(1), 119–129.

Cannon, Christy. (2000). "NGOs and the State: A Case-Study from Uganda." In Eade, Deborah (Ed.), *Development, NGOs, and Civil Society*. Oxford: Oxfam GB. Available online at http://www.developmentinpractice.org/sites/developmentinpractice.org/files/Development,NGOs%20and%20Civil%20Society.pdf

Capaldo, Jeronim, Panagiotis Karfakis, Marco Knowles, & Mark Smulders. (2010, August). *A Model of Vulnerability to Food Insecurity* (ESA Working Paper 10-03). Rome: FAO. Available online at http://www.fao.org/docrep/012/al318e/al318e.pdf

Carpenter, Ami C. (n.d.). *Resilience to Violent Conflict: Adaptive Strategies in Fragile States.* Available online at http://securitymanagementinitiative.org/index.php?option=com_docman&task=doc_details&gid=511&lang=fr&Itemid=28

Carter, Brett L., & Robert Bates. (2012, January 21). *Public Policy, Price Shocks, and Civil War in Developing Countries* (Weatherhead Center for International Affairs (WCFI) Working Paper 2012-0001). Boston, MA: Harvard University. Available online at http://www.wcfia.harvard.edu/sites/default/files/bcarter_publicpolicycivilwar.pdf

CGIAR. (n.d.). *CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).* Available online at http://www.cgiar.org/our-research/cgiar-research-programs/cgiar-research-program-on-climate-change-agriculture-and-food-security-ccafs/

Chapman, Terry, & Eric Reinhardt. (2009, October 29). *International Finance, Predatory States, and Civil Conflict.*

Paper delivered at Texas Triangle Conference, Houston. Available online at http://userwww.service.emory.edu/~erein/research/finance-conflict.pdf

Cohen, Marc J., Cristina Tirado, Noora-Lisa Aberman, & Brian Thompson. (n.d.). "World Food Insecurity and Malnutrition: Scope, Trends, Causes and Consequences." In *Impact of Climate Change and Bioenergy on Nutrition.* Rome: FAO. Available online at ftp://ftp.fao.org/docrep/fao/010/ai799e/ai799e00.pdf

Collier, Paul. (2006, April). *Economic Causes of Civil Conflict and their Implications for Policy.* Available online at http://users.ox.ac.uk/~econpco/research/pdfs/EconomicCausesofCivilConflict-ImplicationsforPolicy.pdf

Collier, Paul. (2007, May). *Post-Conflict Recovery: How Should Policies be Distinctive?* Available online at http://users.ox.ac.uk/~econpco/research/pdfs/PostConflict-Recovery.pdf

Collier, Paul, Lani Elliott, Håvard Hegre, Anke Hoeffler, Mart Reynal-Querol, & Nicholas Sambanis. (2003). *Breaking the Conflict Trap: Civil War and Development Policy*. Washington, DC & Oxford: World Bank & Oxford University Press. Available online at http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/06/30/000094946_0306190405396/additional/310436360_200500070100031.pdf

Collier, Paul, & Anke Hoeffler. (2004). "Aid, Policy and Growth in Post-Conflict Societies." *European Economic Review 28,* 1125–45.

Collier, Paul, Anke Hoeffler, & Catharine Pattillo. (2001). "Flight Capital as a Portfolio Choice," *World Bank Economic Review 15*(1), 55–80.

Collier, Paul, Anke Hoeffler, & Dominic Rohner. (2008, May). "Beyond Greed and Grievance: Feasibility and Civil War." Oxford: Oxford University. Available online at http://users.ox.ac.uk/~econpco/research/pdfs/BeyondGreedandGrievance.pdf

Dabo, Awa, Jago Salmon, Moises Venancio, & Patrick Keuleers. (n.d.). *Local Governance, Peace Building and State Building in Post-Conflict Settings.* (Draft United Nations Development Programme discussion paper). Available online at http://uncdf.org/gfld/docs/post-conflict.pdf

