Famine: a renewed threat in the 21st century?

by Daniel Maxwell

A camp on the outskirts of Dollow, Jubaland, Somalia, in April 2022, where people displaced by the ongoing drought have gathered in search of aid. Somalia has suffered five failed rainy seasons in a row, making this the worst drought in decades, and 6 million people are in crisis levels of food insecurity. The problems are being compounded by the rising costs of food prices because of the Ukraine war. (SALLY HAYDEN/GETTY IMAGES)

In July 2011, the United Nations declared a famine in Somalia, which eventually killed an estimated 258,000 people. Eleven years later, in mid-2022, Somalia faces a nearly identical set of circumstances—in terms of both causes and consequences—regarding famine. And in 2022, Somalia isn't the only country to face these circumstances.

Famine has long been a scourge to humanity. According to South African economist Stephen Devereux, one of the foremost global experts on the topic, famine killed more than 70 million people during the 20th century—nearly as many as died in World War II. But after the 1960s, both the frequency and the magnitude of famine began to decline. Ethiopia (as well as other parts of northeastern Africa) suffered a major famine in the mid-1980s, shaping the understanding and image of famine for a whole generation. But since then, only relatively limited—and increasingly rare—instances of famine occurred, until Somalia in 2011. Many observers thought that famine had been overcome: technological advances in food production and distribution, economic growth, and a much-expanded global humanitarian response capacity had combined to finally make the inevitability of famine a thing

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South Sudanese refugees try to repair their hut in flooded waters from the White Nile at a refugee camp that was inundated after heavy rain near al-Qanaa in southern Sudan, on September 14, 2021. (ASHRAF SHAZLY/AFP VIA GETTY IMAGES)

of the past. Somalia 2011 was a harsh awakening. It was not clear at the time if it was a one-off occurrence resulting from a freak combination of factors or if it was the harbinger of changes to come in the context of massive shifts in the global food system and climate.

By 2017, the answer was clear, with two more famines declared (in northeastern Nigeria and South Sudan) and several "near misses" including a subsequent crisis in Somalia and, perhaps even more worryingly, a severe state of acute food insecurity in Yemen. Even if it did not quite reach the level of famine, a huge proportion of the population was affected—mostly from the effects of a brutal civil war being fought there.

With the onset of the global Covid-19 pandemic in 2020 and its knock-on effects on economies, employment, supply chains, and mobility, many observers feared the worst in terms of acute food insecurity, and indeed the World Food Program warned of "biblical famine." In actual fact, while the number of hungry people globally increased substantially, no instance of actual famine was found, but one suspected case did emerge late in the year—again in South Sudan—but it was only peripherally related to the Covid pandemic, being driven instead by more localized factors including violent conflict and flooding associated with extreme weather events. But the effects of the Covid pandemic have proven to be long-lasting, and the global numbers of acutely food insecure people increased throughout 2021.

By 2022, the list of famine-risk countries had grown to six including Somalia once again, neighboring Ethiopia and South Sudan, as well as Yemen, Afghanistan, Nigeria. Other parts of the Sahel also faced the risk of famine in 2022, and the number of acutely food-insecure people reached its highest level in recorded post-World War history, and perhaps its highest level ever. By September, 2022, famine had been projected for parts of Somalia unless levels of humanitarian assistance were ramped up significantly, but no famine had been definitively declared yet.

Recognizing the increasing risk of these crises, the world faces a great decision: how can famines be prevented in the future? But several questions need to be addressed first: What is famine? What causes it, and why is it, once again, seemingly a major threat? Are the current drivers or causes of famine idiosyncratic and coincidental or long-term trends that signal the return of famine as a cause of global concern? These are all highly relevant questions in 2022.

Definition

"Famine" is a powerful word that elicits an emotive response in ways that "hunger," "food insecurity," or "humanitarian emergency" do not. More definitions of famine exist than can be accounted for in one paragraph, but very broadly, "famines" can be defined as extreme events in which a large number of people in a given population or geographic area suffer inadequate access to food, usually because their livelihoods have been damaged or destroyed. This leads to widespread malnutrition, ill health, and death. In most famines, deaths (politely referred to in contemporary discourse as "excess mortality") are frequently caused by infectious disease rather than outright starvation, in large part because severe malnutrition compromises human immune systems, making people—and especially young children who frequently comprise the majority of famine deaths—much more susceptible to diseases like measles or even common diarrhea. Over half the deaths in Somalia in 2011 were children under the age of five years.

Thus, famine is the confluence of a complex set of interactions that include an extreme lack of access to adequate food but manifested in acute malnutrition, ill health, and ultimately, excess mortality. While most contemporary definitions of famine include death or excess mortality, not all do—especially among populations actually at risk of famine. Affected populations may worry about destitution and the destructions of their livelihoods as much as they worry about hunger or death.

Researchers and humanitarians have long tried to precisely define famine—and the definition has long revolved around malnutrition and mortality, even though the proximate driver was recognized to be hunger. In the early 2000s, attempts to classify acute food insecurity as something specific and measurable (as opposed to

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"hunger," which had a political meaning but otherwise referred to a physical sensation that was impossible to quantify) resulted in an index or scale known at the Integrated Food Security Phase Classification or IPC. IPC was invented in Somalia to demonstrate graphically (to the warlords who ruled their own areas in the country at the time) why certain areas were receiving more food assistance than others. IPC ingeniously linked several measurable human welfare outcomes—including but not limited to food insecurity, malnutrition, and mortality—into an index of severity classifications (or "phases") which could then be mapped by geographic area, with each "phase" given an increasingly alarming color on the map. IPC analysis is now regularly conducted in over 50 countries in Africa, Asia, the Middle East, and the Latin America/Caribbean region.

