

When Hunger Strikes: How Food Security Abroad Matters for National Security at Home

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Executive summary

- ▶ Feeding the world and teaching the world to feed itself is not just a humanitarian endeavor. It is vital to US national security. Food price-related unrest can have an immense impact on the stability of countries vital to US interests. Fortunately, the United States is well positioned to lead the fight against food insecurity across the globe.
- ▶ Even with increases in agricultural productivity, Africa and Asia have become increasingly dependent on global markets to satisfy their growing domestic demand for food. For example, Africa's 20 most populous countries are all net grain importers. This import dependence has made these countries more sensitive to food price volatility than ever before.
- ▶ Food price shocks can act as a catalyst for both nonviolent and armed conflict. Particularly in urban areas of lower- and middle-income countries, high food prices and reduced access can trigger protests and rioting. For example, food price-related protests toppled governments in Haiti and Madagascar in 2007 and 2008. In 2010 and 2011, food prices and grievances related to food policy were one of the major drivers of the Arab Spring.
- ▶ Unrest in the Middle East and North Africa has led to upheaval in some of the most strategically significant regions to the United States. From 2007 to 2011, instability in key oil-producing regions led to fluctuations in global energy markets and fears the unrest would spread to other major oil exporters in the Gulf. Instability in the region has also exacerbated the ongoing civil war in Syria, contributing to growing US-Russia tensions and a massive refugee crisis in Europe.
- ▶ Because food insecurity can be strongly linked to political instability, the United States should rededicate itself to a program of research, knowledge transfer, and assistance in developing agricultural capacity abroad and support national governments in pursuing strategies that proactively address food price stability in order to decouple food systems from violent unrest. This brief offers proactive policy recommendations, including:
 - Improving our understanding of the relationship between food insecurity and political instability. This field is nascent, and a deeper comprehension of the linkages is important to build a policy platform.

- Leveraging US knowledge to support improvements in strategic grain reserves in key regions.
 - Facilitating commodity hedging by importing governments.
 - Addressing export bans, which often have devastating impact on regional markets.
 - Encouraging the adoption of regional food balance sheets.
 - Helping foreign governments navigate the transition from general food subsidies to targeted, means-tested food assistance.
- Beyond these recommendations, and as previous Chicago Council reports have argued, combatting food insecurity will also require massive reinvestments in agricultural infrastructure, research, and development, as well as the expansion of technical education in the agricultural sector.¹

Box 1

Important terms

Chronic food insecurity is a persistent lack of “sufficient, safe, nutritious food to maintain a healthy and active life” and is generally caused by extreme poverty.² **Acute food insecurity** refers to temporary gaps in access to food and can result from a variety of factors ranging from high prices to disruptions in delivery systems, recessions, natural disasters and extreme weather events, political turmoil, and violent conflict.

Urban protest and rioting refers to demonstrations that may be peaceful or violent, episodic or more sustained, that occur in densely populated areas. While many pass quickly without threatening existing power structures and leaders, other more sustained protest movements have toppled governments (Haiti, Madagascar, Egypt). If harshly repressed, these movements may turn primarily violent, leading to civil conflict or civil war. **Food riots** are instances of violent, collective unrest motivated primarily by a lack of food availability, accessibility, or affordability.³

Civil conflict refers to a violent conflict over the government or territory between at least two parties, one of which is the government, and which results in at least

25 battle-related deaths each year. Examples include the Naxalite rebellion in India and the conflict between the Malian government and rebels based in Azawad, Northern Mali. **Civil war** refers to the same, but with higher associated deaths tolls (more than 1,000 per year). Examples include the Syrian civil war and the ongoing fighting in South Sudan. Despite dramatic recent examples (Iraq, Syria), most civil conflicts and wars are fought in rural areas, where low food prices and price volatility can lead fighters to join rebel armies.⁴

Protracted crises are those environments in which a significant proportion of the population is acutely vulnerable to death, disease, and disruptions of livelihoods over a prolonged period of time. In protracted crises, government institutions are weak and can neither meet the needs of nor respond to threats against the population.⁵ Examples include Somalia for most of the past three decades and the current situation in South Sudan. These are among the hardest places to combat hunger.

Strategic significance means, for present purposes, that instability in a given country or region, or within a particular government, would threaten US economic and security interests in ways that would necessitate a US response.

The relationships between food prices and political instability discussed herein are **causal** in the sense that the cause (food prices) raises the probability of an outcome (political instability). This is known as **probabilistic causality** and is the type most often discussed in the social sciences. Very rarely do complex mass events have a single cause, but by using carefully designed research methodologies, researchers can parse the degree to which a particular cause affected outcomes. That is, food insecurity and food prices are not the only factors that affect political instability, but they do contribute to it.

Yield gaps refer to the difference between local farm productivity, defined as output per hectare, and farm productivity in major exporting countries. For instance, US wheat growers averaged yields of 30,771 hectograms/hectare from 2012 to 2014; yields in Ethiopia, one of Africa’s most important wheat producers, averaged 23,660 over the same time period. Yield gaps—and a failure to close them—are an important cause of Africa’s and Asia’s increasing import dependence.

Exclusionary rule refers to governments that rely on narrow bases of support, often along ethnic and/or religious lines, for maintaining power. Examples include President Assad’s regime in Syria and President al-Bashir’s regime in Sudan.

Introduction

Food security abroad is not just a matter of human security; it is central to US national security for two primary reasons. First, food price–related grievances can act as a catalyst for both nonviolent protest and armed conflict. And second, food insecurity undermines confidence in a government’s ability to ensure its citizens’ basic needs are met. As such, food prices can be causally linked to political instability (see Box 1, “Important terms”).