Delva, Joseph Guyler, & Jim Loney, (2008, April 12). "Haiti's Government Falls after Food Riots." *Reuters.* Available online at http://www.reuters.com/article/2008/04/13/us-haiti-idUSN1228245020080413

de Waal, Alex. (2004, August 4). "Counter-Insurgency on the Cheap." *London Review of Books 26*(15), 25–27. Available online at http://www.lrb.co.uk/v26/n15/alex-de-waal/counter-insurgency-on-the-cheap

D'Haese, Marijke, Stijn Speelman, Ellen Vandamme, Tharcisse Nkunzimana, Jean Ndimubandi, & Luc D'Haese. (2010,

September 19–23). *Recovering from Conflict: An Analysis of Food Production in Burundi.* Paper submitted for the Joint 3rd African Association of Agricultural Economists and 48th Agricultural Economists Association of South Africa Conference, Cape Town. Available online at http://ageconsearch.umn.edu/bitstream/96829/2/145.%20Recovering%20from%20conflict_Burundi.pdf

Ersenkal, Emre. (2007, August). *Field Manual: Supporting Microfinance through Grants in Post-Crisis Settings.* Bethesda, MD: DAI. Available online at http://dai.com/sites/default/files/pubs/other/Field_Manual.pdf

Fearon, James D., & David D. Laitin. (2003, February). "Ethnicity, Insurgency and Civil War." *The American Political Science Review 97*(1), 75–90. Available online at http://www.jstor.org/stable/3118222

Finger, Matthew. (2011). *Humanitarian Aid and Internally Displaced Persons: Impacts in Conflict and Post-Conflict Zon*es (Issue-Specific Briefing Paper). Available online at http://www.du.edu/korbel/criic/humanitarianbriefs/mattfinger.pdf

Food and Agriculture Organization of the United Nations (FAO). (2000). "Conflicts, Agriculture, and Food Security." In *The State of Food and Agriculture 2000.* Rome: FAO. Available online at http://www.fao.org/docrep/x4400e/x4400e07.htm

FAO. (2006a, June). *Food Security* (FAO Policy Brief No. 2). Rome: FAO. Available online at ftp://ftp.fao.org/es/esa/policybriefs/pb_02.pdf.

FAO. (2006b). *The Double-Burden of Malnutrition: Case Studies from Six Developing Countries* (FAO Food and Nutrition Paper 84). Rome: FAO. Available online at ftp://ftp.fao.org/docrep/fao/009/a0442e/a0442e00.pdf

FAO. (2011). *The State of Food Insecurity in the World 2011.* Rome: FAO. Available online at http://www.fao.org/docrep/014/i2330e/i2330e.pdf

FAO. (2013, July 4). "FAO Food Price Index." *World Food Situation.* Available online at http://www.fao.org/worldfoodsituation/foodpricesindex/en/

FEWS NET. (2011). *IPC Acute Food Insecurity Reference Table for Household Groups.* Available online at http://www.fews.net/ml/en/info/pages/scale.aspx

Fund for Peace (FFP). (2013). "The 9th Failed States Index – 2013." *The Failed States Index.* Available online at http://ffp.statesindex.org/rankings

Global Humanitarian Assistance (GHA). (2012). *Global Humanitarian Assistance Report 2012.* Somerset, UK: GHA. Available online at http://www.globalhumanitarianassistance.org/wp-content/uploads/2012/07/GHA_Report_2012-Websingle.pdf

Global Poverty Project. (n.d). "Conflict and Poverty." *Global Poverty InfoBank.* Available online at www.globalpovertyproject.com/infobank/conflict

Goldstein, Joshua S. (2011, September – October). "Think Again: War." *Foreign Policy.* Available online at http://www.foreignpolicy.com/articles/2011/08/15/think_again_war?