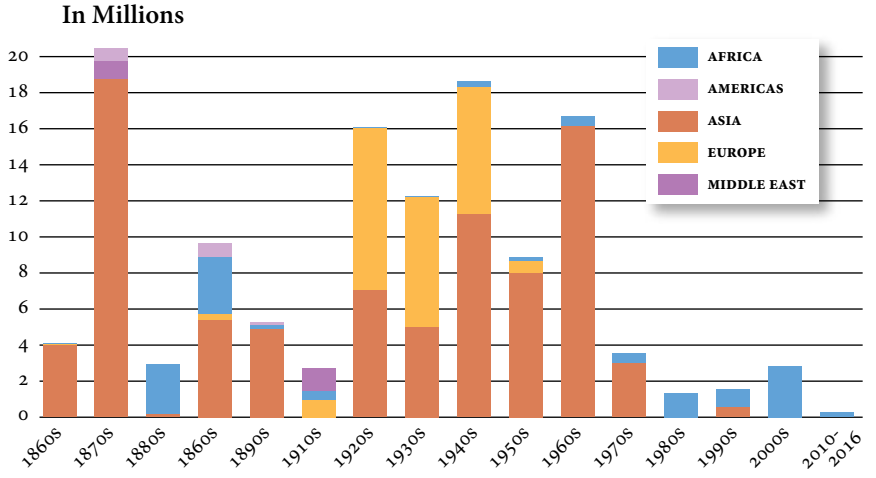
Although the original intent of IPC was to analyze and map acute food insecurity more generally, it's definition of "Phase 5"—the most extreme end of the scale—has become the default technical definition of famine. Famine is defined by IPC as a combination of very poor human welfare outcomes in a given population: at least 20% of a given population with effectively no access to food (and all coping mechanisms exhausted); at least 30% of children under five suffering acute malnutrition (meaning a very low weight for the height of the child—the most common manifestation of malnutrition in a crisis); and a crude death rate of at least 2 persons dying per day for every 10,000 people in that population. Two deaths per day per ten thousand population might not sound like a lot of mortality, but it is eight to ten times the "baseline mortality" of the death rate under "normal" circumstances in most countries, and five to six time the "normal" death rate even in countries with extremely challenging public health limitations.

Recent experience has shown that frequently, not all these thresholds are likely to be breached at once, and it is actually extremely difficult to get data on all these indicators in famine conditions, in part because almost all contemporary famine or near-famine circumstances take place in wars or violent conflict, making it difficult to access affected populations, much less to carry out a statistically representative assessment of their conditions. Nevertheless, this is the standard definition of famine that is accepted today. It is worth pointing out that these indicators are all about current status and consist of rates (mortality) or prevalence (food insecurity and malnutrition). Historically, famines were often judged by total mortality, not by current status rates or prevalence.

This current technical definition of famine raises several concerns. First, many aspects of famine are not included in the technical definition: destitution, distress migration, breakdown of social institutions, and many others—the IPC definition reflects only current-status indicators focused on things that can be objectively measured and which have clear thresholds. But that may oversimplify famine.

Second, although the current definition includes a minimum population size (at least 10,000 people), it is based almost exclusively on the current severity of the crisis. But crises at a slightly lower level of severity than famine, but which affect a greater number of people or which last longer (or both) can result in much greater loss of human life and livelihoods: loss of life can be heavy in IPC Phase 4, even if no "famine" is ever declared. This is precisely what happened in South Sudan with the limited famine that occurred there in 2017. While some 380,000 people died as a result of the crisis in in South Sudan between 2014 and 2018, only about one percent of the excess mortality in that crisis actually occurred during the "famine" as currently defined. In Somalia in 2011, the deaths of 258,000 human beings were attributed to the famine, but an estimated 43% of those deaths occurred before famine criteria were met and the actual famine was declared—and much of the remaining mortality occurred outside the areas declared to be in famine.

Fig. 1: Famine Mortality by Region and Decade: 1870–2010



SOURCE: Our World in Data

Lucidity Information Design, LLC

History

Famines have happened throughout human history, and indeed have often shaped history. The great potato famine in Ireland in the mid 1840s was so named because a potato blight caused the destruction of the subsistence crop on which Irish peasants relied, even though the more fundamental causes had to do with the nature of land tenure under British colonial rule. This led to massive displacement and flight from the country. Famine death and displacement not only depopulated Ireland—the country only recently regained its pre-famine population level,

China: A team of workers labouring in a stone quarry in heavy rain during the "Great Leap Forward" (1959–61). (PICTURES FROM HISTORY/GETTY IMAGES)

more than 150 years later—it also significantly reshaped the population of cities in the eastern United States, most notably Boston and New York.

Given the prominence of the Ethiopian famine in the mid 1980s in shaping the views of the current generation regarding famine, many people believe famine has primarily occurred in Africa, but this is untrue. By far the biggest loss of life in famines in the past 150 years has been in Asia and Europe as depicted in Figure 1 (which does not include the Irish famine). Although often considered to be the result of crop failure and climatic hazards, famine has long been associated with either wars and violent conflict or totalitarian rule (or both). The Asian famines in the 1870s were triggered by droughts that we now understand to be a function of the El Niño Southern Oscillation or ENSO effect. The impacts of these droughts were significantly worsened by colonial policies and mismanagement of the consequences of the droughts, resulting in widespread loss of life. The aftermath of World War I and the Russian revolution saw widespread starvation in Europe, and again in the lead up to and during World War II. Stalinist policies of collectivization and attempts to erase a Ukrainian identity led to one of the worst famines of the 20th century—known as the Holodomor, which literally means "death by hunger" or "killing by starvation" in the Ukrainian language.

An elderly woman holds flowers and candles to commemorate those who perished as a result of the Holodomor, the plague of hunger, during a memorial ceremony in Ukrainian city of Donetsk on November 26, 2010. (ALEXANDER KHUDOTEPLY/AFP VIA GETTY IMAGES)

In terms of loss of human life however, the most serious famine of the 20th century was the "Great Leap Forward" famine in China, which started in the late 1950s and lasted, most experts agree, until about 1962 (thus it is depicted in Figure 1 across two different decades—had it all occurred in the same decade, the figure per decade as Figure 1 depicts them would have been twice as large!). Widespread drought in the 1970s in the Sahel region of West Africa led to famine deaths there, as did the Biafran war or the Nigerian civil war in the late 1960s up to 1970, though famine death totals in the 1960s were still predominantly in Asia.