Beyond the moral call to help those who are hungry, the United States needs an improved understanding of the depth, nature, and circumstances of the linkage between food prices and political instability to protect US economic and security interests. The United States’ dedication to a program of research, knowledge transfer, and foreign assistance will equip countries with the tools, understanding, and expertise to predict and prevent food price–related civil unrest. In addition, this understanding will improve the United States’ ability to anticipate and react to upheaval in regions crucial to US national security. US policymakers have a long bipartisan history of recognizing that feeding the world—and helping the world to feed itself—is a powerful foreign policy tool. While the nature of threats to US interests has changed, the strong link between food insecurity abroad and national security interests at home has not.

More than half of the world’s poorest people work as farmers in low-income countries, and growing their incomes and yields is twice as effective at reducing poverty as investment in other sectors.⁶ US investments in agricultural research and development pro-

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grams such as Feed the Future, a US program to advance food security overseas, have begun to see strong gains in agricultural productivity and reductions in rates of child undernutrition, among other crucial outcomes.⁷ However, with a burgeoning global population expected to surpass 9 billion by 2050, an increasingly volatile climate, and rapid urbanization, the task of

ensuring that our food system is abundant, nutritious, and stable has never been more important. This brief explores one potent outcome of the consequences of high food prices and food insecurity: political instability. Alongside the recommendations suggested, broader development initiatives are central to mitigating protracted and pervasive global food insecurity.

High food prices exacerbate food insecurity, leading to political instability

Recent events demonstrate how high the stakes remain. Following a 20-year period of relative stability in world food markets, extreme price volatility marked the 2000s, particularly the period from 2007 to the present (see Figure 1, “Food prices and food-related protests, 1990–2015”). From 2007 to 2011, high food prices swelled the ranks of the world’s food insecure, with women and children most acutely affected. Since then, the number of food-insecure people has trended downward—thanks in large part to lower prices and increased agriculture investment by governments, the private sector, and nonprofits. However, we can ill afford to be complacent about prospects going forward, as food insecurity is expected to deepen in key regions if the current trajectory holds.

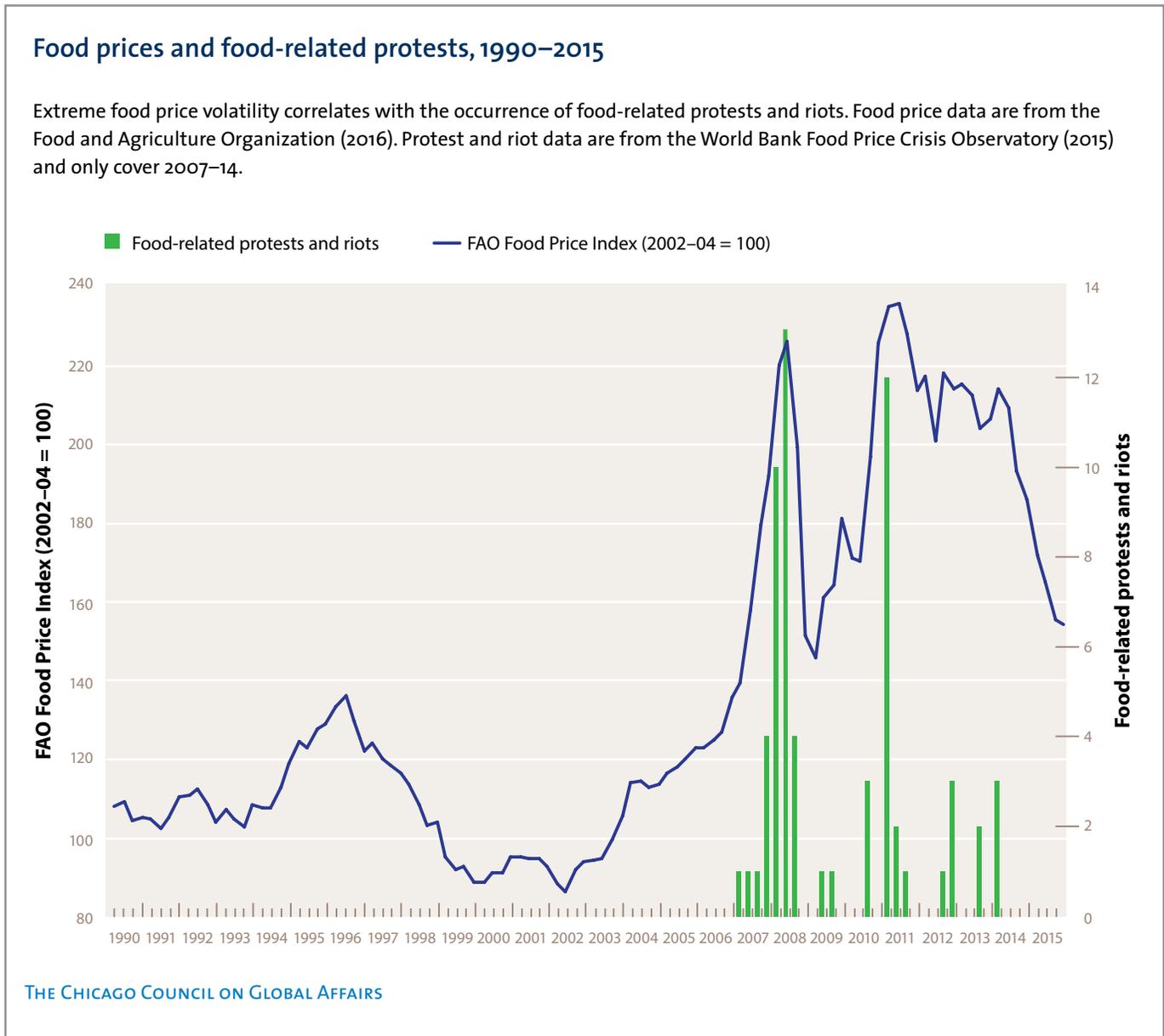
The social and economic costs of these food price spikes were considerable, however the political fallout—as well as the relationship between food and political stability it highlights—was just as damaging. Food price–related protests, also in Figure 1, toppled governments in Haiti and Madagascar in 2007–08.

