2018

GLOBAL HUNGER INDEX

FORCED MIGRATION AND HUNGER

welt hunger hilfe

CONCERN worldwide 50 YEARS TACKLING EXTREME POVERTY

2018

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CONCERN worldwide

50 YEARS TACKLING EXTREME POVERTY

A woman prepares tea and coffee in Bentiu—South Sudan's largest IDP camp, with more than 112,000 people. The country is in its fifth year of conflict, which has caused large-scale displacement, led to high levels of food and nutrition insecurity, and left 7.1 million people dependent on humanitarian assistance.

FOREWORD

This year's Global Hunger Index reveals a distressing gap between the current rate of progress in the fight against hunger and undernutrition and the rate of progress needed to eliminate hunger and alleviate human suffering.

The 2018 Global Hunger Index—published jointly by Concern Worldwide and Welthungerhilfe—tracks the state of hunger worldwide and spotlights those places where action to address hunger is most urgently needed. The results show that in many countries, and in terms of the global average, hunger and undernutrition have declined since 2000, indicating real improvements in the lives of millions of men, women, and children. At the same time, while progress has been robust in some parts of the world, in other parts hunger and undernutrition persist or have even worsened. In too many areas, growing numbers of people still suffer the indignity of hunger and the insecurity of forced displacement.

The statistics are both staggering and sobering. Approximately 124 million people suffer acute hunger, a striking increase from 80 million two years ago, while the reality of hunger and undernutrition continues to have a massive impact on the next generation. About 151 million children are stunted and 51 million children are wasted across the globe. Hard-won gains are being further threatened by conflict, climate change, poor governance, and a host of other challenges. Despite evidence showing that real progress is possible, the root causes and complex realities of hunger are not being adequately tackled. In 2015 the world's countries committed to achieving zero hunger by 2030. We are not on track to meet that goal.

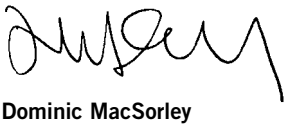
This year, alongside the index rankings, we take a deeper look at the state of hunger and undernutrition in two countries—Bangladesh and Ethiopia—and examine the main factors that contribute to hunger there and the policy environment in which those factors operate. According to the 2018 Global Hunger Index, hunger in these two countries is *serious,* but the situation is improving thanks to a range of policies and programs that have been implemented.

The 2018 edition also has a special focus on the theme of forced migration and hunger. It features an essay by Laura Hammond of SOAS University of London. Hunger, Hammond argues, can be both a cause and a consequence of the vast movement of displaced populations, but the links are often poorly understood. Hunger and displacement are both political problems, and short-term emergency actions are insufficient to address displacements that often last years or even decades. Too often, we are drawn away from any focus on root causes and toward misleading representations of a global crisis. Instead, we must work to tackle the political factors that lead to hunger and displacement. In addition, we must strengthen humanitarian assistance and long-term development approaches, support the livelihoods of displaced people in their regions of origin where possible, and bolster resilience by supporting people's own capacities for self-help.

Hunger and forced migration are painful realities for millions, but this state of affairs has yet to spur the kind of political leadership and action by national governments that is so urgently needed. More worryingly, we are seeing the issue of migration become a lightning rod for new political discourse that is increasingly more hard-line than humanitarian.

This year's GHI is not just a renewed call to action on hunger and forced migration but an urgent call for a resurgence of humanity in how we address the shocking truth that—in a world of plenty—millions of people's human rights continue to be violated and these people still go to bed hungry each night.

Mathias Mogge
Secretary General
Welthungerhilfe



Dominic MacSorley
Chief Executive Officer
Concern Worldwide

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SUMMARY

The 2018 Global Hunger Index (GHI) shows that the world has made gradual, long-term progress in reducing overall hunger, but this progress has been uneven. Areas of severe hunger and undernutrition stubbornly persist, reflecting human misery for millions.

The Global Picture

Worldwide, the level of hunger and undernutrition falls into the *serious* category, with a GHI score of 20.9. This is down from 29.2 in 2000, equating to a decline of 28 percent. Underlying this improvement are reductions in each of the four indicators used to assemble the GHI: (1) the prevalence of undernourishment, (2) child stunting, (3) child wasting, and (4) child mortality.

Despite these improvements, the question remains whether the world will achieve Sustainable Development Goal (SDG) 2, which aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture, by 2030. If progress in reducing hunger and undernutrition continues on its current trajectory, an estimated 50 countries will fail to achieve *low* hunger according to the GHI by 2030.

Regional Scores

Hunger varies enormously by region. The 2018 GHI scores of South Asia and Africa south of the Sahara, at 30.5 and 29.4, respectively, reflect *serious* levels of hunger. These scores stand in stark contrast to those of East and Southeast Asia, the Near East and North Africa, Latin America and the Caribbean, and Eastern Europe and the Commonwealth of Independent States, where scores range from 7.3 to 13.2, indicating *low* or *moderate* hunger levels.

In both South Asia and Africa south of the Sahara, the rates of undernourishment, child stunting, child wasting, and child mortality are unacceptably high. Since 2000, the rate of stunting in South Asia has fallen from approximately half of all children to over a third, but this still constitutes the highest regional child stunting rate worldwide. Furthermore, South Asia's child wasting rate has slightly increased since 2000. In terms of undernourishment and child mortality, Africa south of the Sahara has the highest rates. Conflict and poor climatic conditions—both separately and together—have exacerbated undernourishment there. Conflict also compromises children's nutritional status, and the impact of conflict on child mortality is starkly evident: the 10 countries with the world's highest under-five mortality rates are all in Africa south of the Sahara, and 7 of these are considered fragile states.

National and Subnational Scores

Hunger and undernutrition are still much too high in dozens of countries. According to the 2018 GHI, one country, the Central African Republic (CAR), suffers from a level of hunger that is *extremely alarming*. Six countries—Chad, Haiti, Madagascar, Sierra Leone, Yemen, and Zambia—suffer from levels that are *alarming*. Forty-five countries out of the 119 countries that were ranked have *serious* levels of hunger.

Still, there is cause for optimism. This year's GHI includes 27 countries with *moderate* levels of hunger and 40 countries with *low* levels of hunger.

It is important to note that regional and national scores can mask substantial variation within country borders. Latin America, for example, has one of the lowest regional hunger levels, yet stunting levels in Guatemala's departments range from 25 percent to a staggering 70 percent. In other cases, such as Burundi, the areas with the lowest stunting levels are predominantly urban in nature (such as national capitals), and are outliers relative to other parts of the country.

Forced Migration and Hunger

In this year's essay, Laura Hammond examines forced migration and hunger—two closely intertwined challenges that affect some of the poorest and most conflict-ridden regions of the world. Globally, there are an estimated 68.5 million displaced people, including 40.0 million internally displaced people, 25.4 million refugees, and 3.1 million asylum seekers. For these people, hunger may be both a cause and a consequence of forced migration. Support for food-insecure displaced people needs to be improved in four key areas:

- → recognizing and addressing hunger and displacement as political problems;
- → adopting more holistic approaches to protracted displacement settings involving development support;
- → providing support to food-insecure displaced people in their regions of origin; and
- → recognizing that the resilience of displaced people is never entirely absent and should be the basis for providing support.

The 2018 Global Hunger Index presents recommendations for providing a more effective and holistic response to forced migration and hunger. These include focusing on those countries and groups of people who need the most support, providing long-term solutions for displaced people, and engaging in greater responsibility sharing at an international level.

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Faysal Hassan Ismail, 36 years old, harvests tomatoes in Baki district in Somaliland. Many people in Somaliland have been displaced because of drought, yet with sufficient planning and investment in rural areas and agricultural training the effects of drought on farmers can be significantly reduced.

THE CONCEPT OF THE GLOBAL HUNGER INDEX

The Global Hunger Index (GHI) is a tool designed to comprehensively measure and track hunger at global, regional, and national levels.[1] GHI scores are calculated each year to assess progress and setbacks in combating hunger. The GHI is designed to raise awareness and understanding of the struggle against hunger, provide a way to compare levels of hunger between countries and regions, and call attention to those areas of the world where hunger levels are highest and where the need for additional efforts to eliminate hunger is greatest.

Measuring hunger is complicated. To use the GHI information most effectively, it helps to understand how the GHI scores are calculated and what they can and cannot tell us.

Assembling the GHI

How are the GHI scores calculated?

GHI scores are calculated using a three-step process that draws on available data from various sources to capture the multidimensional nature of hunger (Figure 1.1).

First, for each country, values are determined for four indicators:

1. **UNDERNOURISHMENT:** the share of the population that is undernourished (that is, whose caloric intake is insufficient);

2. **CHILD WASTING:** the share of children under the age of five who are wasted (that is, who have low weight for their height, reflecting acute undernutrition);

3. **CHILD STUNTING:** the share of children under the age of five who are stunted (that is, who have low height for their age, reflecting chronic undernutrition); and

4. **CHILD MORTALITY:** the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition and unhealthy environments).[2]

Second, each of the four component indicators is given a standardized score on a 100-point scale based on the highest observed level for the indicator on a global scale in recent decades.

Third, standardized scores are aggregated to calculate the GHI score for each country, with each of the three dimensions (inadequate food supply; child mortality; and child undernutrition, which is composed equally of child stunting and child wasting) given equal weight.

This three-step process results in GHI scores on a 100-point GHI Severity Scale, where 0 is the best score (no hunger) and 100 is the

BOX 1.1 WHAT IS MEANT BY "HUNGER"?

The problem of hunger is complex, and different terms are used to describe its various forms.

Hunger is usually understood to refer to the distress associated with a lack of sufficient calories. The Food and Agriculture Organization of the United Nations (FAO) defines food deprivation, or undernourishment, as the consumption of too few calories to provide the minimum amount of dietary energy that each individual requires to live a healthy and productive life, given that person's sex, age, stature, and physical activity level.[3]

Undernutrition goes beyond calories and signifies deficiencies in any or all of the following: energy, protein, and/or essential vitamins and minerals. Undernutrition is the result of inadequate intake of food in terms of either quantity or quality, poor utilization of nutrients due to infections or other illnesses, or a combination of these factors. These, in turn, are caused by a range of factors, including household food insecurity; inadequate maternal health or childcare practices; or inadequate access to health services, safe water, and sanitation.

Malnutrition refers more broadly to both undernutrition (problems caused by deficiencies) and overnutrition (problems caused by unbalanced diets, such as consuming too many calories in relation to requirements with or without low intake of micronutrient-rich foods).