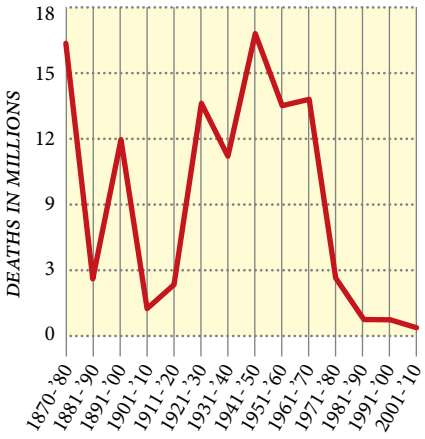
With the decline in totalitarian government in the latter decades of the 20th century, the incidence of famine also declined as did the number of people dying from famine—but one final major famine did occur in North Korea in the mid 1990s. Given the impossibility of accessing affected populations in North Korea, the death toll is disputed—some estimates put it much higher than the estimate depicted in Figure 1. The early part of the 21st century saw almost no famine (though high mortality in places like the Democratic Republic of the Congo, which was at least partially related to hunger and malnutrition, and Darfur).

Causes

A number of explanations have been put forward for what causes famines.

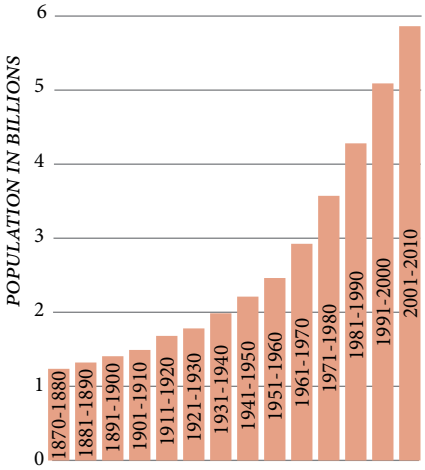
Population growth. The cause of famine was long thought to be food shortages—interpreted as production failures or shortfalls—and population growth. The thinking of Thomas Malthus in 1809 long dominated most thinking and policy about famine. He postulated that population growth will always outpace technological advances in food production, meaning that in the medium to long term, some people were bound to starve to death—hence famines. Even as recently as the 1974 world food crisis, that kind of thinking tended to dominate both famine analysis and public policy. A lot of emphasis was put on the "population explosion" as the cause of the crisis. "There are too many mouths to feed!" screamed a September 1974 headline at the height of that global crisis.

Fig. 2a: Famine Deaths, 1870–2010



SOURCE: World Peace Foundation

Fig. 2b: Population Growth, 1870–2010



SOURCE: World Peace Foundation

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The work of Alex de Waal (2018) demonstrates that the lack of relationship between population growth and famine in recent history. Figure 2 takes the same global data as Figure 1 but superimposes it over global population growth. While there might have been some correlation between population growth and famine deaths at one point in time, that relationship clearly falls apart over the past 60 years, and there is no linear relationship at all over the past 150 years.

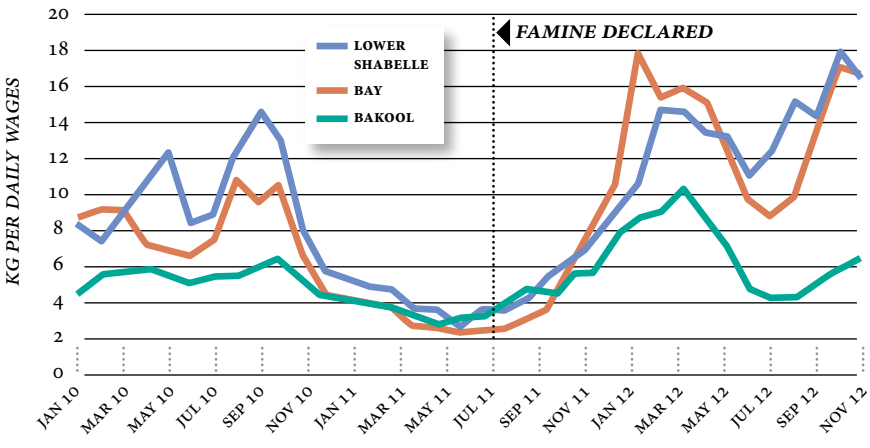
Entitlement failures. It wasn't until the publication of Amartya Sen's famous book, *Poverty and Famine,* that famine came to be seen primarily as an issue of inadequate access to food, rather than an outright food shortage. Analysts had noted at least as far back as the great Irish famine that grain and livestock were being exported from Ireland even while its citizens were starving, which should have been enough to convince people that an outright food shortage wasn't causing the famine: the issue was that Irish peasants were too poor to purchase the food they needed, and the subsistence crop on which they relied had failed because of the potato blight. Sen argued that it was the entitlement to food (the ability to buy, grow, or in some other way access adequate food—through transfers or gifts for example) that was the problem, not necessarily an overall food availability problem.

Behavioral responses. Studying entitlements led observers to look at the behavioral responses of famine-affected people—a field a studies that came to be labeled "coping strategies." This perspective suggested that famines should be viewed as a process rather than simply an event. This revolutionized the understanding of famine dynamics and helped to birth the notion of famine early warning. But it didn't necessarily explain what caused the decline in entitlements.

Multi-hazard causation. Famine had long been associated with some kind of natural hazard—often drought, sometimes flood, sometimes a crop or animal disease (a bacterial blight in the case of the Irish famine)—and therefore with a production shock or a sharp decline in production. But it is also clear that famine is frequently associated with war and violent conflict. Most famines are triggered by a combination of factors, some of which might be natural hazards while others might be human made. And while some populations may be largely dependent on their own production for their consumption, most people in today's world are dependent on markets—both labor markets and food markets—for their access to adequate food and nutrition. And frequently, shocks such as droughts or conflict can rapidly change market conditions (the war in Ukraine in 2022 is an example). Shocks can drive the price of food up, and in many cases reduce the income that people depend on—dramatically reducing the purchasing power of vulnerable people.