Box 2

Hunger is not a necessary precondition for instability

Countries affected by food price–related riots are not just those with poor governance or where hunger and food insecurity are prevalent. According to the widely followed Fragile States Index, Egypt, Libya, and Syria were at less risk prior to the 2010–11 food price spike than countries like Colombia and Nigeria—and yet all three were destabilized.⁸ That high food and fuel prices were the catalyst for destabilizing riots in regimes thought to be relatively safe implies that our risk-assessment tools underestimated the potential for food price–related instability.

FIGURE 1



And in 2010–11, food prices and food insecurity were again implicated in the political turmoil and mass uprisings of the Arab Spring. These movements did not all begin violently, but once protesters were mobilized, heavy-handed government responses often led otherwise peaceful protests to become violent and destabilizing.

In both periods, countries of high strategic significance to the United States were affected (see Figure 2, “Food riots 2007–11 and current oil exports”). The

unrest in the Middle East and North Africa roiled energy markets: more than 20 percent of world crude and petroleum exports pass through either the Suez Canal or the Strait of Hormuz, and both were ringed by countries experiencing unrest.⁹ Though oil flows through those channels were not disrupted, unrest in Libya and concern that the Arab Spring would spread to major Gulf oil exporters (Kuwait, Saudi Arabia, and the United Arab Emirates) pushed already high oil prices up by 15 percent in late February and early March 2011.¹⁰

The resulting instability strained Egyptian relations with Israel and necessitated a NATO intervention in Libya. The ongoing civil war in Syria—which can be linked to drought, food insecurity, rapid urbanization, and exclusionary rule (see Box 1, “Important terms”)—is exacting a massive toll and contributing to

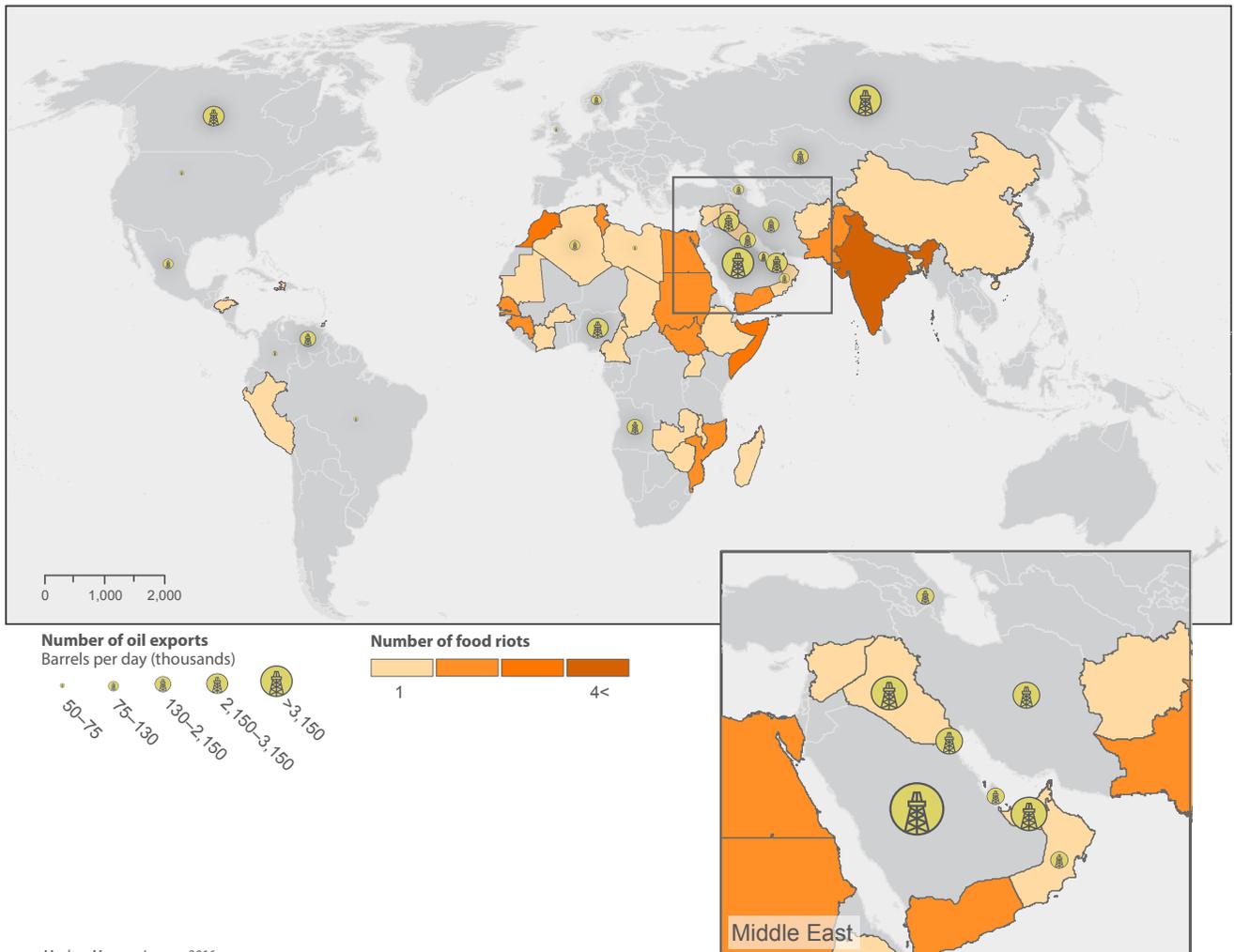
growing tensions with Russia, dissension over refugee resettlement among NATO partners in Europe, and the escalation of a serious threat to the Iraqi government.

Closer to US borders, soaring prices for staples like rice and beans in Haiti led to a week of rioting in 2008 during which five people were killed, with the violence

FIGURE 2

Food riots 2007–11 and current oil exports

Waves of unrest in 2008 and 2011 toppled governments in areas of strategic interest to the United States. Affected countries included those surrounding the Suez Canal and the Strait of Hormuz, through which more than 20 percent of world crude and petroleum exports pass. Protest and riot data are from the World Bank Food Price Crisis Observatory (2015). Oil exports data are from the CIA World Factbook (2016).