Good Humanitarian Donorship. (2003, June 17). *23 Principles and Good Practice of Humanitarian Donorship.* Available online at http://www.goodhumanitariandonorship.org/gns/principles-good-practice-ghd/overview.aspx

Headey, Derek. (2011, May). *Was the Global Food Crisis Really a Crisis? Simulations versus Self-Reporting* (International Food Policy Research Institute Discussion Paper 01087). Washington, DC: IFPRI. Available online at http://www.ifpri.org/sites/default/files/publications/ifpridp01087.pdf

Hoddinott, John, Guush Berhane, Daniel O. Gilligan, Neha Kumar, & Alemauehu Seyoum Taffesse. (2012). "The Impact of Ethiopia's Productive Safety Net Programme and Related Transfers on Agricultural Productivity." *Journal of African Economies 21*(5), 761–86.

Ibáñez, Ana María, & Andrés Moya. (2010, July). "Do Conflicts Create Poverty Traps? Asset Losses and Recovery for Displaced Households in Colombia." In Di Tella, Rafael, Sebastian Edwards, & Ernesto Schargrodsky (Eds.), *The Economics of Crime: Lessons For and From Latin America.* Chicago, IL: University of Chicago Press. Available online at www.nber.org/chapters/c11837.pdf

International Association for Humanitarian Policy and Conflict Research. (2009, April 2). "Civil Society: Civil Society & Peacebuilding Processes." *Peacebuilding Initiative.* Available online at http://www.peacebuildinginitiative.org/index.cfm?pageId=1754

International Federation of Red Cross and Red Crescent Societies (IFRC). (2011). *World Disasters Report 2011: Focus on Hunger and Malnutrition.* Geneva, Switzerland: IFRC. Available online at http://www.ifrc.org/PageFiles/89755/Photos/wdr.pdf

International Finance Corporation (IFC). (n.d.). *A Rough Guide to Investment Climate Reform in Conflict-Affected Countries.* Washington, DC: USAID, World Bank Group, MIGA, & IFC. Available online at https://www.wbginvestmentclimate.org/uploads/RoughGuideICReform.pdf

International Food Policy Research Institute (IFPRI). (2012). *Global Hunger Index 2012.* Washington, DC: IFPRI. Available online at http://www.ifpri.org/publication/2012-global-hunger-index

Jelinek, Emilie. (2009). "NGO Relations with the Government and Communities in Afghanistan." *Humanitarian Exchange Magazine 42.* Available online at http://www.odihpn.org/humanitarian-exchange-magazine/issue-42/ngo-relations-with-the-government-and-communities-in-afghanistan

Justino, Patricia. (2009, June). *The Impact of Armed Civil*

Conflict on Household Welfare and Policy Responses (MICROCON Research Working Paper 12). Brighton, UK: MICROCON. Available online at http://www.microconflict.eu/publications/RWP12_PJ.pdf

Justino, Patricia. (2012). *Nutrition, Governance, and Violence: A Framework for Analysis of Resilience and Vulnerability to Food Insecurity in Contexts of Violent Conflict* (HiCN Working Paper 132). Brighton, UK: University of Sussex. Available online at http://www.hicn.org/wordpress/wp-content/uploads/2012/06/HiCN-WP-132.pdf

Kahl, Colin H. (2006). *States, Scarcity, and Civil Strife in the Developing World*. Princeton, NJ: Princeton University Press.

"Kenya to Disarm Tribes to Prevent Deadly Clashes." (2012, August 23). *Foxnews.com.* Available online at http://www.foxnews.com/world/2012/08/23/kenya-to-disarm-tribes-to-prevent-deadly-clashes/

Ki-moon, Ban. (2011, September 20). Secretary-General's Remarks at High-Level Event on Scaling Up Nutrition. New York: UN Headquarters. Available online at http://www.un.org/en/issues/food/taskforce/

Kristof, Nicholas D. (2012, June 2). "Starving Its Own Children." *New York Times.* Available online at http://www.nytimes.com/2012/06/03/opinion/sunday/kristof-starving-its-own-children.html

Kurtz, Jon, & Greg Scarborough. (2012, February). *From Conflict to Coping: Evidence from Southern Ethiopia on the Contributions of Peacebuilding to Drought Resilience among Pastoralist Groups*. Portland, OR: Mercy Corps. Available online at http://www.alnap.org/resource/7523.aspx