That was precisely what happened in Somalia in 2011 (Figure 3). The amount of food that a could be purchased with one day's wages varied by regional labor market prior to the crisis but dropped between 50% and 80% by the height of the crisis and the declaration of famine in July 2011. Similar declines were noted for pastoralists who depended on selling their livestock to purchase food. In an emergency partially triggered by drought of course,

Fig. 3: Terms of Trade (Labor to Food) in Somalia: 2010–2012



SOURCE: Maxwell and Majid 2016

Lucidity Information Design, LLC

View of a group of starving and emaciated children from the Biafra region standing together at a mission hospital during the Nigerian-Biafran civil war in Nigeria in August 1968. Members of the Igbo tribe rebelled in 1967 to demand a separate Republic of Biafra. The war and famine lasted until 1970, when the Biafran Republic forces surrendered to the nationalist government. (ROLLS PRESS/POPPERFOTO VIA GETTY IMAGESS)

food isn't the only life-giving necessity that becomes extremely expensive—the cost of water also doubled or tripled depending on location. The steep decline in purchasing power depicted in Figure 3 that happened in late 2010 was one indication of the severity of the crisis; the fact that purchasing power didn't improve for months was certainly one of the factors that tipped a "bad year" over into being an outright famine. But with the return of the rains in late 2011, rural labor markets recovered somewhat, and the price of imported grain dropped rapidly. These factors combined to improve purchasing power and bring the famine to an end.

Conflict. However, the common causal factor in almost all contemporary famines or "near famine" emergencies is war or conflict. Indeed, of the countries currently facing famine risk, almost all are in some kind of violent conflict (South Sudan, Somalia, Ethiopia, Nigeria, Yemen, parts of the Sahel) or in an immediate post-conflict transition (Afghanistan). Some of the effects of violent conflict are clear: people are displaced from their usual forms of livelihood, grain stores are looted, livestock are killed or stolen. Violent conflict frequently means that not only are people displaced, but also have difficulty accessing assistance or alternative employment.

While sometimes starvation or famine may seem like simply the unfortunate outcome of violent conflict, it is also sometimes the intent. The use of hunger or starvation as a weapon of war is nearly as old as war itself—early references to this practice go back to Roman times. Starvation was used as a weapon by the Nazi "hunger plan" during World War II to starve an estimated 4 million Soviet citizens, including during the famous siege of Leningrad in 1941–42. Widespread famine, estimated to have resulted in more than a million deaths, was the result of the blockade of Biafran forces during the Nigerian civil war between 1967 and 1970, with much of the mortality in the final months of the siege. More recently, siege warfare was used to devastating effect during the Syrian civil war, with place names like Aleppo, Homs, and Eastern Ghouta becoming household words in the global press. There are accusations currently that Russia is weaponizing food in the invasion of Ukraine by blocking Ukrainian exports of wheat, maize, and sunflower oil, preventing Ukraine from getting the income from its exports. This also makes the contemporary global food crisis significantly worse by pushing up the prices of these products, which has roiled global food markets well beyond these specific commodities.

Response failures. In his review of recent famine research, Stephen Devereux noted that contemporary famine could be classified into "old" and "new" famines. "Old" famines were those fundamentally triggered by climatic, environmental, or pest- and disease-related drivers and resulted primarily in production failures. "New" famines are those triggered by political crises and might include production shocks and likely the market failures noted in Sen's famous book, but also might fail to mitigate or prevent such crises or response failures.

The notion of response failure was new to the understanding of famine causation, but it wasn't a new concept. One of the key changes in public policy regarding famine and famine prevention (or at least preventing mass mortality) that grew out of the experience of the Sahelian and East African famines of the 1970s and 80s, together with the observation that famines are the result of a process and not simply unexplained events, was the birth of famine early warning.

Early warning was the notion that, if famines were the result of identifiable processes, then causal factors could be systematically tracked and used to predict when and where famine were likely to occur. And they could trigger public policy interventions to mitigate the causal factors, or at least provide timely assistance to affected populations. The most famous of these efforts was the U.S.-funded Famine Early Warning System Network or FEWS NET, which began in 1985. FEWS NET combines IPC-style analysis with the tracking of market trends, seasonal climatic forecasting, and other causal factors predict food security status and trends, and it has been shown over time to be quite accurate in its forecasts.

In its early days, the rationale for FEWS NET was that the United States was the major humanitarian donor in the

world, and the main tool at its disposal at that time was food aid—an in-kind transfer of food to famine-affected, or in many cases, chronically food-insecure populations. Food aid in that era came primarily from the United States and other industrialized, agriculture-exporting countries, and was used for a variety of purposes besides famine prevention. For the chronic cases, projecting requirements was not difficult, but for a rapidly developing emergency (whether or not it deteriorated into famine by today's definition), food aid was the primary—and in many cases practically the only—means that governments or humanitarian agencies had at their disposal. But food aid was a very unwieldly mechanism to respond to an urgent crisis: it had to be purchased, shipped thousands of miles both internationally across oceans and domestically within affected countries before it could be distributed to affected populations. This process required as much as five months, meaning that such crises had to be predicted five or six months ahead of time, so that assistance could be mobilized and, even if a crisis couldn't be prevented, at least human life could be protected. At least, that was the idea behind famine early warning, and as noted, the predictive component has worked fairly well. And of course, recent advances in machine learning and artificial intelligence are adding substantial analytical capacity to early warning as well.

But the policy response component has not worked as well. As early as 1995, it was clear that while early warning was providing reasonably accurate information about the likelihood of famine or acute food security and nutrition crises, policymakers (governments, donors, humanitarian agencies) were repeatedly failing to act on this information to prevent these crises or at least mitigate the human suffering caused—a phenomenon that came to be known as the "early warning/response gap" or as "response failure". This phenomenon of clearly predicting a food security crisis without a corresponding response has been noted repeatedly in food security crises since then, including during the current set of crises.