Meghan Mooney, January 2016

Sources: World Bank, Food Price Crisis Observatory: Food Riot Radar 2015; CIA World Factbook Crude Oil Exports, 2015.

involving both Haitian police and UN Peacekeepers. Moreover, rising food prices and deteriorating economic prospects there fueled attempts to immigrate to the United States. As food prices shot up almost 20 percent in 2007, US Coast Guard interdictions of Haitians rose 34 percent, straining US Coast Guard resources.¹¹

Thus the food riots of 2007–11 offer very clear examples of how food insecurity and grievances over high prices abroad affect US national security at home and stress national security resources.

The United States must take action against food insecurity abroad

Given that food prices can be strongly linked to political instability, policymakers must recognize the link between food security and US national security interests. And while food prices in general have decreased recently, the United States must not be complacent. Prices are still higher than at any time between 1982 and 2006, and the agriculture investment boom that came after the price spikes is in danger of leveling off. According to the National Intelligence Council,

Box 3

The threat of export bans

Due to the possibility of restrictions on the export of food by major exporting countries, market volatility and curtailed access for importing countries are always one or two political decisions away. Export bans were both a result of and contributor to the 2007–08 and 2010–11 food price spikes, contributing as much as 35 percent to world rice prices and 25 percent to wheat prices during the 2007–08 crisis, with bans by India and Vietnam being particularly damaging.¹² The Arab Spring food-related protests were spurred in part by soaring wheat prices, and Russia's 2010 export ban on a variety of grains contributed to the drastic rise in wheat prices in North Africa.

the continuation and in some cases expansion of the fundamental contributors to food insecurity* suggest that without intervention, food insecurity could rise in several areas of strategic interest to the United States (Africa, the Middle East, and South Asia) during the next 10 years,¹³ even as world food prices are expected to decline over the long term.¹⁴

Over the next 25 years, the whole global food system is expected to experience increased stress as changes in weather patterns and growing urbanization shake up existing food production systems and structural increases in demand. These stresses will have humanitarian as well as political and security consequences. In the short term, emergency food assistance is necessary to minimize the human costs of a particular crisis. But while it is a crucial tool, emergency assistance only addresses symptoms of deeper problems. In order to help disrupt food-related insecurity, the United States should invest in the development of agricultural capacity abroad.

How do we move forward?

Barriers to food security expand beyond mere quantity, but in fact lay in the difference between *access* and *availability*: hunger and malnutrition can coexist with flush markets if some individuals, households, or countries lack sufficient resources (income, safety nets, and appropriately functioning markets) to access sufficient, safe, nutritious food. After a thorough review of the links between food prices, food insecurity, and political instability, this brief offers a range of initial steps to address the challenge.

The effect of the urban-rural divide on food insecurity

Global food prices affect urban residents differently than rural dwellers, especially if the rural community is isolated from well-worn trade routes and transportation networks. As such, chronic food insecurity (see Box 1, “Important terms”) occurs in both urban and rural areas but usually for different reasons.

Rapid urbanization is occurring in food-insecure countries

By 2050, an additional 2.5 billion people will live in urban areas, primarily as city populations grow organ-

* These contributors include but are not limited to slowing agricultural yield growth, gaps in distribution networks and infrastructure, rising populations and unemployment, declining purchasing power, constraints on key inputs, climatic impacts on yields, and rapid urbanization in the developing world.

ically but also as rural residents are pushed by declining prospects in the rural sector and pulled by economic opportunities and access to services. Nearly 90 percent of the increase will be in Africa and Asia, with 1 billion of the rural-to-urban migrants residing in just four countries: China, India, Indonesia, and Nigeria.¹⁵

At a rate matched only by Latin America in the 1950s and '60s, Africa and Asia are increasingly following Europe, the Americas, and Oceania in becoming predominantly urban societies.¹⁶ Africa's population is projected to grow from 40 percent urban today to 56 percent in 2050, and the urban population will grow from 48 percent to 64 percent in Asia.¹⁷ These two continents are home to more than 90 percent of the world's food-insecure population and were the site of 28 of the 29 food riots that occurred during the 2007–08 and 2010–11 global food price spikes (as identified by a prominent New England Complex Systems study).¹⁸ The most rapid urbanization will occur in Sub-Saharan Africa and Asia, where undernourishment is prevalent. In addition, rapid urbanization is also occurring in poorer and conflict-affected countries of the Middle East and Central Asia such as Afghanistan, Pakistan, and Yemen (see Figure 3, "Urbanization and undernourishment over the near term"). Having left the farm for other rural or urban employment opportunities, these people will be newly dependent on markets rather than farm production. For urban dwellers in particular, this change will mean greater reliance on a food system that is globally connected.

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Though urban populations in the developing world are typically those most directly exposed to global prices (and therefore price volatility), they are also more food-secure than rural populations.¹⁹ This is due to urban centers generally offering higher wages and better access to social services, as well as agricultural policy in developing countries tending to be more pro-consumer than pro-producer. Farmers in the

developed world typically enjoy complex systems of price supports and subsidies. But in the developing world, governments often pay producers below-market prices for their products in an attempt to cater to the interests of urban populations, who demand lower prices.²⁰

Developing economies are increasingly integrated and dependent on global markets

Over the past several decades, Africa and Asia have experienced a dramatic shift in their position in global markets. In the 1960s, African and Asian countries exported roughly as much food as they imported. By the 2010s, decades of population growth, mismanagement, and investment-curtailing policies made these regions much more dependent on imports. African countries ran food trade deficits of USD \$30.1 billion; Asia's food trade deficit ballooned to USD \$96.6 billion, doubling between 2006 and 2011.²¹ The 20 most populous countries in Africa—a continent where close to two-thirds of the population currently works in the rural sector—are all net grain importers, with some countries, especially in arid North Africa, running massive grain deficits.²² The same story holds for Asia, where roughly 50 percent of the population is still in rural areas. While some of the most populous countries (Thailand, Vietnam) are large rice exporters, the region as a whole is import-dependent.