Lagi, Marco, Karla Z. Bertrand, & Yaneer Bar-Yam. (2011, September 28). *The Food Crisis and Political Instability in North Africa and the Middle East*. Available online at http://necsi.edu/research/social/food_crises.pdf

L'Aquila Food Security Initiative. (2009, July 10). *"L'Aquila" Joint Statement on Global Food Security*. Available online at http://www.mofa.go.jp/policy/economy/summit/2009/statement3-2.pdf

"Maternal and Child Undernutrition" [Series]. (2008). *The Lancet 371*. Available online at http://www.thelancet.com/series/maternal-and-child-undernutrition

Maxwell, Daniel, & Richard Caldwell. (2008, January). *The Coping Strategies Index: Field Methods Manual* (Second Edition). Atlanta, GA: CARE. Available online at http://home.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf

M'Cormack, Frieda. (2012, June 25). *Theory of Change Approaches to Post-Conflict Governance Programming* (Governance and Social Development Resource Centre Helpdesk Research Report). Available online at http://www.gsdrc.org/docs/open/HDQ819.pdf

Messer, Ellen, & Marc J. Cohen. (2006, May). *Conflict, Food Insecurity and Globalization* (Food Consumption and Nutrition Division Discussion Paper 206). Washington, DC: International Food Policy Research Institute. Available online at http://www.ifpri.org/sites/default/files/publications/fcndp206.pdf

Messer, Ellen, Marc J. Cohen, & Thomas Marchione. (2000). "Conflict: A Cause and Effect of Hunger." *Environmental Change and Security Report 7*. Available online at http://www.wilsoncenter.org/sites/default/files/ECSP7-featurearticles-1.pdf

Meyer, John. (2007, April). *The Use of Cash/Vouchers in Response to Vulnerability and Food Security: Case Study Review and Analysis*. Available online at https://googledrive.com/host/0B5kizcQrKucOTml5VS1rUFZQSEE/SICVP-Case-Study-Review.pdf

The Minerva Initiative. (2013). *University-Led Research: 2013 Minerva Research Awards Announced*. Available online at http://www.minerva.dtic.mil/funded.html

Miyazawa, Naori. (2011, October 12). "Post-Conflict Assistance to Timor-Leste for Reforestation and Community Recovery." In Bruch, Carl, Mikiyasu Nakayama, & Ilona Coyle (Eds.), *Harnessing Natural Resources for Peacebuilding: Lessons From U.S. and Japanese Assistance*. Washington, DC: Environmental Law Institute. Available online at http://www.eli.org/pdf/CGP%20Chapters/CGP_010_Miyazawa.pdf

Morse, Stephen, Nora McNamara, & Moses Acholo. (2009). *Sustainable Livelihood Approach: A Critical Analysis of Theory and Practice* (University of Reading Geographical Paper 189). Available online at http://www.reading.ac.uk/web/FILES/geographyandenvironmentalscience/GP189.pdf

Nellemann, Christian, Monika MacDevette, Ton Manders, Bas Eickhout, Birger Svihus, Ann Gerdien Prins, & Bjorn P. Kaltenborn (Eds.). (2009, February). "From Supply to Food Security: Stability of Food Supply." In *The Environmental Food Crisis: The Environment's Role in Averting Future Food Crises*. New York, NY: United Nations Environment Programme. Available online at http://www.grida.no/files/publications/FoodCrisis_lores.pdf

Nossiter, Adam. (2012, September 8). "Summer of Siege for West Africa as Discontent Boils Into Street." *New York Times.* Available online at http://www.nytimes.com/2012/09/09/world/africa/summer-of-siege-for-west-africa-as-discontent-shakes-streets.html?pagewanted=all

Nyborg, Ingrid, Bahadar Nawab, Kashif Khan, & Jawad Ali. (2012, January). *Rural Development in Swat, Pakistan: Understanding Food and Livelihood Security in Post-Conflict Contexts*. (Noragric Report 62). Aas, Norway: Norwegian University of Life Sciences. Available online at http://www.umb.no/statisk/noragric/publications/reports/2012/noragricrep62.pdf