In some cases, these response failures have legitimately been the result of poor information, albeit rarely. More likely they resulted from institutional mistrust of figures generated, or because of political and security constraints. In Somalia in 2011, it was well known that food aid in particular was being diverted by conflict actors, and one of the main conflict actors was Al Shabaab, an Islamist group affiliated with Al Qaeda. Any aid agency that was responsible for aid leakage to Al Shabaab faced both the risk of prosecution under laws such as the U.S. Patriot Act, and also massive reputational risk (for "abetting terrorism"). This led to widespread aversion by humanitarian agencies to respond robustly to the crisis until a legal work-around was established (which only happened after the famine was declared).

Limited understanding of famine dynamics. Even if understood as a process, the actual dynamics of famine were not well understood. The understanding of these dynamics has improved over recent years as well. In an influential paper, Paul Howe added a component to our understanding of famine that up to that point had simply been noted as a kind of idiosyncratic factor. He identified five steps in the process leading into and out of famine. These include an initial "pressure" (or causal factors combined with underlying vulnerabilities), which tips a particular population into food insecurity and/or malnutrition. But some other factor, labeled the "hold," keeps that pressure in place long enough to begin to force negative feedback loops between food consumption, livelihoods, malnutrition, and disease ("self-reinforcing dynamics") that lead to the actual "famine system" itself— before some "rebalancing" leads to a reduction in mortality (Figure 4). While early warning has long focused on what Howe labeled the "pressure" and the "self-reinforcing dynamics" leading to a famine, it was the notion of the "hold" that helped to crystalize some of the dynamics that were recurrent but not always noted in famine analysis, or were only noted in an idiosyncratic way (for example, in Somalia in 2011, it was the access and movement constraints imposed by Al Shabaab, along with the constraints of the counter-terrorism regulations by Western donors that constituted the "hold" that led to that famine).

An earlier paper by Howe (2006) had noted that the policy priority of states, armed groups, and humanitarian actors also significantly shaped the nature of famine prevention or response.

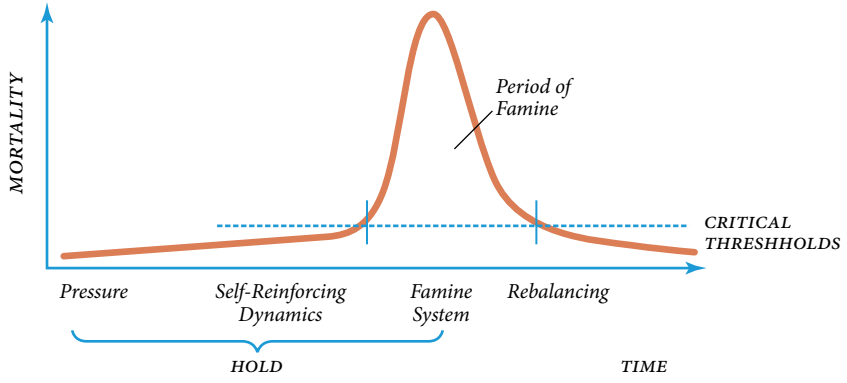
Current Situation

Even though all this is known and established, 2022 has once again seen the rise in numbers of acutely food insecure people—to nearly 200 million.

Figure 5 depicts the global food crisis map from mid-2022 from FEWS NET.