Though only about 20 percent of world food production is traded on international markets, prices for the remaining 80 percent—which circulates in local, regional, and national markets—increasingly follow world prices.²³ This is particularly the case for coastal areas, markets benefiting from modern transportation networks, and import-dependent countries. Therefore, the strongest and quickest pass-throughs—international price changes that filter through to local consumers—are in Central America, the Middle East, North Africa, and the land-constrained Caribbean.²⁴

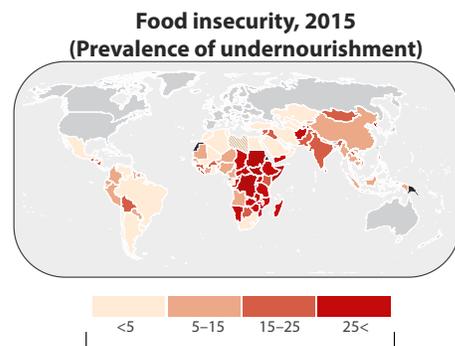
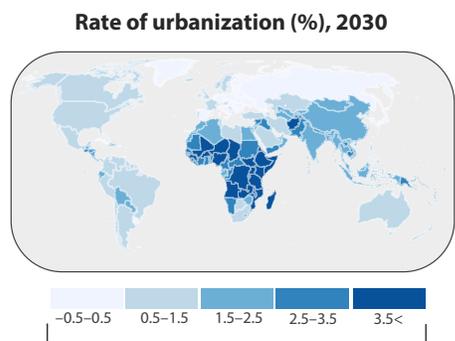
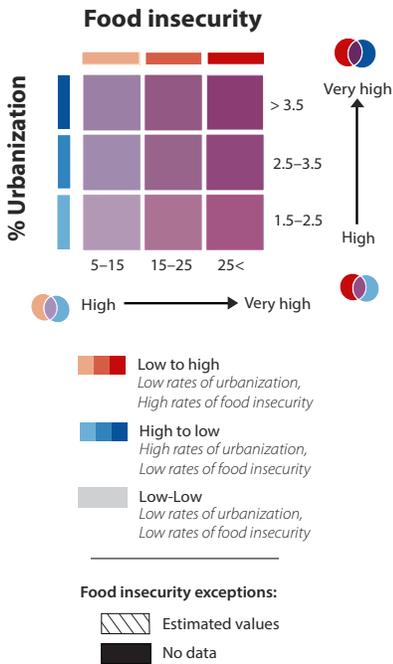
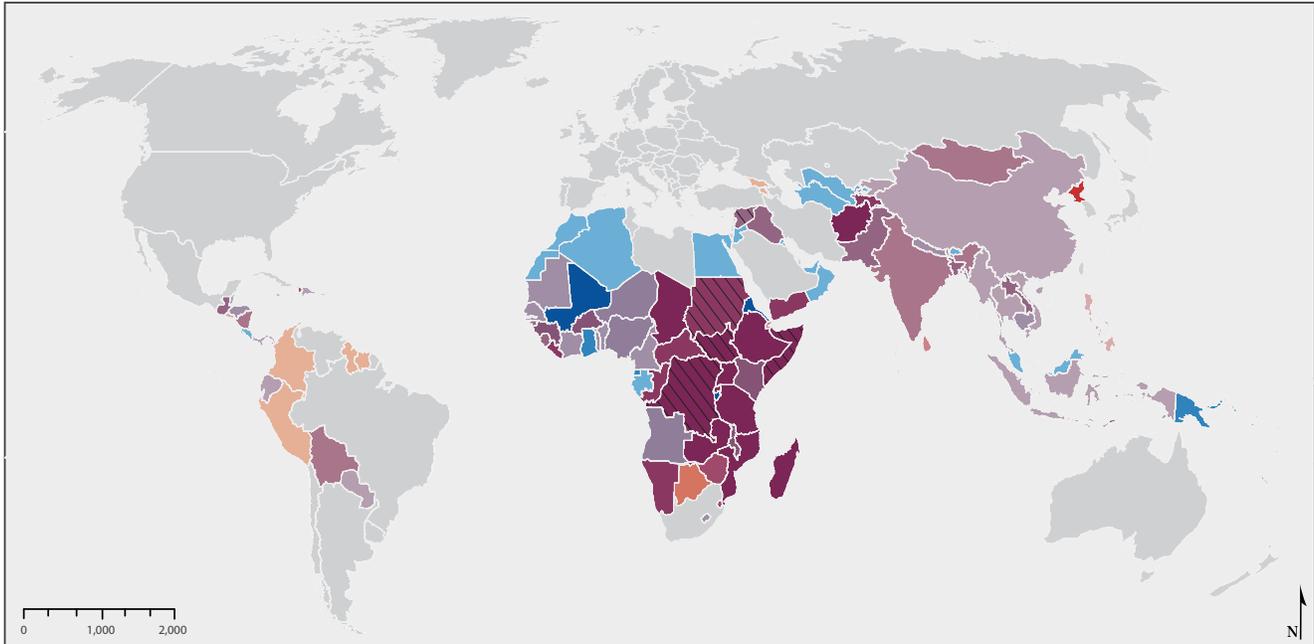
Rural areas are not necessarily insulated from global food prices

Prices in more remote markets, such as those far from ports and major roadways, are less aligned with global prices and thus relatively more isolated from price spikes and volatility. For example, many African economies are less affected by global prices because

FIGURE 3

Urbanization and undernourishment over the near term

By 2050, an additional 2.5 billion people will live in urban areas. In the next 15 years, urbanization will occur fastest in Sub-Saharan Africa and Asia, the regions with the highest prevalence of chronic undernourishment. Urbanization data are from UN DESA (2016). Undernourishment data are from the FAO (2015).



Meghan Mooney, January 2016

Sources: FAO Food Security Indicators, Prevalence of Undernourishment, 2015; UN ESA World Urbanization Prospects, 2014.