In this report, "hunger" refers to the index based on four component indicators. Taken together, the component indicators reflect deficiencies in calories as well as in micronutrients.[4]

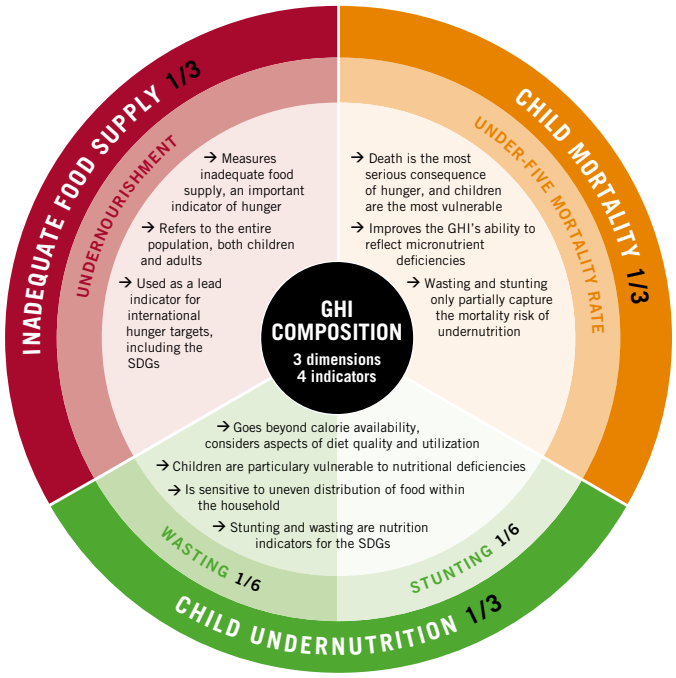
[1] For further background on the GHI concept, see Wiesmann (2006).

[2] According to recent estimates, undernutrition is responsible for 45 percent of deaths among children younger than five years old (Black et al. 2013).

[3] In estimating the prevalence of undernourishment, FAO considers the composition of a population by age and sex, taking into account the range of physical activity levels of the population and the range of healthy body masses for attained height, to calculate its average minimum energy requirement (FAO/IFAD/UNICEF/WFP/WHO 2017). This requirement varies by country—from about 1,650 to more than 2,000 kilocalories (commonly referred to as calories) per person per day for developing countries in 2016 (FAO 2017b).

[4] Overnutrition, resulting in overweight, obesity, and noncommunicable diseases, is becoming increasingly common throughout the world, with implications for human health, government expenditures, and food systems development. While overnutrition is an important concern, the GHI focuses specifically on issues relating to undernutrition.

FIGURE 1.1 **COMPOSITION OF THE GLOBAL HUNGER INDEX**



Source: Wiesmann et al. (2015).

Note: The values of each of the four component indicators are standardized. See Appendix A for the complete GHI formula and Appendix B for the sources of data. SDGs = Sustainable Development Goals.

worst. In practice, neither of these extremes is reached. A value of 0 would mean that a country had no undernourished people in the population, no children younger than five who were wasted or stunted, and no children who died before their fifth birthday. A value of 100 would signify that a country's undernourishment, child wasting, child stunting, and child mortality levels were each at approximately the highest levels observed worldwide in recent decades. The GHI Severity Scale on p. 9 shows the severity of hunger—from *low* to *extremely alarming*—associated with the range of possible GHI scores.

Why does the GHI incorporate four different indicators?

Using this combination of indicators to measure hunger offers several advantages. The indicators included in the GHI formula reflect caloric deficiencies as well as poor nutrition. The undernourishment indicator captures the nutrition situation of the population as a whole, while the indicators specific to children reflect the nutrition status within a particularly vulnerable subset of the population for whom a lack of dietary energy, protein, and/or micronutrients (essential vitamins and minerals) leads to a high risk of illness, poor physical and cognitive development, and death. The inclusion of both child wasting and child stunting allows the GHI to document both acute and chronic undernutrition. By combining multiple indicators, the index reduces the effects of random measurement errors.

Where do the source data for the four indicators come from?

Data for the indicators come from data collection efforts by various UN and other multilateral agencies. Undernourishment data are provided by the Food and Agriculture Organization of the United Nations (FAO). Child mortality data are sourced from the United Nations Interagency Group for Child Mortality Estimation (UN IGME). Child wasting and child stunting data are drawn from the joint database of UNICEF, the World Health Organization (WHO), and the World Bank, as well as from WHO's continuously updated Global Database on Child Growth and Malnutrition, the most recent reports of the Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), and statistical tables from UNICEF.

The GHI scores presented here reflect the latest revised data for the four indicators.[5] Where original source data were unavailable, estimates for the GHI component indicators were based on the most recent available data. (Appendix B provides more detailed background information on the data sources for the 2000, 2005, 2010, and 2018 GHI scores.)

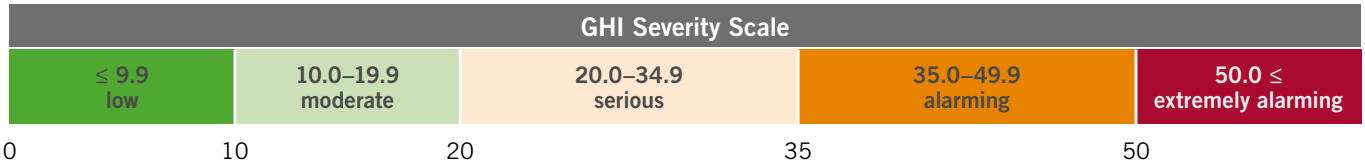
Understanding the GHI

Why is a certain country's GHI score so high (or so low)?

The key to understanding a country's GHI score lies in that country's indicator values, especially when compared with the indicator values for other countries in the report (see Appendix C for these values). For some countries, high scores are driven by high rates of undernourishment, reflecting a lack of calories for large swathes of the population. For others, high scores result from high levels of child wasting, reflecting acute undernutrition; child stunting, reflecting chronic undernutrition; and/or child mortality, reflecting children's hunger and nutrition levels, as well as other extreme challenges facing the population. Broadly speaking, then, a high GHI score can be evidence of a lack of food, a poor-quality diet, inadequate child caregiving practices, an unhealthy environment, or all of these factors.

While it is beyond the scope of this report to provide a detailed explanation of the circumstances facing each country in the index, Chapter 2 describes the circumstances in select countries. Furthermore, this report offers other avenues for examining a country's hunger and nutrition situation: country rankings based on 2018 GHI scores appear in Table 2.1; GHI scores for selected years for

[5] For previous GHI calculations, see von Grebmer et al. (2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008); IFPRI/WHH/Concern (2007); and Wiesmann, Weingärtner, and Schöninger (2006).



Source: Authors.

each country appear in Appendix D; and regional comparisons appear in Appendix E.

Does the 2018 GHI reflect the situation in 2018?

The GHI uses the most up-to-date data available for each of the GHI indicators, meaning that the scores are only as current as the data. For the calculation of the 2018 GHI scores, undernourishment data are from 2015–2017; child stunting and child wasting data are from 2013–2017, with the most current data from that range used for each country; and child mortality data are from 2016.

How can I compare GHI results over time?

Each report includes GHI scores and indicator data for three reference years in addition to the focus year. In this report, 2018 GHI scores can be directly compared with the GHI scores given for three reference years—2000, 2005, and 2010 (Appendix D).

Can I compare the GHI scores and indicator values in this report with results from previous reports?

No—GHI scores are comparable within each year's report, but not between different years' reports. The current and historical data on which the GHI scores are based are continually being revised and improved by the United Nations agencies that compile them, and each year's GHI report reflects these changes. Comparing scores between reports may create the impression that hunger has changed positively or negatively in a specific country from year to year, whereas in some cases the change may be partly or fully a reflection of a data revision.

Moreover, the methodology for calculating GHI scores has been revised in the past and may be revised again in the future. In 2015, for example, the GHI methodology was changed to include data on child stunting and wasting and to standardize the values (see Wiesmann et al. 2015). This change caused a major shift in the GHI scores, and the GHI Severity Scale was changed to reflect this shift. Since 2015, almost all countries have had much higher GHI scores compared with their scores from 2014 and earlier. This does not necessarily mean that their hunger levels rose in 2015—the higher scores merely reflect the revision of the methodology.

Can I compare the GHI rankings in this report to those in previous reports to understand how the situation in a country has changed over time relative to other countries?

No—like the GHI scores and indicator values, the rankings from one year's report cannot be compared to those from another. In addition to the data and methodology revisions described previously, different countries are included in the ranking every year. This is due in part to data availability—the set of countries for which sufficient data are available to calculate GHI scores varies from year to year. If a country's ranking changes from one year to the next, it may be in part because it is being compared to a different group of countries. Furthermore, the ranking system was changed in 2016 to include all of the countries in the report rather than just those with a GHI score of 5 or above. This added many countries with *low* scores to the ranking that had not been previously included.

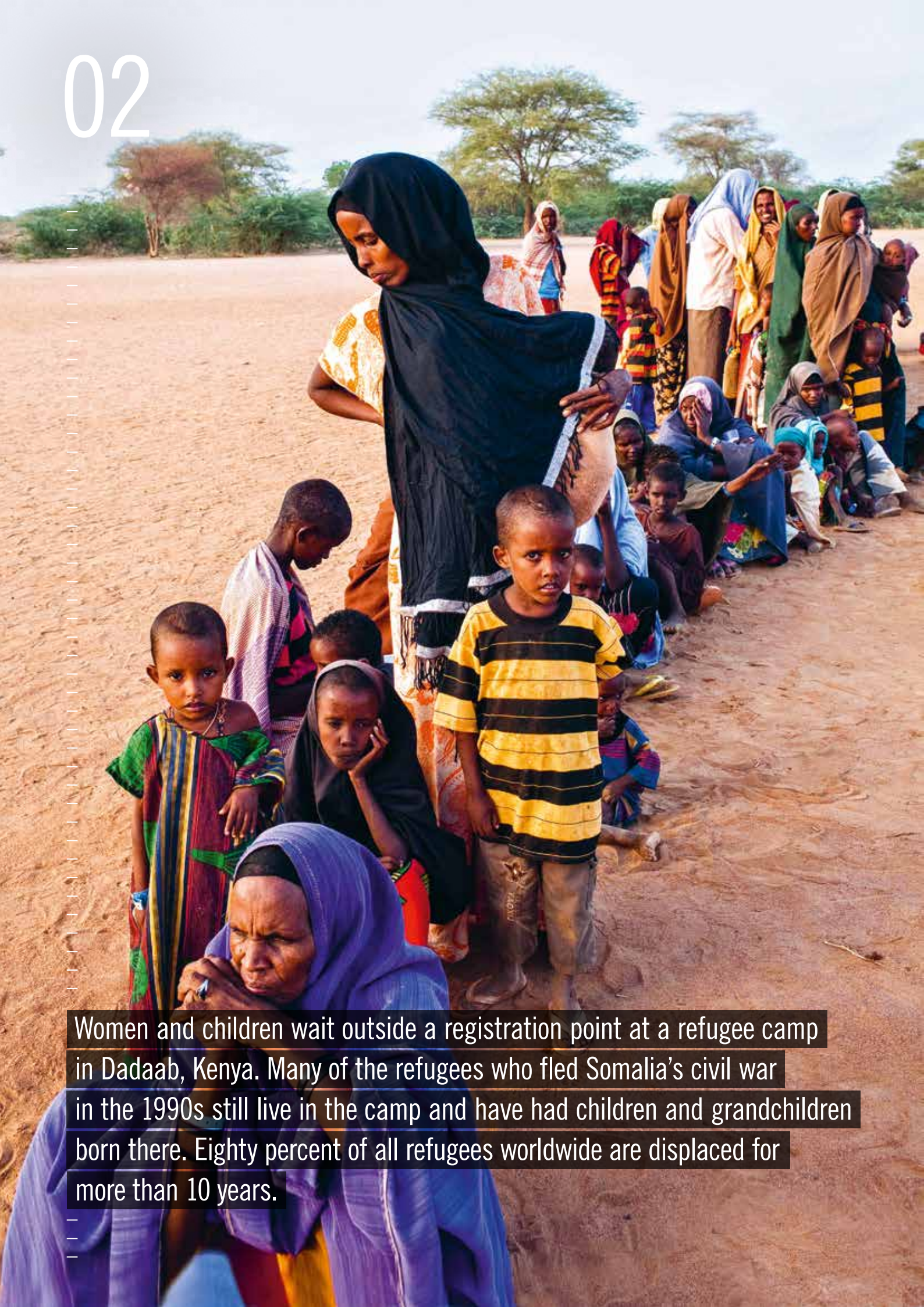
Why do some countries not have a GHI score?