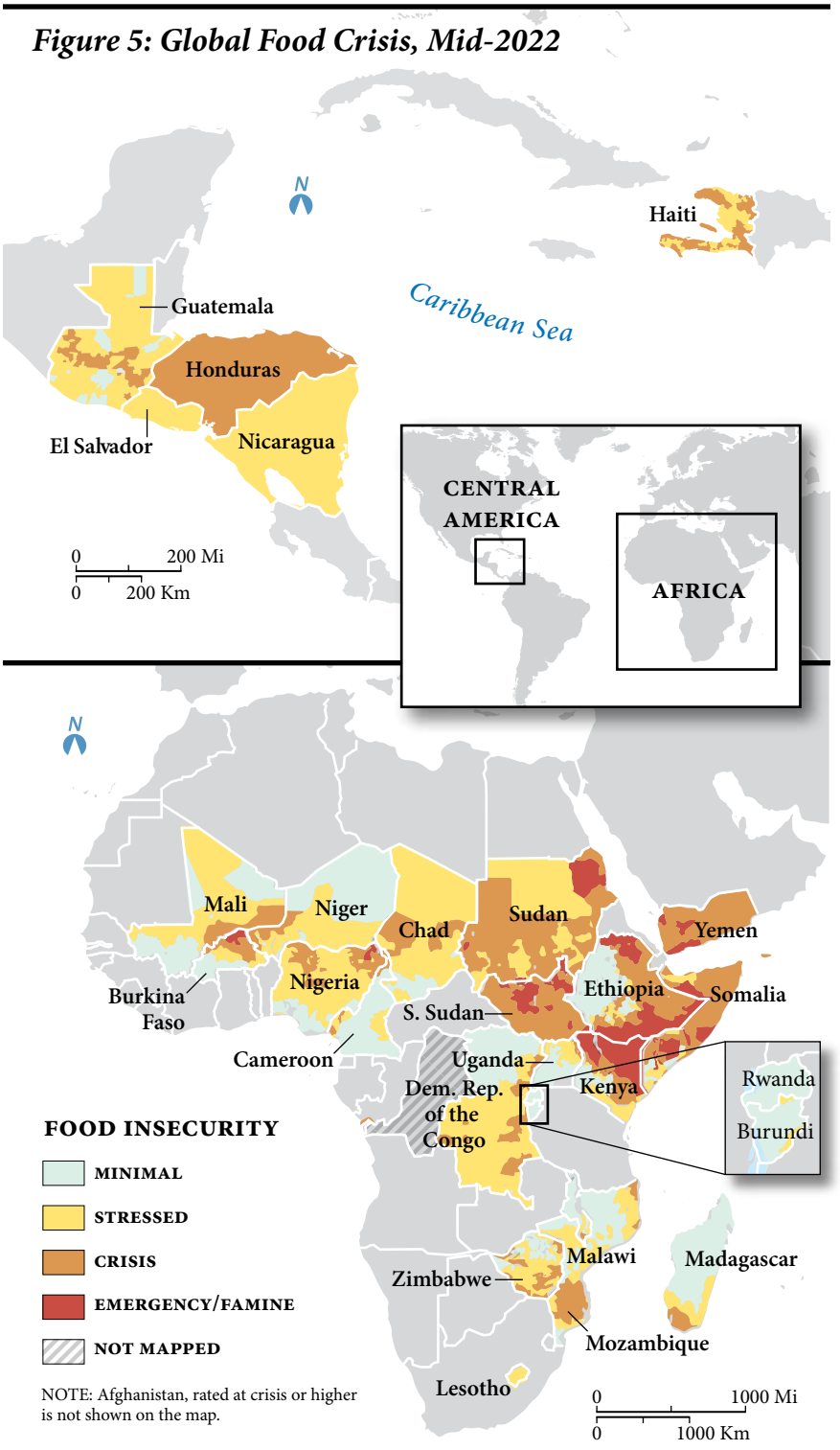
Table 1 shows how the total number

Fig. 4: Howe's "Famine System" Model



SOURCE: Howe, 2018. p. 149 Lucidity Information Design, LLC

Figure 5: Global Food Crisis, Mid-2022



SOURCE: Famine Early Warning Systems Network (FEWS NET) Lucidity Information Design, LLC

Table 1: Number of Acutely Food Insecure (IPC P3+) People: 2016–2022

	2016	2017	2018	2019	2020	2021	2022
Total IPC P3+ (Millions)	108	124	113	135	155	161	193
IPC Phase 5 (Thousands)	ND	ND	ND	ND	401	510	584

* Two actual famines declared (one retrospectively)
** One "famine likely" declared
SOURCE: FAO and WFP 2022

Lucidity Information Design, LLC

of people needing food aid (IPC P3+) has increased over recent years, including the number of people in IPC Phase 5 where numbers are available.

In mid-2022, an estimated 26 million children under 5 years old in these same, crisis-affected populations were acutely malnourished. Five million of these were severely wasted and at immediate risk of dying.

In 2020, of course, the Covid-19 pandemic added a novel causal factor and, once again, pushed the number of acutely food-insecure people higher by nearly 20 million—mostly caused by the lockdowns and the economic knock-on effects. One of the major sources of income in food-insecure countries such as Yemen or Somalia is remittances from a global diaspora sent back to the home communities that migrants have left behind. But the kinds of employment opportunities available to these migrants (mostly in the Gulf states in the case of Yemenis, practically everywhere in the case of Somalis) were among those hardest hit by the pandemic and the lockdowns—resulting in an immediate cessation of remittance incomes.

While this led to a good deal of worry, in fact, only one "famine likely" was identified in 2020, quite late in the year, in southeastern South Sudan, and it was mostly driven by violent conflict combined with excessive flooding in back-to-back years. The year 2021 was mostly dominated by the fear of a famine in the warn-torn Tigray Region in Ethiopia, compounded by a near total blockade of the region for much of the year. Given the extreme constraints on access, little humanitarian response was possible, adding to the fears of a famine, but because of the same constraints, little current-status information about the population was available.

The year 2022 began with some of the highest numbers of food-insecure people ever recorded. Global food

prices had been ticking upwards since the beginning of the pandemic and by early 2022 had reached levels equivalent to the prices in 2011 (which saw not only the famine in Somalia, but also the "Arab Spring," which was driven by many factors, a key trigger being the extremely inflated price of wheat—and therefore bread, the staple food of urban populations across the Middle East and North Africa). Then Russia invaded Ukraine, roiling markets and causing the prices of wheat and maize to skyrocket.

Nearly all countries facing a severe food security crisis are dependent on imports, so any price increases on global markets are quickly transmitted to local populations in food crisis. The price and availability (of both wheat and maize) was the most obvious, but this shortly led to spill-over effects as consuming nations began to switch to other, less expensive staple grains, boosting price levels across nearly all food commodities.

Second and less obvious was that many of the food insecure, wheat-dependent countries are in the Middle East and North Africa, which has a relatively short supply route from Black Sea ports in Ukraine and Russia. But alternative markets were much more distant—in North America, Argentina, or Australia. Third, as a major exporter of petroleum, Russia immediately drove the price of shipping higher in response to sanctions against it. And finally, in an effort to secure domestic consumption, several countries introduced export bans on wheat (India) and vegetable oil (Indonesia).

All of this sent the number of acutely food-insecure people spiraling upwards once again, to nearly 200 million (but note that these latest numbers are estimates, not based on new assessments). The World Food Program estimated in May that the cost of its operations had increased by 44% since the war started in February and large funding deficits for humanitarian response are now almost universal. The global Humanitarian Response Plan (which of course includes more than just food and nutrition support) was only 30% funded as of mid-July, and that was after some major donors had increased their allocation following an assessment of the impact of the invasion.

These challenges combined with drought conditions in the Sahel, and a fourth straight failed rainy season in the Greater Horn of Africa led to a massive drought emergency, primarily affecting Ethiopia, Somalia, and even Kenya—a country that is not usually a source of worry about famine. The Horn of Africa is now suffering it fifth poor rainy season in a row, which is unprecedented in recent, recorded history." These countries were still recovering from the Covid-19 pandemic and the desert locust upsurge. In addition, Ethiopia, South Sudan, and Somalia remained mired in conflict. Other countries in Central and Southern Africa were affected as well. But people everywhere were affected by the rapid increase in the price of food.

Although no new famines (by IPC criteria) have been declared, 2022 looks set to be perhaps the worst year on record for acute food security crises. Already, the number of people in need is greater than in any year on record. Recent reports suggest that the October-to-November rains in the Greater Horn of Africa may also be below average, implying that for several countries this crisis could be quite prolonged—in sharp contrast to the relatively rapid end to the 2011 famine.

There remains some fear that 2022 may well see a series of protracted crises like those mentioned above in which the IPC thresholds for famine are not quite reached (or for which data doesn't even exist) but in which a much larger population is in an emergency for a much longer period of time than has been the case in the recent past. Total mortality from a series of such food security and nutrition crises could well exceed that of recent famines, without "famine" ever having been found or declared … and of course, without the emotive power of that word to provoke a more robust response.