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households can switch to local staples like cassava and millet when prices for imported foods—like rice and wheat—climb.²⁵

But while their relative isolation currently dampens the local effects of global price shocks, it also makes these countries more vulnerable when local harvests fail. For example, a recent US Famine Early Warning System Network (FEWS NET) report on South Sudan—a landlocked country marred by civil conflict and one of the world’s least-developed road networks—notes food prices and availability are highly varied across the country due to gaps in transportation infrastructure and seasonal rainfall shortages.²⁶

Furthermore, given rapid urbanization, problems with market access, large post-harvest losses, and stubborn yield gaps (see Box 1, “Important terms”) in the region, researchers expect these African countries to become increasingly import-dependent. Large investments in rural infrastructure such as farm-to-market roads are needed to address rural poverty, a major cause of food insecurity; lessen the acute impacts of local crop failures, be they caused by drought, disease, or political instability; and enhance the resilience of rural livelihoods.

When, where, and why food prices lead to political instability

Research shows that food prices have different effects on political instability that roughly break down along the urban-rural divide. In urban areas, high food prices often lead to political instability, though national wealth, political institutions, and policy choices mediate this relationship. In rural areas, low food prices lead to political instability, though in general rural unrest is less likely to be an existential threat to incumbent governments. This section explores these relationships in detail.

The relationship between food insecurity and political stability is seemingly rather straightforward. Roughly two-thirds of the world’s chronically food insecure live in seven countries: Bangladesh, China, the Democratic Republic of Congo, Ethiopia, India, Indonesia, and Pakistan, of which all but China have significant histories of civil strife. This observed relationship is due in part to the fact that both chronic food insecurity and civil conflict are symptoms of poverty and because conflict itself is a significant cause of food insecurity and higher food prices.

The impact of food insecurity on the Syrian civil war and the global response

In Syria, population displacement, destruction of cropland and processing centers, large increases in the cost (and risk) of shipping food, and deliberate food denial (or “starvation siege” tactics) have caused food prices to spike and availability to plummet during that country’s civil war. By the end of 2015, wheat flour and rice prices in battle-ravaged Eastern Ghouta, Syria, had increased to 11 to 15 times pre-war prices and were several times higher than prices in nearby and comparatively stable Damascus.

Despite a decrease in global food prices from historic highs, a mixture of logistical barriers and donor fatigue is threatening the food security of those who have been lucky enough to escape the fight. In September of 2015, budget shortfalls forced the World Food Programme to halve its assistance to Syrian refugees in Jordan, leaving hundreds of thousands of displaced persons acutely food insecure and scrambling for sustenance. The situation was sufficiently grim that some Syrians were actually returning to Syria—to an active conflict zone—in search of food.²⁷ By late October, the WFP was able to resume operations. Budget restraints, however, meant that 15 percent of the identified need was not being met, and the crisis only seems to deepen with time.²⁸ As we read about every day in the news, large numbers of refugees are traveling to Europe in search of shelter, safety, and sustenance. This migration creates significant burdens for many European countries, including the United States’ strategic partners in the region. Emergency humanitarian assistance, including emergency food aid, is necessary in these times of acute crisis.

Food insecurity promotes rebel recruitment

Food insecurity and higher food prices may, in some cases, be consequences of civil conflict rather than causes thereof, but food prices and food insecurity can play a significant role in rebel recruitment, especially in the primarily agricultural societies in which the majority of civil conflicts take place.²⁹ Survey evidence from wars in Sierra Leone and Rwanda show that many ex-combatants were farmers, and the promise of food was a common enticement used to recruit rebel soldiers.³⁰ Additionally, research shows that as global food prices decline, civil conflict becomes more intense in food-producing regions of developing coun-

tries. Low food prices lead to lower wages in the rural sector, changing the cost-benefit analysis of the mostly young men who decide to take up arms in search of safety and better economic prospects.³¹

The link between food insecurity and rebel recruitment is evident in Syria, where food insecurity is one factor pushing young people toward the Islamic State. WFP Executive Director Ertharin Cousin has alleged that cuts in food aid for Syrian refugees are making young men in neighboring Lebanon “prime targets” for recruitment by the Islamic State, and young men in areas under Islamic State control often join in order to meet basic needs like food, shelter, and protection.³²

Urban food insecurity is more likely to trigger protests and riots

In urban areas, high food prices and reduced access often trigger protests and rioting. Food prices are the quintessential “kitchen table issue,” important even to those with no broader interest in politics: you don’t need to read the papers regularly to know the price of eggs. This is especially true in lower-income countries, where food-related expenditures often account for 50 percent of household income. In the United States, the share is closer to 12–13 percent.³³ Thus in lower- and

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middle-income countries, high food prices—like those of 2007–08 and 2010–11—have triggered urban protest and rioting.³⁴ This relationship is not merely correlational—that protests and riots co-occur with high food prices—but causal, as researchers can design studies that can parse the difference between the two. In particular, recent studies by Rabah Arezki and Markus Bruckner,³⁵ Marc Bellemare,³⁶ and Todd Smith³⁷ have provided strong evidence for interpreting the relationship between food prices and political unrest causally, in the sense that higher food prices increase the probability that unrest will occur (see *probabilistic causation* in Box 1, “Important terms”). This effect is found both in global and regional (Africa) samples.