Organization for Economic Cooperation and Development (OECD). (n.d.). "International Network on Fragility and Conflict." Available online at http://www.oecd.org/dac/conflictandfragility/44282247.pdf

OECD. (2007, April). *Principles for Good International Engagement in Fragile States and Situations.* Available online at http://www.oecd.org/dac/conflictandfragility/38368714.pdf

OECD. (2011). *Supporting Statebuilding in Situations of Conflict and Fragility: Policy Guidance* (DAC Guidelines and Reference Series). Paris: OECD Publishing. Available online at http://browse.oecdbookshop.org/oecd/pdfs/free/4311031e.pdf

OECD. (2012). *Fragile States 2013: Resource Flows and Trends in a Shifting World*. Paris: OECD. Available online at http://www.oecd.org/dac/incaf/FragileStates2013.pdf

Perry, Jennifer, & Jennifer Borchard. (2010, April). *African Security Challenges: Now and Over the Horizon; Food Security and Conflict: Current and Future Dimensions of the Challenge in Africa* (Working Group Discussion Report Number ASCO 2010-009). Ft. Belvoir, VA: Defense Threat Reduction Agency. Available online at http://www.dtic.mil/dtic/tr/fulltext/u2/a556987.pdf

Petesch, Patti. (2011, May 20). *Women's Empowerment Arising from Violent Conflict and Recovery: Life Stories from Four Middle-Income Countries*. Washington, DC: USAID. Available online at http://www.usip.org/files/Gender/Petesch_Women_and_Conflict.pdf

Postel, Sandra L., & Aaron T. Wolf. (2001, September – October). "Dehydrating Conflict." *Foreign Policy*. Available online at http://www.transboundarywaters.orst.edu/publications/abst_docs/Postel_&_Wolf_final.pdf

Refugees International. (2012, June 25). *Malian Refugees: Underfunded Response Adds Stress to Sahel Food Crisis.* Available online at http://www.refintl.org/policy/field-report/malian-refugees-underfunded-response-adds-stress-sahel-food-crisis

Reuters. (2010, September 2). "Mozambique Bread Riots Spread as Police Shoot Protesters Dead." *Guardian.*

"Riots, Instability Spread as Food Prices Skyrocket." (2008, April 14). *CNN.com.* Available online at http://articles.cnn.com/2008-04-14/world/world.food.crisis_1_food-aid-food-prices-rice-prices?_s=PM:WORLD

Rockmore, Marc. (2012, September). *Living Within Conflicts: Risk of Violence and Livelihood Portfolios* (Households in Conflict Network Working Paper 121). Brighton, UK: University of Sussex. Available online at http://www.hicn.org/wordpress/wp-content/uploads/2012/06/HiCN-WP-121.pdf

Rosenberg, David. (October 27, 2011). "Food and the Arab Spring." *Gloria Center.* Available online at http://www.gloria-center.org/2011/10/food-and-the-arab-spring/

Ruel, Marie T., Purnima Menon, Jean-Pierre Habicht, Cornelia Loechl, Gilles Gergeron, Gretel Pelto, Mary Arimond, John Maluccio, Lesly Michaud, Bekele Hankebo. (2008, February 16). "Age-Based Preventative Targeting of Food Assistance and Behaviour Change and Communication for Reduction of Childhood Undernutrition in Haiti: A Cluster Randomized Trial." *The Lancet* 371(9612), 588–95. Available online at http://www.thelancet.com/journals/lancet/article/PIIS0140673608602718/fulltext%20

Sahley, Caroline, Benjamin Crosby, David Nelson, & Lane Vanderslice. (2005, August). *The Governance Dimensions of Food Security in Nicaragua.* Washington, DC: United States Agency for International Development (USAID). Available online at http://pdf.usaid.gov/pdf_docs/PNADE106.pdf

Schneider, Mindi. (2008, December). *"We are Hungry!" A Summary Report of Food Riots, Government Responses, and States of Democracy in 2008*. Available online at http://www.academia.edu/238430/_We_are_Hungry_A_Summary_Report_of_Food_Riots