Policy options for famine prevention and response

Adequate knowledge and experience exist to prevent famine and certainly to prevent mass mortality in food and nutrition crises. The question is about the political will to utilize several tools in a timely way. Four of those tools are discussed below: famine early warning, humanitarian response, anticipating and mitigating causal factors, and accountability and preventing the use of hunger as a weapon.

Famine early warning. Improved information and early warning have clearly been one of the success stories in the fight against famine. Very few if any contemporary food and nutrition crises—let alone actual famines—have come as a complete surprise. Forecasts might differ (predicting some seasonal weather outcomes always has a degree of uncertainty and predicting other shocks—particularly conflict—is never straightforward). There are instances (North Korea in the 1990s, Tigray in 2021) where governmental authorities do not allow assessments of famine conditions, so the details are sometimes vague. But by and large, information is not the constraint to preventing famine—the problem is whether early warning information is acted on..

Humanitarian response. For most of human history, if there has been any response to famine, the attempt has been limited to containing the crisis and trying to prevent human suffering and death (of course, in some cases, causing death was the intent!). Traditionally, this has been in the form of providing food assistance—and between the end of World War II and the turn of the 21st century, this was almost entirely in the form of in-kind food aid: maize or wheat grown in the American Midwest or other exporting nation and shipped to the affected location. Following the Indian Ocean tsunami in 2004, the use of cash transfers—rather than food transfers—became more common. The prevalence

Mothers wait for high nutrition foods and health services at Tawkal 2 Dinsoor camp for internally displaced persons (IDPs) in Baidoa, Somalia, on February 14, 2022. Desperate, hungry and thirsty, more and more people are flocking to Baidoa from rural areas of southern Somalia, one of the regions hardest hit by the drought that is engulfing the Horn of Africa. (YASUYOSHI CHIBA/AFP VIA GETTY IMAGES)

of in-kind food aid was driven more by supply side considerations than careful consideration of whether it was the best resource: it was a resource that the United States and other food exporting countries could make available cheaply and it helped to prop up domestic producer prices—a big political concern in the United States and other food exporting countries between the 1950s and the 1990s. But cash, particularly with the globalization of the banking industry, could be transmitted more or less instantaneously (in contrast to the months it takes to ship food), supported local markets (rather than addressing surplus-supply issues in exporting countries), and enabled people to address their own needs (rather than simply assume they needed food).

The World Food Program was mostly absent from affected parts of Somalia in 2011, so the infrastructure for delivering in-kind food aid didn't exist, and cash was used instead—and had a very successful impact. Cash is now a much more dominant form of humanitarian assistance—both to protect food security and for other objectives such as shelter, water, health care, etcetera. Sometimes this kind of support is provided in the form of a voucher that can be exchanged for goods or services, providing donors some assurance that it will be spent on the intended form of support (for instance, food vouchers must be spent on food).

Along with the switch to cash, support to malnourished children has also been revolutionized through the use of ready-to-use therapeutic foods (RUTFs). A more community-based approach to managing acute malnutrition has been developed in which mothers or care givers are taught to use the RUTFs and other basic measures of nutritional care. Unless the child is also gravely ill, s/he does not need to be admitted to a residential care facility (which required the mother or care giver to stay with the malnourished child—at the expense of caring for her other children). Together with improvements in coordination and other technical responses, humanitarian assistance has improved dramatically in the 21st century, but it has also become more expensive to provide, and in nearly all cases involving famine, faces severe constraints on access.

Anticipating and mitigating causal factors. While humanitarian assistance has primarily been reactive, new initiatives, based on improved early warning, are attempting to be much more anticipatory in nature, with "early" or "anticipatory" action becoming major initiatives in recent years. This means acting on early warning to prevent or mitigate a crisis, not simply preparing to respond to it. Early or anticipatory action might provide cash assistance to mitigate the effects of a shock (before it becomes a humanitarian emergency) or help people protect their livelihoods and assets, enabling them to weather the shock themselves. Frequently it takes the form of "crisis modifiers" or other flexible funding that can be utilized to quickly respond to worsening circumstances before they get out of hand, without having to conduct new assessments, propose new projects, etcetera. With the growth of social safety net programs to deal with chronic poverty and hunger, an increasingly effective measure is to enable those programs to be "shock responsive" or to expand in capacity and coverage in times of crisis to include people acutely affected by drought or other shocks—even if they can manage on their own in "normal times." Strong evidence suggests that intervening earlier is not only more effective in preventing famine and the human damage that famine causes, it is also less expensive to prevent the deterioration into famine than to wait and deal with widespread malnutrition and illness.

The World Bank and the UN Office for the Coordination of Humanitarian Affairs (OCHA) launched major initiatives in 2018 to link improved early warning to both rapidly implementable contingency plans and non-traditional sources of finance including private sector insurance and disaster bonds. This kind of preparedness has been shown to be highly effective in some kinds of crises though the magnitude of crises faced in 2022 likely require anticipatory action at a much larger scale than has been available to date. This also is linked to longer term programs aimed at building resilience at the household and community levels—including risk management capacity to enable local communities to better withstand shocks without external assistance.

Accountability and preventing the use of hunger as a weapon. Much of the debate about how to prevent famine from recurring revolves around accountability: famines don't just happen; someone either causes them or, at a minimum, allows them to occur

despite knowing they are happening or likely to happen. So, mechanisms to hold conflict actors, policymakers and humanitarian actors accountable have become increasingly important. At the same time, attempts have been made to deal with conflict drivers of famine in a way similar to how anticipatory action deals with natural hazards. The longest standing of these tools is International Humanitarian Law (IHL) under which the use of food or hunger as a weapon is considered a war crime. But it is incredibly difficult to demonstrate, to the degree of certainty necessary for a court to accept, that food is intentionally being used as a weapon.

A different approach was the unanimous passage of UN Security Council Resolution 2417 in May of 2018, which noted the links between violent conflict and hunger—and famine. Its passage was a victory for advocates seeking accountability for starvation, but its impact to date beyond its reporting function has been unclear. International advocates as well as humanitarians on the ground are seeking ways of leveraging the power of a UN Security Council resolution to prevent famine and food security crises, but the actual effects are still uncertain. Global Rights Compliance, a group of international lawyers concerned with the issue, notes that "while the normative framework has been strengthened, compliance has deteriorated." In brief, while efforts are being made, much remains to be done to prevent famine—whether resulting from acts of commission or omission—in conflict and warfare.