The GHI is calculated for the countries for which data on all four indicators are available and measuring hunger is considered most relevant. Because data for all four indicators in the GHI formula are not available for every country, GHI scores could not be calculated for some. Box 2.1 in Chapter 2 explores the food and nutrition security situation of those countries without GHI scores where hunger is cause for significant concern. Several of these countries are experiencing unrest or violent conflict, which affects the availability of data as well as the food and nutrition situation in the country. It is quite possible that one or more of these countries would have a higher GHI score than the Central African Republic—the country with the highest 2018 GHI score—if data were universally available.

Likewise, GHI scores are not calculated for some high-income countries where the prevalence of hunger is very low. Even though hunger and undernutrition are serious concerns for segments of the population in certain high-income countries, nationally representative data for child stunting and child wasting are not regularly collected in most high-income countries. In addition, although data on child mortality are usually available for these countries, child mortality does not reflect undernutrition in high-income countries to the same extent it does in low- and middle-income countries.

Finally, GHI scores are not calculated for certain countries with small populations or for certain non-independent entities or territories.

02



Women and children wait outside a registration point at a refugee camp in Dadaab, Kenya. Many of the refugees who fled Somalia's civil war in the 1990s still live in the camp and have had children and grandchildren born there. Eighty percent of all refugees worldwide are displaced for more than 10 years.

GLOBAL, REGIONAL, AND NATIONAL TRENDS

The World

The 2018 Global Hunger Index (GHI) indicates that the level of hunger and undernutrition worldwide falls into the *serious* category, at a value of 20.9, down from 29.2 in 2000 (Figure 2.1).[1] Underlying this improvement are reductions since 2000 in each of the four GHI indicators—the prevalence of undernourishment, child stunting, child wasting, and child mortality. In the countries included in the GHI, the share of the population that is undernourished stands at 12.3 percent as of 2015–2017, down from 17.6 percent in 1999–2001. Of children under five, 27.9 percent are stunted based on data from 2013–2017, down from 37.1 percent in 1998–2002, and 9.3 percent are wasted, down slightly from 9.7 percent in 1998–2002. Finally, the under-five mortality rate was 4.2 percent as of 2016, down from 8.1 percent in 2000.[2]

Despite these improvements, the question remains whether the world will achieve Sustainable Development Goal (SDG) 2, which aims to end hunger, ensure food security and improved nutrition, and promote sustainable agriculture, by 2030. For each of the indicators used in the GHI, the UN agencies tasked with monitoring progress toward the SDGs have offered some sobering assessments:

→ *We are still far from a world without malnutrition. The joint estimates … cover indicators of stunting, wasting, severe wasting and overweight among children under 5, and reveal insufficient progress to reach the World Health Assembly targets set for 2025 and the Sustainable Development Goals set for 2030* (UNICEF/WHO/World Bank 2018b).

→ *The ambition of a world without hunger and malnutrition by 2030 will be challenging—achieving it will require renewed efforts through new ways of working…. Achieving zero hunger and ending undernutrition could be out of reach for many countries affected by conflict* (FAO/IFAD/UNICEF/WFP/WHO 2017).

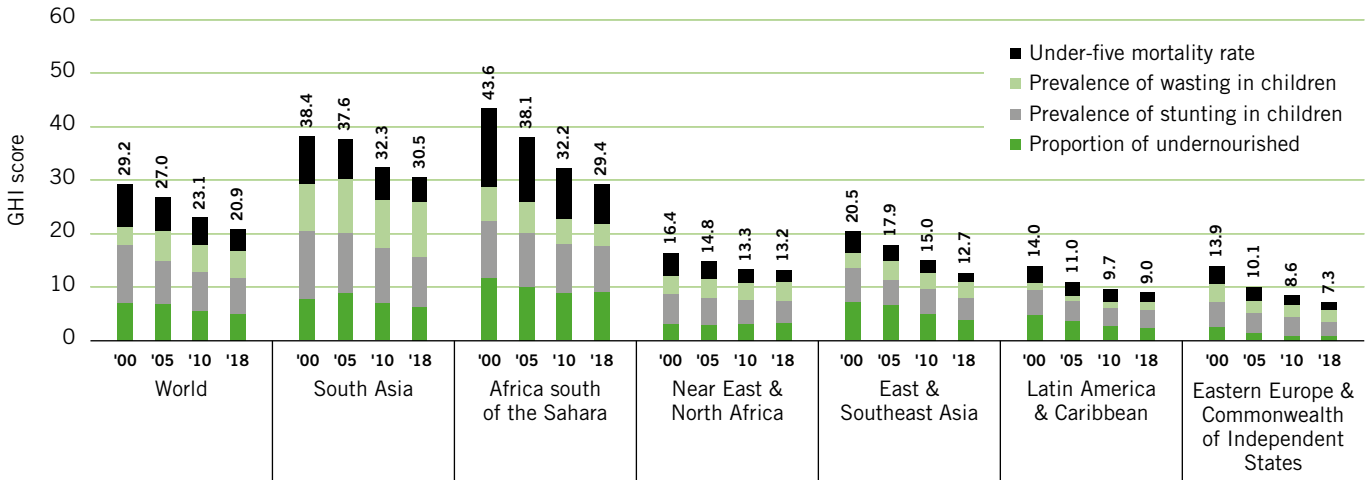
→ *Accelerated progress will be needed in more than a quarter of all countries to achieve SDG targets in child survival* (UN IGME 2017b).

Taken together, these statements show that the goal of achieving zero hunger will not be reached without increased efforts and new approaches to that end. GHI projections show that at the pace of hunger reduction observed since 2000, approximately 50 countries will fail to reach *low* hunger levels as defined by the GHI Severity Scale by 2030; at present, 79 countries have failed to reach that

[1] The worldwide estimates in this paragraph refer to the 132 countries in this report for which GHI data were available. The indicator estimates may vary from those published by other organizations for the same indicators owing to the inclusion of different countries.

[2] Black et al. (2013) estimate that undernutrition causes almost half of all child deaths globally.

FIGURE 2.1 **GLOBAL AND REGIONAL 2000, 2005, 2010, AND 2018 GLOBAL HUNGER INDEX SCORES, WITH CONTRIBUTION OF COMPONENTS**



Source: Authors.

Note: See Appendix B for data sources. The regional and global GHI scores are calculated using regional and global aggregates for each indicator and the formula described in Appendix A. The regional and global aggregates for each indicator are calculated as population-weighted averages, using the indicator values reported in Appendix C. For countries lacking undernourishment data, provisional estimates provided by the Food and Agriculture Organization of the United Nations (FAO) were used in the calculation of aggregates only, but are not reported in Appendix C.

designation according to the 2018 GHI.[3] Yet given the gains that have already been made, we know progress is possible. To better understand which parts of the world face the most daunting challenges in achieving SDG2, the following sections report on hunger and undernutrition—expressed in terms of the GHI and its underlying indicator values—at regional, national, and subnational levels and provide insight into how and why these values have changed over time.

The Regions

At the regional level, the 2018 GHI scores for South Asia and Africa south of the Sahara, at 30.5 and 29.4, respectively, are dramatically higher than those of other regions of the world (Figure 2.1). These scores, indicating *serious* levels of hunger, stand in stark contrast to those of East and Southeast Asia, the Near East and North Africa, Latin America and the Caribbean, and Eastern Europe and the Commonwealth of Independent States, which range from 7.3 to 13.2 and indicate *low* or *moderate* hunger levels.

Even those regions with *low* or *moderate* GHI scores include countries where hunger and undernutrition are problematically high. For example, in Latin America and the Caribbean, which has a GHI score of just 9.0, the Caribbean island nation of Haiti is one of just seven countries in this year's report with GHI scores that are considered *alarming* or *extremely alarming*. Another of these seven is Yemen, located in the Near East and North Africa region. This region has a GHI score of 13.2, indicating *moderate* hunger and undernutrition, yet Yemen's score of 39.7 is the third-highest score in this report (see the "The Countries" section below).

The GHI scores for South Asia and Africa south of the Sahara merit special consideration. In both of these regions, the rates of undernourishment, child stunting, child wasting, and child mortality are unacceptably high. In particular, South Asia has the highest child stunting and child wasting rates of any region, followed by Africa south of the Sahara. In terms of undernourishment and child mortality, Africa south of the Sahara has the highest rates, followed by South Asia.

South Asia's child wasting rate constitutes a critical public health emergency (UNICEF/WHO/World Bank 2018b). This is made all the more concerning because it has not decreased but rather has slightly increased since 2000. The child wasting rate for the region is amplified in part by that of India, which has the region's largest population and highest level of child wasting, at 21 percent according to the latest data. Yet even without India, South Asia's child wasting rate would top the rates of the other regions of the world. Several factors characterize child wasting throughout South Asia. Wasting rates are highest for infants aged 0 to 5 months, indicating that the youngest children are most vulnerable to wasting and suggesting that attention to birth outcomes and breastfeeding is important. Furthermore, a low maternal body mass index (BMI) is associated with child wasting throughout the region, suggesting that the nutritional status of the mother during pregnancy influences the nutritional status of the child at birth and beyond. Interestingly, in South Asia maternal BMI and access to improved water and sanitation are more closely associated with rates of child wasting than household wealth, suggesting that a reduction in poverty alone may not be sufficient to correct the problem (Harding, Aguayo, and Webb 2018).

Child stunting in South Asia is also very high. Since 2000, the rate of stunting in the region has fallen from approximately half of all children to over a third, but this still constitutes the highest regional child stunting rate worldwide. Factors that could reduce child stunting in South Asia include increased consumption of non-staple foods, access to sanitation, women's education, access to safe water, gender equality, and national food availability (Smith and Haddad 2015). These factors must be addressed.