Smith, Jennifer L., & Simon Brooker. (2010, July). "Impact of Hookworm Infection and Deworming on Anaemia in Non-Pregnant Populations: A Systematic Review." *Tropical Medicine and International Health* 15(7), 776–95. Available online at http://www.ncbi.nlm.nih.gov/pmc/articles/mid/UKMS31657/

Smith, Vincent H., & Myles Watts. (n.d.). *Index Based Agricultural Insurance in Developing Countries: Feasibility, Scalability and Sustainability.* Available online at http://agecon.ucdavis.edu/research/seminars/files/vsmith-index-insurance.pdf

Spiegel, Paul B., Francesco Checchi, Sandro Colombo, & Eugene Paik. (2010, January 23). "Health-Care Needs of People Affected by Conflict: Future Trends and Changing Frameworks." *The Lancet* 375(9711), 341–45.

Steets, Julia. (2011, June 9). *Donor Strategies for Addressing the Transition Gap and Linking Humanitarian and Development Assistance: A Contribution to the International Debate.* Berlin: Global Public Policy Institute. Available online at http://www.gppi.net/fileadmin/media/pub/2011/steets_2011_transition_web.pdf

Suhrke, Astri, Espen Villanger, & Susan L. Woodward. (2005). "Economic Aid to Post-Conflict Countries." *Conflict, Security & Development* 5(3), 329–33.

Tobias, Jutta M., & Karol Boudreaux. (2009, June). *The Role of Entrepreneurship in Conflict Reduction in the Post-Genocide Rwandan Coffee Industry: Quantitative Evidence from a Field Study.* (Working Paper No. 09–24). Fairfax, VA: Mercatus Center at George Mason University. Available online at http://mercatus.org/sites/default/files/publication/Post_

Genocide_Rwandan_Coffee_Industry.pdf

Torero, Máximo. (2008, September 25–26). *The World Food Situation.* Presentation at McGill University Conference on Global Food Security. Available online at http://www.mcgill.ca/files/globalfoodsecurity/Torero_IFPRI.pdf

United Nations. (2013). *Population Below National Poverty Line, Total, Percentage* [Data set]. Available online at http://data.un.org/Data.aspx?d=MDG&f=seriesRowID%3A581

United Nations Development Programme (UNDP). (2010, January). *Beyond the Midpoint: Achieving the Millennium Development Goals.* New York, NY: UNDP. Available online at http://content.undp.org/go/cms-service/stream/asset/?asset_id=2223855

UNDP. (2012). *Africa Human Development Report: Towards a Food Secure Future.* New York: UNDP. Available online at http://www.undp.org/content/dam/undp/library/corporate/HDR/Africa%20HDR/UNDP-Africa%20HDR-2012-EN.pdf

United Nations Children's Fund (UNICEF). (2004, October 14). *Darfur - Overview.* Available online at http://www.unicef.org/infobycountry/sudan_darfuroverview.html

UNICEF. (2009, November). *Tracking Progress on Child and Maternal Nutrition: A Survival and Development Priority.* New York: UNICEF. Available online at http://www.unicef.org/eapro/Tracking_Progress_on_Child_and_Maternal_Nutrition_EN_110309.pdf

UNICEF & World Bank. (2011, September). *Integrating a Child Focus into Poverty and Social Impact Analysis* (UNICEF-World Bank Guidance Note). Washington, DC: The World Bank & UNICEF. Available online at http://siteresources.worldbank.org/EXTPSIA/Resources/490129-1322765725723/PSIA-Guidance-Note-2011.pdf

UNICEF & World Food Programme (WFP). (2009, January – March). *Joint Emergency Nutrition and Food Security Assessment of the Conflict Affected Internally Displaced Persons in Central Mindanao, Philippines.* Manila, Philippines: UNICEF. Available online at http://home.wfp.org/stellent/groups/public/documents/ena/wfp216157.pdf

U.S. Agency for International Development (USAID). (2005, June). *Measuring Fragility: Indicators and Methods for Rating State Performance.* Washington, DC: USAID. Available online at http:// pdf.usaid.gov/pdf_docs/PNADD462.pdf

USAID. (2011, September). *The Development Responses to Extreme Violence and Insurgency: Putting Principles into Practice.* Washington, DC: USAID. Available online at http://transition.usaid.gov/our_work/policy_planning_and_learning/documents/VEI_Policy_Final.pdf

USAID. (2012a). *2012 Alert Lists: Fragility and Risk for Instability, Worldwide Rankings.* Arlington, VA: Tetra Tech ARD & University of Maryland.