However, it is usually not the most food-insecure that protest or riot but rather those with comparative-

ly better access to food, particularly the middle class. This is partly because of the political clout of urban populations, which can mobilize more easily than rural populations to threaten regimes, and partly because government policies are often designed to shield urban, middle-class consumers from high prices, so rising prices lead to dissatisfaction with the government when prices do rise. Middle-class participation is thus less about hunger and more about lessened purchasing power. The involvement of the middle class is important because they are more likely to have ties to people in government and the military—and are therefore in a stronger position to push for change. Research shows that protest movements are most successful in toppling existing governments when the protesters convince members of the government and the military to come to their side.³⁸

Protests in autocratic countries are more destabilizing than in democratic countries

Political institutions affect the relationship between food prices and protest in two ways. The first relates to the opportunities for civil society to organize and mobilize. In autocratic political systems, even high levels of grievance are less likely to translate into protests and riots due to fears of violent suppression. For example, famine in highly autocratic North Korea may have claimed as many as a million lives during the first half of the 1990s, but no rioting or demonstrations occurred in Pyongyang.³⁹ The cost of protest was simply too high. Meanwhile, food-related protests are routine in more open systems such as India, where comparatively small price movements in the presence of ample supplies regularly bring trade unions into the streets. In India, food-related protests are normal politics. Thus, for both reasons, high food prices are more likely to result in protest and rioting in democratic countries than in autocratic ones.⁴⁰ When such protests do arise in autocratic nations, however, they are likely to be highly destabilizing. In autocracies like Egypt, Libya, and Syria, protests often signal a break-

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down of governmental control. The events of the Arab Spring were truly destabilizing to world markets and US strategic interests precisely because they occurred in places where protest was least expected.

The second way in which politics affect the relationship between food prices and protest is the extent to which governments shield urban consumers from high global prices and price spikes. Governments in developing countries often subsidize staple food purchases like grains and milk, especially for urban dwellers. Research shows that autocratic regimes—like many in the Middle East and North Africa—are more likely to shield urban consumers with subsidies.⁴¹ Food policy in more open, democratic regimes is relatively more balanced, meaning that urban dwellers benefit less from programs designed to suppress and stabilize the prices they pay for food. In these more open regimes, sharp increases in global food prices are less likely to be cushioned by domestic policy.

The Arab Spring highlights some of the risks autocratic leaders face when attempting to insulate urban consumers from global prices. Consumer subsidies have long been part of an “authoritarian bargain” between the state and citizens in the Middle East and North Africa, and attempts to withdraw them have often been met with protest; for example, Egypt’s bread intifada, which erupted over an attempt to reform food subsidies, killed 800 in 1977.⁴²

These subsidies encourage citizens to evaluate their governments in terms of their ability to maintain

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low consumer prices. However, given these countries’ dependence on food imports, the governments usually cannot control domestic prices without wreaking havoc on government budgets. For example, Egyptian government food and fuel subsidies amounted to 1.4 percent of GDP in 2002. By 2011, they accounted for more than 8 percent of GDP—a huge amount, over twice the share the United States commits to military spending, and which proved fiscally unsustainable.⁴³ Eventually, some of the price increase had to be passed on to consumers, contributing to the griev-

ances that brought people into the streets from Cairo to Alexandria.

Local governments’ political will is needed to prevent food-related riots

While food insecurity and food-related grievances are clear contributors to conflict, neither hunger nor conflict occur in a vacuum. Political, economic, and social landscapes affect the degree to which food insecurity, and grievances more generally, spark conflict and result in protracted crises. The difference in outcomes reflects key differences in political will to address the challenges.

In general, conflict is more likely to break out in poorer countries characterized by large horizontal inequalities—that is, inequalities of political power and economic resources that break down along ethnic and religious lines. For example, some argue the Syrian civil war began with several years of historic droughts that sent rural dwellers migrating into the cities by the hundreds of thousands.⁴⁴ President Assad’s government in Syria has sustained itself via exclusionary rule based on ethnic and religious lines, and addressing the concerns of rural dwellers hit hard by drought was not considered key to maintaining political control.⁴⁵ But similarly dire droughts in South Africa in the 1990s did not lead to widespread famine, conflict, or even large-scale population displacement. The South African droughts came after that country’s transition from apartheid, and its elected leaders responded to affected populations quickly, devoting significant resources to hunger alleviation and income replacement.⁴⁶

Where might food insecurity cause unrest next?

Looking forward, the contextual factors suggest some of the biggest risks of food price-related urban unrest will be in Sub-Saharan Africa, a region characterized by comparatively low levels of economic development; ethnically divided societies; and more open, democratic political institutions. The recently released

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National Intelligence Council report on food security comes to a similar conclusion, noting that, “Most countries in Sub-Saharan Africa are at risk of worsening food insecurity, largely because of political instability or low-level conflict, population growth, and environmental degradation.”⁴⁷ Our analysis identifies 12 countries that combine higher-than-average rates of urbanization with greater responsiveness of urban unrest to food prices: Angola, Benin, Burkina Faso, Chad, Ethiopia, Gambia, Madagascar, Mali, Mozambique, Rwanda, Tanzania, and Uganda.⁴⁸ Several of these countries have recent or ongoing experience with violent conflict and are strategically significant to the United States.

The 12 countries at highest risk of food price–related urban unrest are Angola, Benin, Burkina Faso, Chad, Ethiopia, Gambia, Madagascar, Mali, Mozambique, Rwanda, Tanzania, and Uganda.

What should we do?

Ultimately, the challenge of feeding the future will require massive reinvestment in food production systems around the world. As another Chicago Council brief detailed last year, the United States is well positioned to lead this fight.⁴⁹

However, even if those programs are successful, recurrent food crises and price spikes are likely to be with us for the foreseeable future. As this brief makes clear, these crises are a matter of US national security. The US intelligence community is well aware of the security challenges stemming from food insecurity and rapid urbanization, and it has incorporated these factors into international risk assessments.⁵⁰ Knowing where hot spots may emerge in the future is useful, but the United States should take proactive steps to address price spikes by keeping food prices more stable and decoupling food systems from unrest and violence. Some key elements would include:

- ▶ **Improving our understanding of the relationship between food insecurity and political instability.**

While this publication highlights the clear linkage between food price–related riots and state-wide instability in certain circumstances such as the Arab Spring, more research must be done to improve our understanding of this relationship.

This research should elaborate on the set of conditions necessary for food-price riots to exponentially snowball into a destabilizing force. For the United States, understanding this complex relationship is critical to ensuring the stability of regions of strategic importance and for the long-term development of resilient food systems. This report has also pointed to additional linkages between food insecurity and national security, including the relationship between food insecurity in rural areas and recruitment strategies by militants and the risk of increased, mass migration related to food insecurity. This and other issues should be explored in greater depth, noting the factors that lead to these escalated security threats.