In Africa south of the Sahara, the 2015–2017 undernourishment rate, at 22 percent, has increased marginally since 2009–2011 (FAO 2018d) and is the highest regional rate of all regions in the report. Conflict plays a devastating role in this region: countries engaged in protracted crises have undernourishment rates that are approximately twice as high as those of countries not affected by conflict (FAO 2017c). Other factors driving undernourishment are poor climatic conditions, exacerbated in 2015 and 2016 by the El Niño phenomenon, which led to prolonged droughts, reduced harvests, and loss of livestock in many parts of Africa. In some cases, the effects of climate change and conflict combine to further increase undernourishment rates (FAO 2017c).

Africa south of the Sahara's high under-five mortality rate is also due in part to conflict, with rates in fragile countries about twice those of non-fragile countries.[4] The 10 countries with the world's highest under-five mortality rates are all located in Africa south of the Sahara, and seven of these are considered fragile states (UN IGME 2017b). The instability generated by conflict contributes to childhood undernutrition, which then increases children's vulnerability to disease and can lead to premature death (Tamashiro 2010).

While there are some similarities, the nature and causes of hunger and undernutrition in South Asia and Africa south of the Sahara vary substantially, and the situation in each region requires distinct

[3] The 2030 projections are linear projections based on the existing 2000, 2005, 2010, and 2018 GHI scores for each country.

[4] The designation of fragile states is based on the World Bank's annual list of fragile situations (World Bank 2017a).

TABLE 2.1 **GLOBAL HUNGER INDEX SCORES BY RANK, 2000 GHI, 2005 GHI, 2010 GHI, AND 2018 GHI**

Rank[1]	Country	2000	2005	2010	2018	Rank[1]	Country	2000	2005	2010	2018
2018 GHI scores less than 5, collectively ranked 1–15[2]	Belarus	5.0	<5	<5	<5	67	Sri Lanka	22.3	21.2	17.9	17.9
	Bosnia & Herzegovina	9.8	7.2	5.1	<5	68	Myanmar	44.4	36.4	25.9	20.1
	Chile	<5	<5	<5	<5	69	Philippines	25.9	21.6	20.6	20.2
	Costa Rica	6.1	5.6	5.0	<5	70	Guatemala	27.5	23.8	22.0	20.8
	Croatia	6.2	<5	<5	<5	71	Cameroon	41.2	33.7	26.1	21.1
	Cuba	5.3	<5	<5	<5	72	Nepal	36.8	31.4	24.5	21.2
	Estonia	6.7	5.4	<5	<5	73	Indonesia	25.5	26.5	24.5	21.9
	Kuwait	<5	<5	<5	<5	74	Iraq	26.5	24.9	24.4	22.1
	Latvia	6.9	5.0	<5	<5	75	Gambia	27.3	26.2	22.3	22.3
	Lithuania	5.0	<5	<5	<5	76	Swaziland	28.9	27.6	26.7	22.5
	Montenegro	—	—	<5	<5	77	Kenya	36.5	33.5	28.0	23.2
	Romania	8.3	6.8	6.1	<5	78	Cambodia	43.5	29.6	27.8	23.7
	Turkey	10.3	7.3	5.3	<5	78	Lesotho	32.5	29.7	26.3	23.7
	Ukraine	13.6	5.0	<5	<5	80	Benin	37.5	33.5	28.1	24.3
	Uruguay	7.7	8.1	5.4	<5	80	Namibia	30.6	28.4	30.9	24.3
16	Bulgaria	8.2	7.8	7.0	5.0	80	Togo	39.1	36.4	27.1	24.3
16	Slovak Republic	7.2	6.8	5.8	5.0	83	Lao PDR	48.0	35.8	30.3	25.3
18	Argentina	6.7	6.2	5.9	5.3	84	Botswana	33.1	31.2	28.4	25.5
19	Kazakhstan	11.3	12.4	8.8	5.5	85	Côte d'Ivoire	33.7	34.7	31.0	25.9
20	Macedonia, FYR	7.7	8.5	7.0	5.9	86	Bangladesh	36.0	30.8	30.3	26.1
21	Russian Federation	10.1	7.7	7.0	6.1	87	Malawi	44.7	37.8	31.4	26.5
22	Mexico	10.8	9.1	7.7	6.5	88	Mauritania	33.5	29.7	24.8	27.3
22	Serbia	—	—	6.7	6.5	89	Burkina Faso	47.4	48.8	36.8	27.7
24	Iran	13.5	9.4	8.1	7.3	90	Mali	44.2	38.7	27.5	27.8
25	Armenia	18.4	12.8	11.3	7.6	91	Rwanda	58.1	44.8	32.9	28.7
25	China	15.8	13.0	10.0	7.6	92	Guinea	43.7	36.8	30.9	28.9
27	Colombia	11.3	10.8	10.0	7.7	93	Ethiopia	55.9	45.9	37.2	29.1
28	Tunisia	10.7	8.6	7.6	7.9	93	Guinea-Bissau	42.4	40.3	31.0	29.1
29	Trinidad & Tobago	11.7	12.2	12.2	8.0	95	Angola	65.6	50.2	39.7	29.5
30	Georgia	14.6	10.5	8.4	8.1	95	Tanzania	42.4	35.8	34.1	29.5
31	Brazil	13.0	7.0	6.6	8.5	97	Papua New Guinea	30.9	28.2	34.3	29.7
31	Paraguay	13.9	12.5	11.4	8.5	98	Djibouti	46.7	44.1	36.5	30.1
31	Saudi Arabia	11.5	13.8	9.7	8.5	99	Congo, Rep.	37.8	37.2	32.2	30.4
34	Jamaica	8.4	8.2	8.5	8.6	99	Niger	52.5	42.6	36.5	30.4
35	Peru	20.9	18.4	12.5	8.8	101	Comoros	38.0	33.6	30.4	30.8
36	Fiji	9.8	9.3	8.6	9.0	102	Mozambique	49.1	42.4	35.8	30.9
37	Panama	19.8	17.7	12.6	9.1	103	India	38.8	38.8	32.2	31.1
38	Kyrgyz Republic	18.8	14.0	12.4	9.3	103	Nigeria	40.9	34.8	29.2	31.1
39	Algeria	15.6	12.9	10.6	9.4	105	Uganda	41.2	34.2	31.3	31.2
40	Azerbaijan	27.4	17.4	12.3	9.5	106	Pakistan	38.3	37.0	36.0	32.6
41	El Salvador	16.3	13.3	12.8	10.1	107	Zimbabwe	38.7	39.7	36.0	32.9
42	Suriname	16.0	12.5	10.5	10.2	108	Liberia	48.4	42.0	35.2	33.3
43	Dominican Republic	18.4	17.2	13.0	10.3	109	North Korea	40.3	32.9	30.9	34.0
44	Morocco	15.7	17.8	10.2	10.4	110	Timor-Leste	—	41.8	42.4	34.2
44	Thailand	18.3	13.3	12.9	10.4	111	Afghanistan	52.3	43.2	35.0	34.3
46	Oman	13.7	14.7	9.8	10.8	112	Sudan	—	—	—	34.8
47	Mauritius	15.9	15.2	14.1	11.0	113	Haiti	42.7	45.2	48.5	35.4
48	Jordan	12.2	8.5	8.3	11.2	114	Sierra Leone	54.4	51.7	40.4	35.7
49	Venezuela	15.2	12.7	8.4	11.4	115	Zambia	52.0	45.8	42.8	37.6
50	Lebanon	9.1	10.3	8.0	11.7	116	Madagascar	43.5	43.4	36.1	38.0
51	Ecuador	20.6	17.6	14.1	11.8	117	Yemen	43.2	41.7	34.5	39.7
52	Uzbekistan	23.7	17.9	15.6	12.1	118	Chad	51.4	52.0	48.9	45.4
53	Albania	21.6	16.9	15.4	12.2	119	Central African Republic	50.5	49.6	41.3	53.7
53	Turkmenistan	22.0	17.4	15.3	12.2						
55	Guyana	17.8	16.9	15.9	12.6						
55	Mongolia	31.7	24.9	15.8	12.6						
57	Malaysia	15.5	13.0	11.9	13.3						
58	Nicaragua	24.7	17.8	16.4	13.6						
59	Honduras	20.6	17.7	14.7	14.4						
60	South Africa	18.1	20.8	16.1	14.5						
61	Egypt	16.4	14.3	16.3	14.8						
62	Ghana	29.0	22.2	18.2	15.2						
63	Gabon	21.1	19.0	16.7	15.4						
64	Viet Nam	28.2	23.8	18.8	16.0						
65	Bolivia	30.3	27.1	21.8	16.7						
66	Senegal	37.3	27.8	24.1	17.2						

— = Data are not available or not presented. Some countries did not exist in their present borders in the given year or reference period.

Note: Rankings and index scores from this table cannot be accurately compared with rankings and index scores from previous GHI reports (see Chapter 1).

[1] Ranked according to 2018 GHI scores. Countries that have identical 2018 scores are given the same ranking (for example, Bulgaria and the Slovak Republic are both ranked 16th). The following countries could not be included because of lack of data: Bahrain, Bhutan, Burundi, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Libya, Moldova, Qatar, Somalia, South Sudan, the Syrian Arab Republic, and Tajikistan.

[2] The 15 countries with 2018 GHI scores of less than 5 are not assigned individual ranks, but rather are collectively ranked 1–15. Differences between their scores are minimal.

solutions. Food insecurity in Africa south of the Sahara may be more visible—major crises and the threat of famine in that region have garnered international headlines in recent years—yet the crisis in child nutrition in South Asia makes it clear that the situation there, too, is far from where it needs to be. In Africa south of the Sahara, much work remains to ensure adequate calories are accessible to all, particularly in contexts of conflict; at the same time, it is critical to promote proper nutrition and ensure a sufficient supply of diverse foods without overreliance on staples.

The Countries

Table 2.1 shows the numerical ranking, from lowest to highest hunger levels, for each country included in the GHI, as well as each country's 2000, 2005, 2010, and 2018 GHI scores. Appendix C shows the values of the GHI indicators—the prevalence of undernourishment, child wasting, child stunting, and child mortality—for each country, including their historic values. An examination of the individual indicators provides a useful glimpse into the nature of hunger and undernutrition in each country and how these have changed over time.

Appendix D shows the 2000, 2005, 2010, and 2018 GHI scores for each country, alphabetized by country. For 16 countries with GHI scores in the *moderate, serious, alarming,* or *extremely alarming* categories, their 2018 GHI scores are the same as or higher than their scores for 2010 (the most recent historical reference period in this year's report).[5] The stagnation or worsening of hunger and undernutrition in these countries is a troubling trend.

According to the 2018 GHI, six countries suffer from levels of hunger that are *alarming*, while one country, the Central African Republic (CAR), suffers from a level that is *extremely alarming*. The six countries with *alarming* levels of hunger are Chad, Haiti, Madagascar, Sierra Leone, Yemen, and Zambia. Forty-five countries out of 119 countries that were ranked have *serious* levels of hunger.