USAID. (2012b, June). *Conflict Assessment Framework Version (CAF)* [Version 2.0]. Washington, DC: USAID. Available online at http://www.usaid.gov/what-we-do/working-crises-and-conflict/technical-publications

USAID Ethiopia. (2013). *Productive Safety Net Program (PSNP).* Washington, DC: USAID. Available online at http://ethiopia.usaid.gov/programs/feed-future-initiative/projects/productive-safety-net-program-psnp

USAID Office of Conflict Management and Mitigation. (2005). *Livelihoods and Conflict: A Toolkit for Intervention.* Washington, DC: USAID. Available online at http://transition.usaid.gov/our_work/cross-cutting_programs/conflict/publications/docs/CMM_Livelihoods_and_Conflict_Dec_2005.pdf

USAID Office of Economic Growth and Bureau for Economic Growth, Agriculture and Trade. (2009, January). *A Guide to Economic Growth in Post-Conflict Countries.* Washington, DC: USAID. Available online at http://pdf.usaid.gov/pdf_docs/PNADO408.pdf

USAID Office of Inspector General. (2008, January 22). *Audit of USAID/Afghanistan's Agriculture, Rural Investment and Enterprise Strengthening Program* (Audit Report 5-306-08-001-P). Manila, Philippines: USAID. Available online at http://oig.usaid.gov/sites/default/files/audit-reports/5-306-08-001-p.pdf

U.S. Department of Agriculture (USDA) & U.S. Agency for International Development (USAID). (2010). *U.S. International Food Assistance Report 2010.* Available online at http://www.fas.usda.gov/info/Testimony/FY_2010_IFAR_10-3-11.pdf

U.S. Department of State & USAID. (2010). *Leading through Civilian Power: The First Quadrennial Diplomacy and Development Review* (QDDR). Washington, DC: U.S. Department of State. Available online at http://www.state.gov/documents/organization/153108.pdf

Verpoorten, Marijke. (2009, January). "Household Coping in War- and Peacetime: Cattle Sales in Rwanda, 1991–2001." *Journal of Development Economics 88*(1), 67–86.

Verwimp, Philip. (2011, June 30 – July 1). *Household Strategies for Navigating Violent Conflict: Livelihoods and Coping.* Presentation at MICROCON Conference. Available online at http://www.microconflict.eu/events/PVerwimp%20session%203.ppt

Verwimp, Philip, & Jan Van Bavel. (2004). *Child Survival and the Fertility of Refugees in Rwanda after the Genocide* (Poverty Research Unit at Sussex Working Paper 26). Brighton, UK: University of Sussex. Available online at http://www.sussex.ac.uk/Units/PRU/wps/wp26.pdf

von Braun, Joachim. (2008, September 22). *The World Food Crisis: Political and Economic Consequences and Needed*

Actions. Presentation to Ministry of Foreign Affairs, Stockholm. Available online at http://www.slideshare.net/jvonbraun/the-world-food-crisis-political-and-economic-consequences-and-needed-actions

Ward, Christopher, David Mansfield, Peter Oldham, & William Byrd. (2008, February). *Afghanistan: Economic Incentives and Development Initiatives to Reduce Opium Production.* London: World Bank & UK Department for International Development. Available online at http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1202156192201/4638255-1202156207051/fullreportAfghanistanOpiumIncentives.pdf\

Waters, Hugh, Brinnon Garrett, & Gilbert Burnham. (2007, January). *Rehabilitating Health Systems in Post-Conflict Situations* (Research Paper 2007/06). Tokyo: United Nations University World Institute for Development Economics Research. Available online at http://www.wider.unu.edu/publications/working-papers/research-papers/2007/en_GB/rp2007-06/