Congress should request that the intelligence community release an annual report looking at the intimate connection between food security and national security. The report should expand upon the inter-agency assessment of global food security released periodically by the Office of the Director of National Intelligence.

- ▶ **Leveraging US knowledge to support improvements in strategic grain reserves in key regions.** Physical buffer stocks are one tool commonly used by many governments to deploy emergency supplies of food commodities during periods of food deficit in order to maintain price stability. While this practice is common, smart management and use of strategic grain reserves is a technical task that requires expertise. Releasing food stocks, or even suggesting stocks will be released, can burst food-price bubbles. For example, as rice prices spiraled in 2008, the simple announcement that Japan might release stockpiled US rice brought down prices 14 percent in a single week.⁵¹ Since 2008, the Association of Southeast Asian Nations (ASEAN) Plus Three (China, Japan, and Korea) have reinvested in the East Asia Emergency Rice Reserve, a regional buffer stock, but other highly import-dependent regions such as the Middle East and North Africa do not have regional grain banks that can moderate price spikes. However, poorly managed stocks can contribute to damaging price distortions and large losses of stored grain. Improved electronic management, infrastructure, and technical assistance could be helpful to countries who keep reserves.

Buffer stocks are not a cure-all and are certainly not a long-term solution to managing global

prices, but small, well-managed regional buffer stocks could serve an important role when, as in 2008, markets get overheated and prices spiral.

- ▶ **Facilitating commodity hedging by importing governments.** Hedging is a useful tool for both producers and purchasers to mitigate risk stemming from market volatility. The process involves mitigating risk in one market (the spot market for food commodities, where trades are for immediate delivery) by taking a different position in another (in this case, the futures markets). Two of the most commonly used mechanisms for hedging against price uncertainty are future contracts and call options. Futures contracts allow hedgers to lock in prices for future deliveries of food to protect against price increases. Call options are similar but come with no obligation to purchase at the agreed price if spot prices are more favorable to the importing government. While both these tools can significantly reduce government uncertainty about food prices and provide insurance against food spikes, these markets are highly complex and many developing countries lack technical expertise on the use of these policy levers, which limits their usefulness.

The United States, and Chicago in particular, has a great deal of experience with mercantile exchanges and commodities boards that help consumers and producers hedge against future price volatility and price spikes. This is an area where the United States should dedicate resources to developing country capacity and knowledge, both in government and in the private sector.

- ▶ **Addressing export bans.** Export bans are a common tool by which food-exporting country governments seek to shield local consumers from high prices in global markets. These policies push prices even higher in times of crisis and deter investment in the agricultural sector of export-banning countries, where farmers do not get accurate market signals. Article XI of the General Agreement on Tariffs and Trade (GATT) allows for temporary export restric-

tions in order to “prevent or relieve critical shortages of food-stuffs or other products essential to the exporting contracting party.” GATT generally requires WTO members to consult with and assess the potential effects of a ban on food-importing members, though this restriction only applies to developing countries that are net exporters of the commodity being restricted. This policy is toothless, as the disciplines are extremely vague.

However, the United States and its partners integrated better reporting mechanisms into the Trans-Pacific Partnership (TPP), which should help importing countries react to market changes. Though it falls short of the best option—doing away with export bans entirely—a policy to address export bans is a useful step in the right direction and should become a standard component of future US trade agreements.

- ▶ **Encouraging the adoption of regional food balance sheets.** Regional food balance sheets can help national leaders set trade policies that reflect and account for both national and regional food availability during times of crisis. Food balance sheets are a comprehensive accounting of a country or region’s food supply. They show the food items available for consumption as well as where they were produced, used, and imported or exported. Such practices ensure improved flow of agricultural goods across regional borders, enable small farmers to participate in markets beyond their national borders, and improve emergency relief response efforts.

When establishing trade policies, the United States should encourage national government leaders to adopt and rely on regional food balance sheets. The United States should also encourage data-gathering organizations like the Food and Agriculture Organization of the United Nations (FAO) to release this data in quasi-real time.

- ▶ **Helping foreign governments navigate the transition from general food subsidies to targeted, means-tested food assistance.** Many developing and middle-income country governments address food insecurity through general consumer subsidies rather than creating safety nets featuring targeted transfers to low-income households or individuals. These subsidies are expensive and highly wasteful, with large portions of the benefits captured by middle-class households that are not in dire straits.

The challenge of feeding the future will require massive reinvestment in food production systems—and the United States is well positioned to lead.

Targeted transfers are better at addressing hunger and malnutrition. But as the residual impact of Egypt's efforts to insulate consumers makes clear, subsidies are related to urban instability in complex ways. As such, the removal of general subsidies must be carefully managed.

The recommendations suggested in this brief will assist developing and food-insecure countries in enacting proactive policies that limit the impact of food price spikes while at the same time giving those countries the appropriate tools and knowledge to prevent and predict future shocks. While it is crucial to address acute shocks and provide avenues for predictive forecasting of hot spots that have strategic interests for the United States, this alone will not create sustainable, long-term economic development for food-insecure countries. The best practices illustrated above should be coupled with comprehensive agricultural research and development policies.

Conclusion

While there is much more that could be known about the complex interrelationships between food insecurity and political instability, the current state of knowledge is more than adequate to communicate a basic truth: The consequences of food insecurity are dire for both human security and US national security. Though the challenge is great, US policymakers can play a constructive role in making progress on a range of related goals, including addressing hunger and breaking the link between food prices, food insecurity, and conflict.

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work on the subject has been supported by the National Science Foundation and the US Department of Defense Minerva Initiative and has been widely cited in policy circles, including by the Intergovernmental Panel on Climate Change's *Climate Change 2014* report, the *Stern Review on the Economics of Climate Change*, and the G7's *A New Climate for Peace*.

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