GHI scores for several countries could not be calculated because data were not available for all four GHI indicators. Yet the hunger and undernutrition situations in seven of these countries are identified as cause for significant concern (Box 2.1). In each of these seven countries—Burundi, Democratic Republic of Congo, Eritrea, Libya, Somalia, South Sudan, and Syria—violent conflict, political unrest, and/or extreme poverty have precipitated substantial flows of forced migration, which is closely associated with food insecurity as described in Chapter 3.

The Central African Republic (CAR), which has the highest 2018 GHI score—53.7—has suffered from instability, sectarian violence, and civil war since 2012. Livelihoods have been lost, markets have been disrupted, and food security has been weakened (USAID 2017a). As of December 2017, more than 1 million people had been displaced, internally or internationally, out of a population of just 5 million (IDMC 2018a). The inability of displaced people to engage in typical agricultural activities further disrupts food supplies and contributes to food insecurity (FAO 2018a). Underlying CAR's high GHI score are its extremely high undernourishment value of 61.8 percent, the highest in this year's report, and its child mortality rate of 12.4 percent, the third highest in the report. The country's child stunting and child wasting estimates are also high and cause for great concern. The situation in CAR shows clearly the role that conflict and forced migration play in deepening hunger and undernutrition.

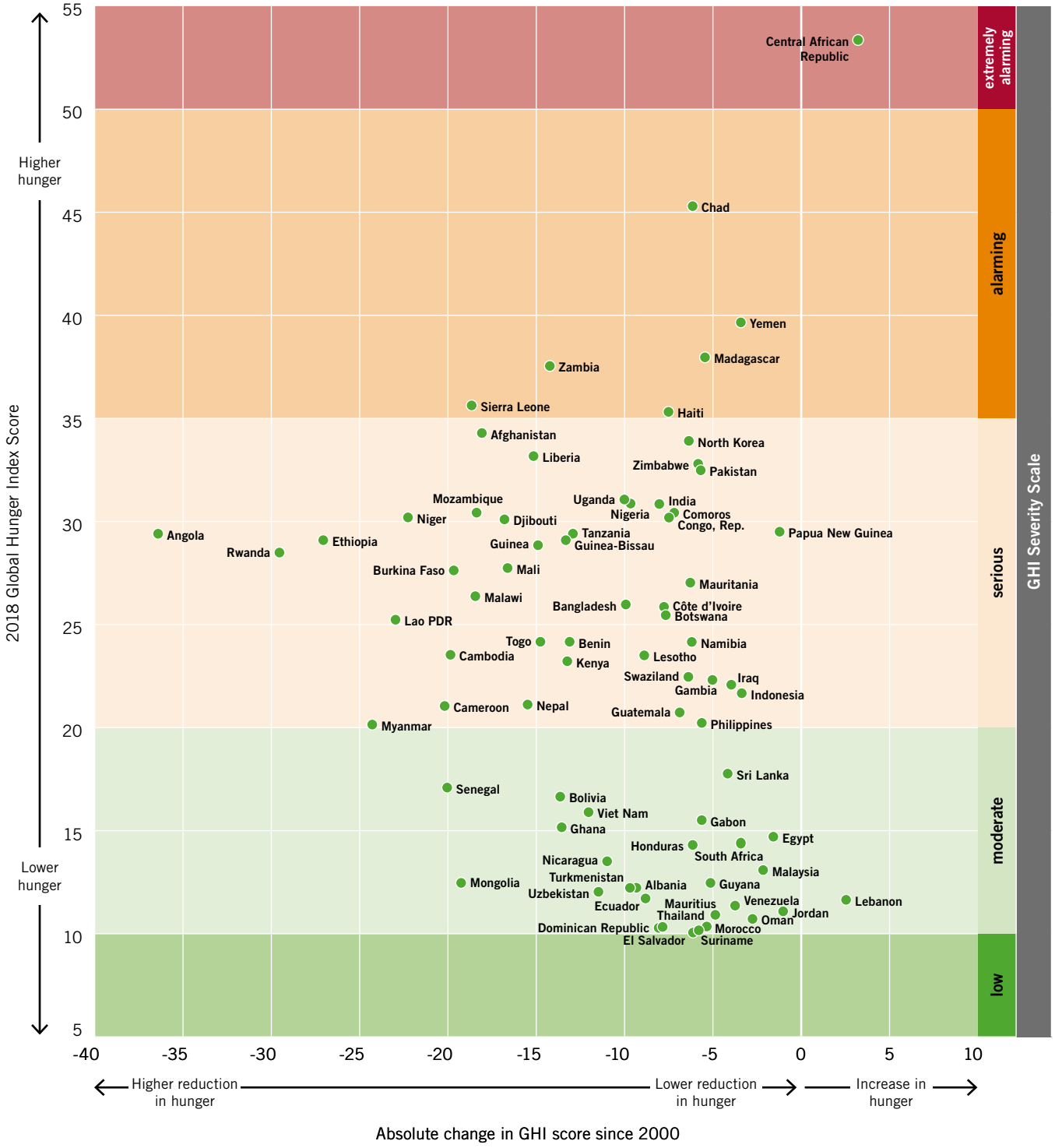
Chad, which neighbors CAR to the north, has the second-worst GHI score according to this year's ranking, at 45.4 (considered *alarming*). According to FAO, the primary factors behind Chad's worsening food security situation are the following: "conflict and instability in neighboring countries and related population movements, poor terms of trade for pastoralists, the ongoing agricultural lean season, exacerbated by chronic poverty, low economic development and climate variability" (FAO 2018c).

At 39.7, Yemen's GHI score is the third highest in this year's report and falls into the *alarming* category. With Yemen mired in conflict, segments of the population were at high risk of famine in 2017 and could still experience famine in 2018 if the worst-case situation comes to pass (FEWS NET 2018d). Yemen is heavily dependent on imported goods, including food and fuel, and a conflict-induced blockade that started in late 2017 has severely restricted the flow of critical goods into the country. Since then, imports have resumed to some extent, but the threat of future restrictions poses major risks to the population's food security and well-being (FEWS NET 2018d). In 2013, 46.5 percent—nearly half—of Yemen's children were stunted and 16.3 percent were wasted, constituting a critical public health emergency.

Haiti, with a GHI score of 35.4 and thus in the *alarming* category, has the highest hunger level in the Western Hemisphere and the seventh-highest GHI score in this report. Its undernourishment rate, at 45.8 percent in 2015–2017, is the fourth-highest rate in this year's report, after only Central African Republic, Zimbabwe, and Somalia. Low agricultural productivity in Haiti—owing in part to severe environmental degradation—places strain on national food supplies. Haiti has a long history of political instability, which has hampered its development (CFR 2018). Poverty is widespread, with more than half of the population living on less than $2 a day, and

[5] These 16 countries are the Central African Republic, Comoros, Gambia, Jordan, Lebanon, Madagascar, Malaysia, Mali, Mauritania, Morocco, Nigeria, North Korea, Oman, Sri Lanka, Venezuela, and Yemen. Countries are not included in this trend analysis if their hunger level is still considered low even with an increase since 2010.

FIGURE 2.2 **2018 GHI SCORES AND PROGRESS SINCE 2000**



Source: Authors.

Note: **This figure illustrates the change in GHI scores since 2000 in *absolute* values. The results cannot be compared to results from similar figures in previous GHI reports because of data revisions (see Chapter 1) and because previous figures featured the percentage change since 2000.** This figure features countries where data were available to calculate 2000 and 2018 GHI scores and where 2018 GHI scores show *moderate, serious, alarming,* or *extremely alarming* hunger levels. Some likely poor performers may not appear due to missing data.

this limits people's ability to gain access to much-needed food supplies (USAID 2017b). The situation was worsened first by the earthquake that struck Haiti in 2010, killing up to 300,000 people and displacing more than 1 million (DesRoches et al. 2011), and then by Hurricane Matthew, which struck in 2016, resulting in further destruction and destitution (World Bank 2017b).

In addition to considering countries' GHI rankings, it is informative to compare them with one another in terms of the individual GHI component indicators:

- → Zimbabwe, Somalia, and CAR have the highest rates of undernourishment, ranging between 46.6 and 61.8 percent.
- → Stunting rates are highest in Timor-Leste, Eritrea, and Burundi, with at least half of the children suffering from stunting in each country.
- → Wasting is most prevalent in Djibouti, India, and South Sudan, but even among these three countries the rates and estimates vary widely, at 16.7 percent, 21.0 percent, and 28.6 percent, respectively.
- → Finally, the highest under-five mortality rates are in Somalia (13.3 percent), Chad (12.7 percent), and CAR (12.4 percent).

Despite these sobering statistics, there is cause for optimism. This year's GHI includes 27 countries with *moderate* levels of hunger and 40 countries with *low* levels of hunger. Even some countries in South Asia and Africa south of the Sahara—the regions with the highest hunger and undernutrition levels—have achieved *moderate* scores, including Gabon, Ghana, Mauritius, Senegal, South Africa, and Sri Lanka.

Senegal, for example, has a 2018 GHI score of 17.2, based on an undernourishment rate of 11.3 percent, a child stunting rate of 17.0 percent, a child wasting rate of 7.2 percent, and a child mortality rate of 4.7 percent. Its child stunting rate, down from 29.5 percent in 2000, is the second lowest in Africa south of the Sahara, and its undernourishment and child mortality rates are also relatively low for the region. The reduction in child stunting has been attributed to improvements in wealth, health care, and parental nutrition and education (Headey, Hoddinott, and Park 2017). In addition, the Government of Senegal has prioritized nutrition in its national policies and institutions in recent years, including by creating a high-level national coordinating body for nutrition (Kampman et al. 2017). The government has increasingly invested in agriculture, which is an important source of economic growth and food security (USAID 2017c). Despite its successes, Senegal still faces major challenges, including threats from climate change such as coastal erosion, disruptions to rainfall patterns, and salinization of soils (IRIN 2017).

Figure 2.2 illustrates the progress that countries have made since 2000, along with their 2018 GHI scores. Angola, Ethiopia, and Rwanda, which had *extremely alarming* hunger levels as recently as 2000, have seen reductions in their GHI scores of 20 points or more, placing them now in the *serious* range. Each of these countries has experienced a destructive civil war in recent decades, but since relative calm has ensued, food and nutrition security has recovered substantially. For the countries currently experiencing devastating conflicts and crises, these examples provide evidence that with the cessation of conflict, the situation can and will improve.

To illustrate the types of programs and policies that contribute to reductions in hunger and undernutrition, chapter 4 provides a detailed account of two countries, Bangladesh and Ethiopia, including how and why their GHI scores and the underlying indicator values have improved over time.