Woodrow, Peter, & Diana Chigas. (2009). *A Distinction with a Difference: Conflict Sensitivity and Peacebuilding.* Cambridge, MA: CDA Collaborative Learning Projects. Available online at http://reliefweb.int/sites/reliefweb.int/files/resources/A1DAA82609C456398525765B006CFF38-cda-conflictsensitivity-peacebuilding-oct09.pdf

Woodworth, Warner. (n.d.). *Microcredit in Post-Conflict, Conflict, Natural Disaster, and Other Difficult Settings.* Available online at http://www.spanish.microfinancegateway.org/files/37054_file_Woodworth.pdf

World Bank. (2011a, April 4). *Operationalizing the 2011 World Development Report: Conflict, Security, and Development* (DC2011-0003 Prepared for the Development Committee Meeting). Available online at http://siteresources.worldbank.org/DEVCOMMINT/Documentation/22884392/DC2011-0003(E)WDR2011.pdf

World Bank. (2011b). *World Development Report 2011: Conflict, Security, and Development.* Washington, DC: The World Bank. Available online at http://siteresources.worldbank.org/INTWDRS/Resources/WDR2011_Full_Text.pdf

World Bank. (2013a). *Country and Lending Groups.* Available online at http://data.worldbank.org/about/country-classifications/country-and-lending-groups#Low_income

World Bank. (2013b). *Harmonized List of Fragile Situations FY13.* Available online at http://siteresources.worldbank.org/EXTLICUS/Resources/511777-1269623894864/FCSHarmonizedListFY13.pdf

World Bank. (2013c). *How We Classify Countries.* Available online at http://data.worldbank.org/about/country-classifications

World Food Programme (WFP). (2010a, April). *Food Security & Market Assessment in Crisis Areas in NWFP and FATA, Pakistan.* Islamabad, Pakistan: WFP. Available online at http://documents.wfp.org/stellent/groups/public/documents/ena/wfp221262.pdf

WFP. (2010b, September). *Practical Actions to Enhance the Participation of Women in the Purchase for Progress Pilot Programme* (P4P Occasional Paper Issue 2). Rome: WFP Gender Service and P4P Coordination Unit. Available online at http://home.wfp.org/stellent/groups/public/documents/reports/wfp229144.pdf

WFP. (2012, June). *Global Update: Food Security Monitoring* (Issue No. 7). Rome: WFP. Available online at http://reliefweb.int/sites/reliefweb.int/files/resources/wfp247978.pdf

WFP. (2013). *Our Work: Guidelines.* Available online at http://www.wfp.org/food-security/guidelines

World Food Summit on Food Security. (2009, November 16–18). *Declaration of the World Food Summit on Food Security* (WSFS 2009/2). Rome: FAO. Available online at http://www.fao.org/fileadmin/templates/wsfs/Summit/Docs/Final_Declaration/WSFS09_Declaration.pdf

Zetter, Roger, & Philip Verwimp. (2011, June). *Navigating Conflict: Households' Coping Strategies* (MICROCON Policy Briefing 9). Available online at http://www.microconflict.eu/publications/PB9_RZ_PV.pdf

Zuryak, Rami. (2011, July 16). "Use Your Loaf: Why Food Prices Were Crucial in the Arab Spring." *Guardian.* Available online at www.guardian.co.uk/lifeandstyle/2011/jul/17/bread-food-arab-spring

ENVIRONMENT
POPULATION
SECURITY

W Wilson Center

e c s p

environmental change
& security program

ECSP at the Wilson Center
www.wilsoncenter.org/ecsp

B **THE NEW SECURITY BEAT**
blog
www.newsecuritybeat.org

You Tube **YOUTUBE CHANNEL**
expert interviews
www.youtube.com/ecspwwc

TV **EVENT WEBCASTS**
live and archived
www.wilsoncenter.org/ecspevents

f **FACEBOOK**
www.facebook.com/ecspwwc

t **TWITTER**
@newsecuritybeat

♪ **iTUNES PODCASTS**
Search for "Environmental
Change and Security Program"