Averting famine in the future

So, what do we need to do to avert famine in the future? Given the status of budgets in 2022, careful prioritization and devotion of scarce resources to the most affected is going to be necessary. In the medium- to longer-term, we must focus on several things:

First, we must acknowledge famine as a political crisis as well as a humanitarian crisis. If conflict is the common causal factor, improved means of working in conflict must be developed. These include better conflict analysis, stopping the politicization of humanitarian analysis and assistance, and building stronger support for IHL—not only among states but, critically, among non-state armed groups. It is equally important to address and reduce conflict and, ultimately, to peacefully resolve conflict, leveraging tools like UNSCR 2417. All this requires high-level leadership.

Workers fill bags with rice inside a World Food Program warehouse, in Gonaives, Haiti, Aug. 5, 2022. (ODELYN JOSEPH/AP IMAGES)

Second, we have to make some hard decisions about who leads in famine prevention—especially in conflict emergencies where governments are at war with their own people or are parties to conflict that drive the food security crisis. Most traditional efforts to counter famine have been led largely by international humanitarian agencies—the UN and international NGOs. But experience has repeatedly shown these organizations face severe access constraints in famine, often introducing inappropriate assistance or relying on inappropriate methods. Major efforts at the localization of humanitarian action are now a policy imperative, and nowhere needed more urgently than in addressing famine.

Third, other drivers of famine remain, and we must do a better job of preparedness and be more adept at anticipating crises, intervening early, and building resilience. This means paying attention not only to early warning, but also to what information is telling us more broadly: the fact that we haven't had a declared famine (yet!) in 2022 is good, but we need to pay attention to the hundreds of thousands of people who could be killed by hunger, malnutrition, and resulting diseases this year even if "famine" (by contemporary criteria) is not declared.

Finally, we must prioritize accountability. The foremost famine analysts of this generation (de Waal and Devereux) both note that famine will never be stopped until those who cause it (or who allow it to happen) are held accountable. UNSCR 2417 was a unique statement about accountability in this regard, as was the 2019 amendment to the Rome Statute extending prohibitions on the use of starvation as a weapon to non-international armed conflict or civil wars. Even the 2020 Nobel Peace Prize awarded to the World Food Program implicitly recognizes the importance of multilateral action and accountability. So, there is a strong international ethical consensus on accountability for famine and starvation. These tools need to be leveraged more, and while there is a strong need to be in dialogue with affected communities and local organizations, leadership here has to come from the top.

If we're able to do these things, perhaps we can once again turn the tide against famine.

discussion questions

1. The Famine Early Warning System Network has been successful at predicting coming famines; however, policymakers have often failed to act on this information to prevent these famines. How can policymakers be convinced to act?

2. Should the West step in and aid countries in the Middle East and Africa that are no longer receiving food shipments from Ukraine and Russia? Why or why not?

3. Is the sending of cash as a humanitarian response a step forward from the use of food aid? Why or why not?

4. Should the use of hunger as a weapon be considered a war crime? Why or why not?

suggested readings

Applebaum, Anne, **Red Famine: Stalin's War on Ukraine**. First United States edition, New York: Doubleday, October 10, 2017. 496 pp. An exploration of the history of the Holodomor.

Buchanan Smith, M., and S. Davies, **Famine Early Warning and Response –the Missing Link.** London: IT Publications, 1995. 228 pp. Drawing on case studies from Ethiopia, Sudan, Chad, Mali, and Kenya (focusing on Turkana district) during the drought years of 1990–91, this book investigates why early warning signals were not translated into timely intervention. It examines, for the first time, the role of early warning information in decision-making processes, particularly within key donor agencies. The book concludes with practical policy recommendations, on who "owns"early warning information, how it is used, and looks at how to speed up the logistics of emergency relief.

Devereux, Stephen, **Famine in The Twentieth Century**. Working Paper 105. Institute of Development Studies, January 1, 2000. Devereux argues that if famine is to be eradicated during the 21st century, it requires not only technical capacity in terms of food production and distribution, but also substantially more political will, at national and international levels, than has been seen to date.

Hedlund, Kerren, Nisar Majid, Daniel Maxwell, and Nigel Nicholson, **Final Evaluation of the Unconditional Cash and Voucher Response to the 2011–12 Crisis in Southern and Central Somalia**. London: Humanitarian Outcomes, 2014. This report sets out to determine the effectiveness of the unconditional cash and voucher interventions in southern and central Somalia. This evaluation considers the broader context that led to the failure of the humanitarian community to respond in a timely and adequate manner to the suffering of the Somali people. And the ever-present dilemma of delivering humanitarian assistance and fueling an aid economy where aid, and the vulnerable populations for whom it was intended, are exploited by those with power.

Maxwell, Daniel, and Kirsten Gelsdorf, **Understanding the Humanitarian World**. London: Routledge, May 8, 2019. 222 pp. Maxwell and Gelsdorf highlight the origins, growth, and specific challenges to, humanitarian action and examine why the contemporary system functions as it does. They outline the main actors; explore how they are organized and look at the ways they plan and carry out their operations. Interrogating major contemporary debates and controversies in the humanitarian system, and the reasons why actions undertaken in its name remain the subject of so much controversy, they provide an important overview of the contemporary humanitarian system and the ways it may develop in the future.

Waal, Alex de., **Famine That Kills: Darfur, Sudan. 2nd ed**. New York: Oxford University Press, January 13, 2005. 288 pp. In 2004, Darfur, Sudan, was described as the "world's greatest humanitarian crisis." Twenty years previously, Darfur was also the site of a disastrous famine. *Famine that Kills* is a seminal account of that famine, and a social history of the region. In a new preface prepared for this revised edition, Alex de Waal analyzes the roots of the current conflict in land disputes, social disruption and impoverishment.

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