Within Country Borders

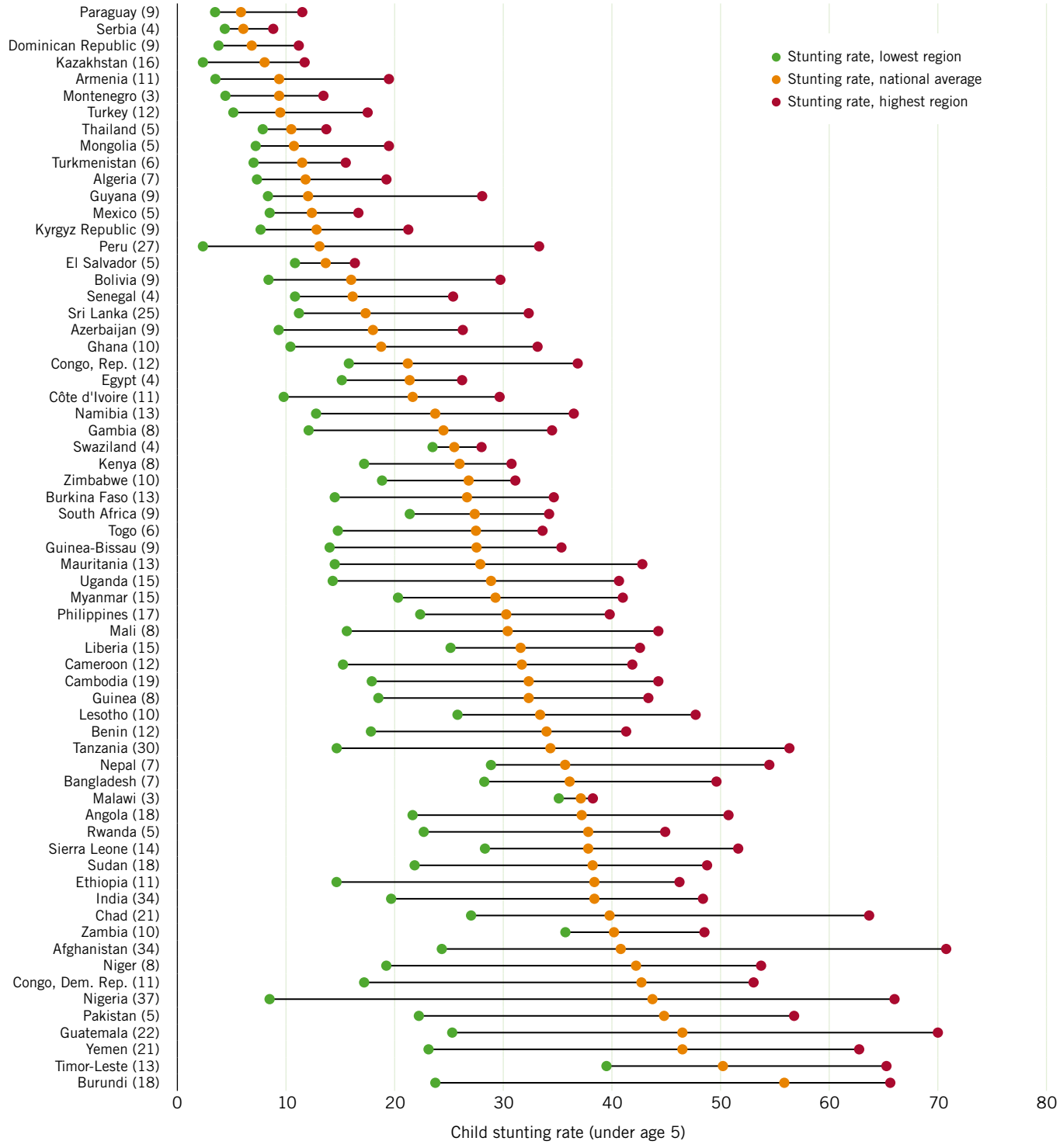
While it is valuable to understand hunger and undernutrition rates at the country level, national scores can mask substantial variation within country borders, raising the risk that serious problems at the subnational level may go unnoticed and unaddressed. Furthermore, recognizing the nature of the hunger and undernutrition challenges facing individual areas within a country can help to better tailor interventions and policies to meet those areas' needs.

Figure 2.3 illustrates the subnational disparities in child stunting rates for children under the age of five in 65 countries.[6] Childhood stunting is a key indicator because it can be caused by a wide range of factors—not just inadequate consumption of calories, but insufficient intake and absorption of micronutrients related to broader physical health and recurrent diseases that affect child growth. For each country with available data, this figure shows the stunting rates for the states or areas with the highest and lowest stunting levels, as well as the national average. In addition to inequality in nutrition and health, several other factors influence the size of the within-country gap in stunting levels, such as the number of subnational units into which a country is split for the sake of the survey, national population size and land area, and the average national stunting level.

Countries in all regions of the world exhibit wide variations in stunting levels. Latin America, for example, has one of the lowest

[6] Child stunting is highlighted here because subnational data for this indicator are available for a wide range of countries and because, unlike child wasting, child stunting is not significantly subject to seasonal variation.

FIGURE 2.3 **SUBNATIONAL INEQUALITY OF CHILD STUNTING**



Source: Authors. Based on surveys listed in UNICEF/WHO/World Bank (2018a) and WHO (2018), from 2013–2017. Countries included are those with subnational stunting data available for 2013–2017.

Note: The number in parentheses following each country name indicates the number of subnational units into which the country was divided for the sake of the survey. All stunting values in this figure are taken directly from original survey reports. The national averages may vary slightly from those used for GHI calculations, which in some cases underwent additional analysis before inclusion in UNICEF/WHO/World Bank (2018a).

BOX 2.1 **COUNTRIES WITH INSUFFICIENT DATA, YET SIGNIFICANT CONCERNS**

In the case of 13 countries assessed for the GHI, data were unavailable for one or more indicators used in the GHI formula, preventing the calculation of their 2018 GHI scores. In some cases, data are unavailable as a result of violent conflict or political unrest, which are also strong predictors of hunger and undernutrition, so the countries with missing data may be the ones suffering most. Based on the data that are available and information from international organizations that specialize in combating hunger and undernutrition, we have determined that 7 of the countries with missing data are cause for significant concern. The following is a brief explanation of what is known about the hunger and nutrition situation in each of the 7 countries; the table below shows the existing GHI indicator values for these countries.

BURUNDI: Approximately 1.67 million Burundians out of a population of 11 million are estimated to be severely food insecure (FAO GIEWS 2018). Chronic malnutrition, as measured by child stunting (the prevalence of low height-for-age), is rampant in Burundi. At 55.9 percent, Burundi's child stunting level is the highest of all countries covered in this report. More than a decade of violent conflict from 1993 to 2005 contributed to Burundi's poor food and nutrition security situation (Verwimp 2012; WFPUSA 2015). Since the onset of political unrest in 2015, roughly 420,000 Burundian refugees have fled to neighboring countries, where budget shortfalls for humanitarian efforts present a challenge in terms of ensuring adequate food and health services for the refugee population (UNHCR 2018c).

DEMOCRATIC REPUBLIC OF CONGO (DRC): The DRC has been beset by ongoing conflict and far-reaching poverty in recent decades. Since 2016, increasing levels of violence have precipitated a crisis; as of December 2017, about 4.5 million people were internally displaced and more than 700,000 refugees had fled to neighboring countries (UNHCR 2018d; USAID 2018c). In 2017, 7.7 million Congolese in rural areas faced acute food insecurity, a 30 percent rise from the previous year, precipitated largely by violence and displacement (IPC 2017). Roughly 43 percent of children under the age of five are stunted, 8 percent are wasted, and the child mortality rate is 9 percent. According to the World Food Programme, "The combination of persistent violent armed conflicts, massive population displacements, poor or inexistent infrastructures, and widespread deterioration of productive assets have significantly affected food security in the DRC over the past two decades" (WFP 2015).

EXISTING GHI INDICATOR VALUES

Country	**Undernourishment** Prevalence of undernourishment 2015–2017 (%)	**Child Stunting** Prevalence of stunting in children under five 2013–2017 (%)	**Child Wasting** Prevalence of wasting in children under five 2013–2017 (%)	**Child Mortality** Under-five mortality 2016 (%)
Burundi	—	55.9	5.1	7.2
Congo, Dem. Rep.	—	42.6	8.1	9.4
Eritrea	—	52.8*	14.5*	4.5
Libya	—	25.3*	3.9*	1.3
Somalia	50.6	—	—	13.3
South Sudan	—	37.6*	28.6*	9.1
Syrian Arab Republic	—	—	—	1.8
Global Average**	12.3	27.9	9.3	4.2

Source: Authors. See Appendix B for a list of data sources.

Note: — = not available. *indicates authors' estimates. **The global averages for each indicator are population-weighted averages based on the countries included in this report and differ from the global averages reported elsewhere owing to the inclusion of different countries.

ERITREA: According to the World Health Organization (WHO), malnutrition is one of the greatest public health problems facing Eritrea (WHO and MOH 2014; WHO 2014). Eritrea's child stunting rate is estimated to be 52.8 percent and its child wasting rate 14.5 percent, although updated data on these indicators are badly needed. The country's child mortality rate has declined in recent years, from 8.9 percent in 2000 to 4.5 percent in 2016. Undernutrition in Eritrea is related to the challenges of food production that result from limited arable land, water shortages, and frequent droughts. Severe poverty also limits people's ability to buy food (UNICEF 2015). Eritrea ranks 179th out of 188 countries in the UN Human Development Index (UNDP 2016). According to the UN Human Rights Council, human rights abuses, indefinite conscription, and a faltering economy have helped make Eritrea one of the largest refugee-producing countries in the world (UNHRC 2015). A peace agreement signed between Eritrea and Ethiopia in July 2018 officially ended hostilities that have been ongoing between the two countries since 1998. The signing of the accord has the potential to ease Eritrea's conscription policy, enabling its population to engage in more productive livelihoods and redirect resources from security operations to development purposes, which may improve food and nutrition security.

LIBYA: Since the Arab Spring protests in 2011 and the capture and death of longtime authoritarian ruler Muammar Gaddafi, Libya has faced ongoing conflict between rival groups over control of the country. Conflict and instability have disrupted agricultural production and diminished the supply of food available for sale in markets. Refugees, asylum seekers, and internally displaced people are particularly vulnerable to food insecurity (FAO GIEWS 2017a). Libya's child stunting rate is estimated at 25.3 percent, child wasting at 3.9 percent, and child mortality at 1.3 percent. Although these values are not extremely high, updated data are urgently needed to shed light on how Libya's conflict has affected food security and undernutrition.

SOMALIA: In 2011, Somalia experienced a famine that took the lives of more than 250,000 people (Seal and Bailey 2013), and in 2017 a severe drought again brought the country to the brink of famine (FEWS NET 2017). While the situation has improved in 2018, many still face food insecurity, particularly in the northern and central parts of the country. Herd sizes are smaller than normal owing to last year's drought and will likely take several years to recover, leaving households with insufficient assets for food purchases (FEWS NET 2018b). The prevalence of undernourishment in Somalia for 2015–2017 is estimated to be 50.6 percent—in other words, half of the population has insufficient access to calories. This is the second-highest undernourishment rate in this report, after that of the Central African Republic. Somalia's child mortality rate, at 13.3 percent, is the highest rate of child mortality among all the countries included in this report.

SOUTH SUDAN: A civil war that began in 2013 has plunged South Sudan into crisis. Large segments of the population have been displaced. Engagement in typical economic activities including food production is severely limited (FEWS NET 2018c). In February 2017, the UN declared that the counties of Leer and Mayendit in Unity State were in the midst of famine (FAO 2017a). As of February 2018, nearly half of the country's population faced crisis-level food insecurity or worse, with the possibility of famine unless humanitarian assistance is forthcoming (FEWS NET 2018c). Nearly 1 in 10 children does not survive to his or her fifth birthday. Child stunting and child wasting are estimated to be 37.6 percent and 28.6 percent, respectively, though updated child nutrition data are necessary.

SYRIAN ARAB REPUBLIC: Since the onset of the Syrian civil war in 2011, food insecurity has been a serious and ongoing concern. As of June 2018, 10.5 million people out of a population of 18 million were considered unable to meet their basic food needs owing to soaring food prices, widespread displacement, disrupted markets and transport systems, damaged agricultural systems, and loss of jobs and livelihoods (USAID 2018b). Furthermore, the Syrian government has been accused of using food blockades as a weapon of war, deliberately exacerbating the situation (Human Appeal 2018). Up-to-date figures on the prevalence of undernourishment, child stunting, and child wasting were not available for this year's GHI.

regional hunger levels, yet stunting levels in Guatemala's departments range from 25 percent to a staggering 70 percent. The highest stunting levels are found in the western highlands, where the population consists mainly of indigenous groups and where the country's civil war (1960–1996) took a heavy toll (IFAD 2012). Peru's indigenous population is more likely than the non-indigenous population to live in poverty and to experience the double burden of malnutrition as measured by child stunting along with overweight or obesity among women (Ramirez-Zea et al. 2014). In Peru, stunting levels range from 2.3 percent in the coastal region of Tacna to 33.4 percent in the mountainous and highly indigenous region of Huancavelica. Peru's average child stunting rate has fallen dramatically in recent years, from nearly 30 percent in 2004–2006 to 13.1 percent in 2016. The largest declines have been in the mountainous areas, falling from 43.2 percent to 21.2 in this period (INEI et al. 2007; INEI 2017). Peru's reduction in stunting has been influenced by social factors such as the percentage of families with at least one unmet basic need, the percentage of families living below the poverty line, urbanization, and women's schooling (Huicho et al. 2017). Even so, the continued challenges in regions such as Huancavelica and for indigenous groups must not be overlooked.

In many cases, the areas with the lowest stunting levels are predominantly urban areas, such as national capitals, that are outliers relative to other parts of the country. An example of this is Burundi, where the national average is 55.9 percent, and the stunting level in the lowest province—Bujumbura Mairie, home to the capital city—is just 23.7 percent. In fact, other than Bujumbura Mairie, all 17 other provinces have stunting levels between 49 and 66 percent, indicating that extremely high stunting levels are widespread throughout the country with the exception of the capital (MPBGP et al. 2017).

In other cases, there are areas where stunting is exceptionally high relative to the country as a whole. For example, in the case of the Republic of Congo, the national average for stunting is 21.2 percent, whereas 36.9 percent of children in the department of Sangha are stunted. Sangha is in the northern part of the country, situated between Likouala and Cuvette-Ouest departments, which also have stunting levels above 30 percent. The Republic of Congo is highly urbanized (World Bank 2018d), yet its northern departments are sparsely populated and heavily forested (Statoids 2015). Infant and young child feeding practices, children's health, and treatment practices for childhood illnesses are not extraordinarily poor in these departments, although Sangha and Cuvette-Ouest do have the lowest percentages of infants who are predominantly breastfed. Moreover, consumption of iodized salt, the absence of which is associated with child stunting (Krämer et al. 2016; Semba et al. 2008), is substantially lower in Sangha and Cuvette-Ouest than in other departments (INS and UNICEF 2015).

In large and highly populous Nigeria, stunting levels are dichotomous, with a stark difference between rates of stunting in the north and the south of the country. In the south, near the Atlantic coast and Nigeria's largest city, Lagos, stunting levels are consistently between 10 and 20 percent, whereas in the north they rise to 50 percent or higher (NBS and UNICEF 2017). Households in the north tend to be poorer on average and depend heavily on agricultural activities, which in some northern states have been disrupted by terrorist activity; these disruptions increase food insecurity and may contribute to child stunting (Akombi et al. 2017). In northern Nigeria, stunting starts at an earlier age than in the rest of the country, suggesting that the poor nutritional status of the mother during pregnancy is a greater problem there. Efforts to address child stunting in Nigeria must take into account these and other differences (Amare et al. 2018).

In addition to geographic inequalities, there are other important dimensions of inequality, such as gender-based inequality, racial and ethnic inequality, and inequality based on educational status. Disaggregated hunger and nutrition indicators other than child stunting should also be considered. In the formulation of policies and interventions to address undernutrition, the key is to consider these and other factors as a means of both diagnosing the problem and devising solutions to meet the challenges at hand.

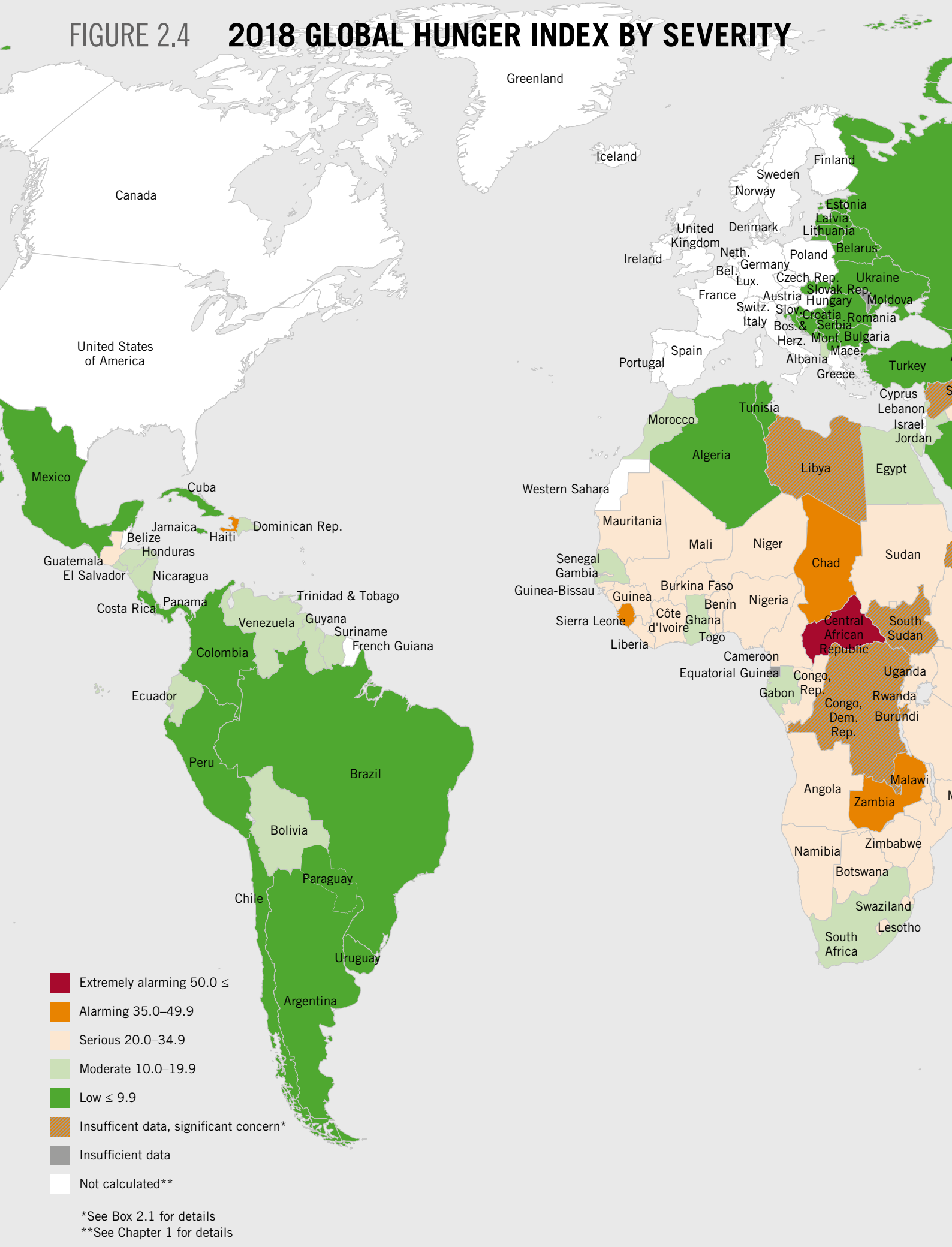
Conclusion

The 2018 GHI reveals that broadly speaking, hunger and undernutrition have fallen since 2000, but progress in many areas has stagnated or even reversed in recent times. At the regional level, this stagnation manifests itself in stalled progress on certain indicators—since 2010 the rate of child wasting in South Asia has increased, and the prevalence of undernourishment in Africa south of the Sahara has increased marginally. Of the countries with *moderate, serious, alarming,* or *extremely alarming* hunger levels, 16 have seen no improvement or even experienced a deterioration in hunger levels since 2010.

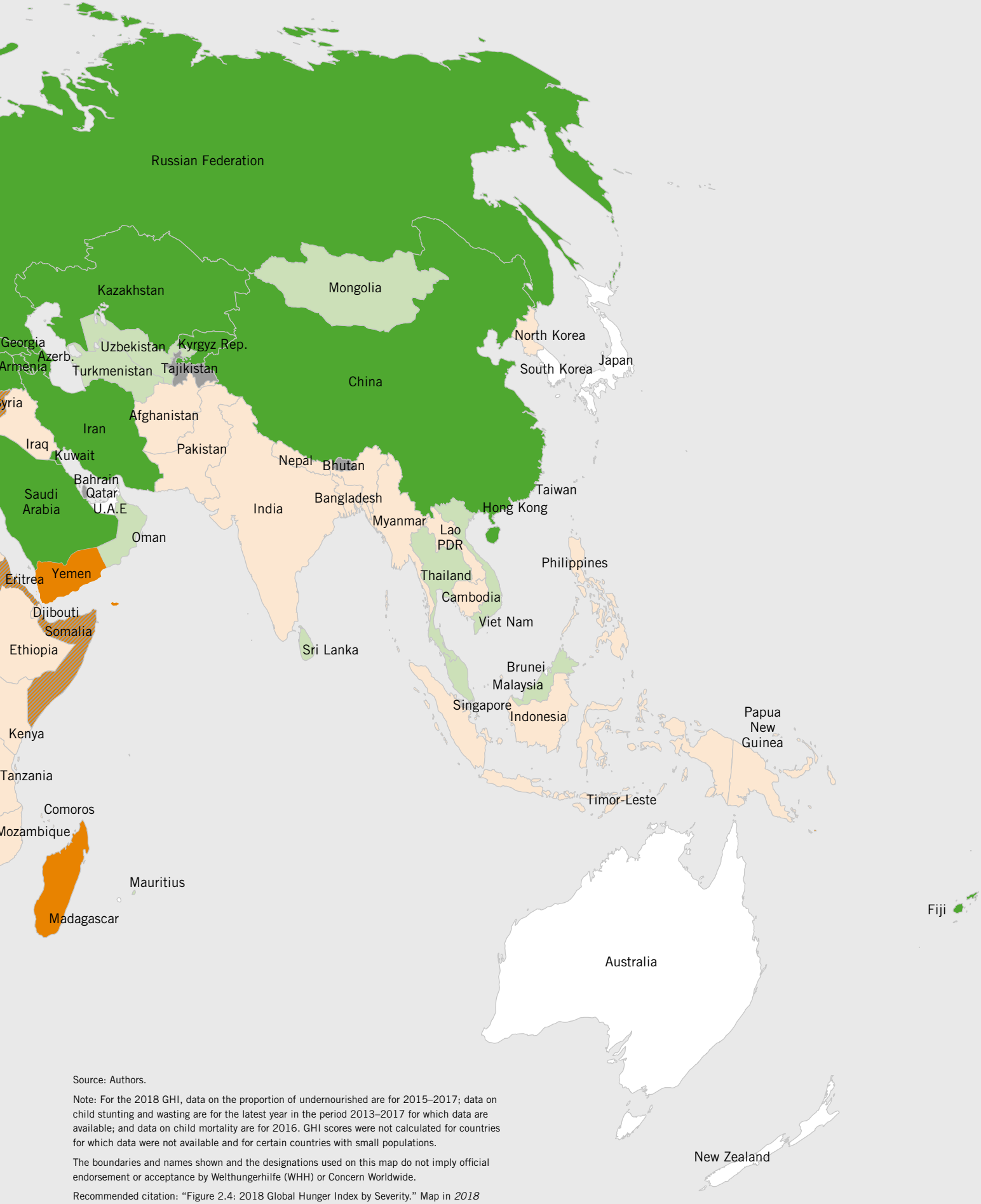
Countries facing conflict fare particularly poorly owing to disruptions to food and clean water supplies, livelihoods, and health care services, which combine to jeopardize food and nutrition security. In many cases, the conditions precipitate crises of forced migration, and those who are displaced both within and beyond their home countries struggle to properly feed themselves and their families. This is the case in many of the countries that rank the worst according to the GHI, as well as the countries for which there are inadequate data to calculate scores.

Yet there is still hope. Countries that experienced brutal civil wars and *extremely alarming* hunger levels in the past have seen remarkable reductions in hunger once their situations stabilized. Although there are exceptions, the overall trends in hunger and undernutrition are promising and show improvements over time. The international community is committed to achieving the SDGs, including SDG2, known in short as Zero Hunger. This report highlights the parts of the world where achieving this goal will be most challenging and where acceleration in the reduction of hunger is most critical. For these areas, this much-needed acceleration will require not just diligence in implementing the plans and policies that are currently in place, but increased efforts, innovative thinking, and a commitment to working more deeply and broadly to address the root causes of hunger.

FIGURE 2.4 2018 GLOBAL HUNGER INDEX BY SEVERITY



*See Box 2.1 for details
**See Chapter 1 for details



Source: Authors.

Note: For the 2018 GHI, data on the proportion of undernourished are for 2015–2017; data on child stunting and wasting are for the latest year in the period 2013–2017 for which data are available; and data on child mortality are for 2016. GHI scores were not calculated for countries for which data were not available and for certain countries with small populations.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by Welthungerhilfe (WHH) or Concern Worldwide.

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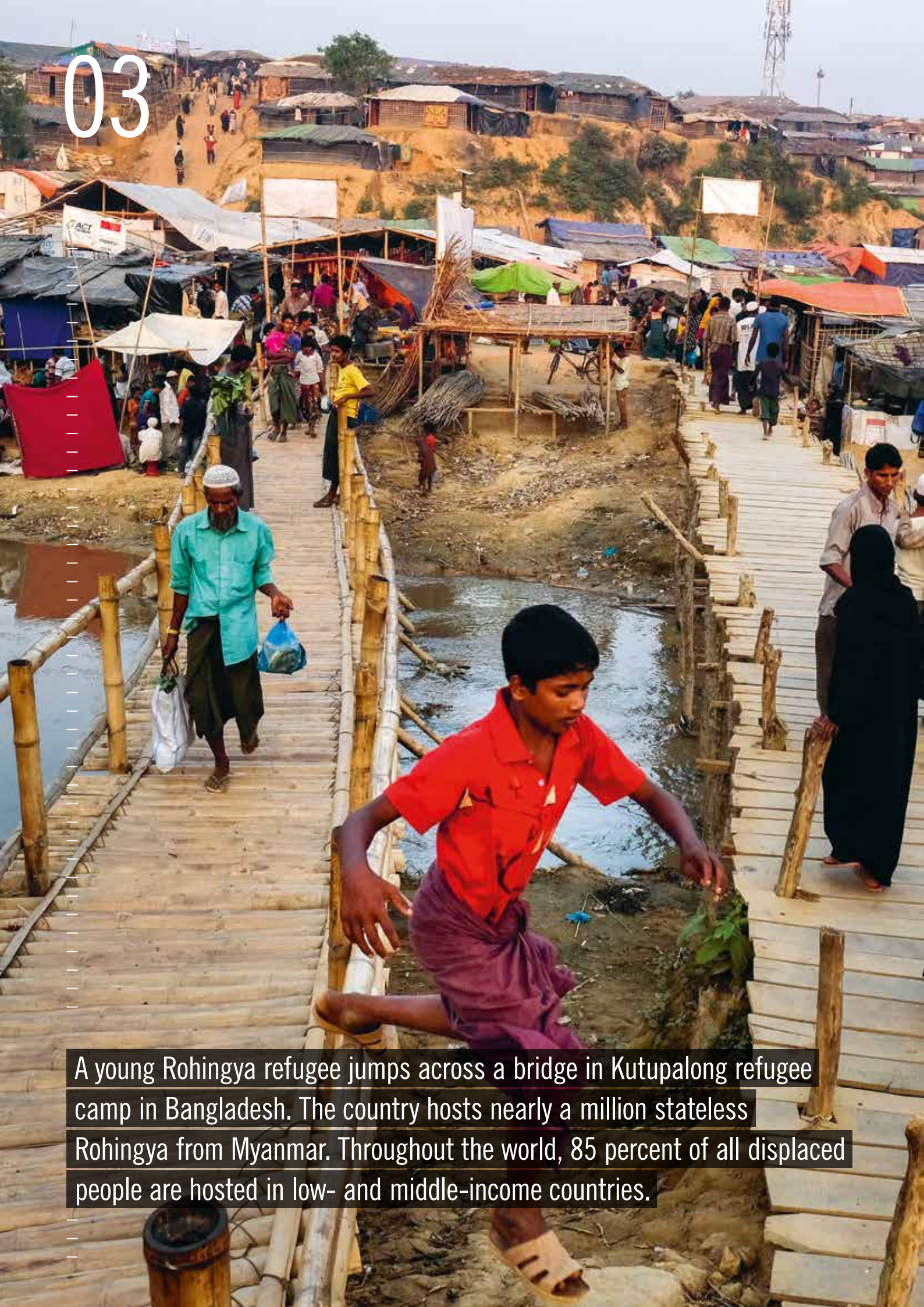
03



A young Rohingya refugee jumps across a bridge in Kutupalong refugee camp in Bangladesh. The country hosts nearly a million stateless Rohingya from Myanmar. Throughout the world, 85 percent of all displaced people are hosted in low- and middle-income countries.

FORCED MIGRATION AND HUNGER

Laura Hammond
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Across the globe, people are being forcibly displaced from their homes on a massive scale (Figure 3.1). There are an estimated 68.5 million displaced people worldwide, including 40 million internally displaced people (IDPs), 25.4 million refugees, and 3.1 million asylum seekers (UNHCR 2018g). These groups are compelled to flee conflict, violence, and natural or human-made disasters in order to reach safe places where they can support themselves and their families. Most people are displaced not as the result of just one factor, but because of a combination of factors, with hunger often figuring prominently in their experience. Hunger is a persistent danger that threatens the lives of large numbers of forcibly displaced people and influences their decisions about when and where to move.

> **There are 6,790 people in the camp, living in makeshift shelters made of branches and plastic sheeting. We all suffer in the camp. I came with nothing except for the clothes I was wearing. There is not enough food, not enough water, and not enough medication to treat the sick.**
> —An internally displaced woman at a camp in the Democratic Republic of Congo, March 2018

During periods of conflict, hunger may be both a cause and a consequence of forced migration[1]. People affected by conflict experience it not only as a threat to their lives but as an assault on their livelihoods that can undermine their ability to provide for their most basic needs, including food. Conflict can restrict people's movement and their access to markets, farmland, and jobs. If they cannot produce the food they need to survive or earn an income to purchase that food, their nutritional well-being is compromised. Some people do indeed manage to flee to safety with the bulk of their savings or assets intact and so do not face the immediate threat of hunger before they are displaced. Others are not as fortunate: by the time they move, they have lost everything. Still others are displaced multiple times, with each move further eroding their resilience, livelihood, and food security. Predicting when people are likely to be displaced is an inexact science; some clues may be found by analyzing past displacements within the same population. However, levels of risk and violence and perceptions of the opportunities or resources that may be available at the intended destinations may lead to very different decision-making pathways among individuals and households, even within the same population.

Particular crises present enormous challenges to already poor regions in terms of both hunger and displacement. The Syria crisis, now in its seventh year, has displaced more than 6.7 million people inside the country and sent more than 5 million refugees into neighboring countries (IDMC 2018d; UNHCR 2018j). It has rendered 4 million people in host communities in need of assistance (UNHCR 2017b). Since the collapse of the Somali state in 1991, more than 1.5 million people have been internally displaced and another 1 million are living as refugees in the region (UNHCR 2018h). The recent resurgence of fighting in South Sudan has resulted in more than 2.4 million refugees and 1.7 million IDPs (UNHCR 2018i). These crises have put severe pressure on the Horn of Africa region.

Ninety-five percent of the 2.6 million Afghan refugees are sheltered in just two countries—Iran and Pakistan (UNHCR 2018a). The long-standing predicament of stateless Rohingya from Myanmar has come to a head with nearly 1 million people—many suffering from acute food insecurity, poor health, and injuries caused by violence—seeking shelter in Cox's Bazar, Bangladesh, which has become the most densely populated refugee settlement in the world (Safi 2018).

As different as these cases are, they share a number of similarities. In each situation, the displaced are fleeing conditions that make it unsafe to remain in place. Their access to basic food and other supplies is insecure. And although displaced people can and often do make valuable contributions to local economies and communities, they can—by their sheer force of numbers and scale of needs—also place a heavy burden on the communities, governments, and regions that host them, particularly if humanitarian assistance is lacking or inadequate. It is, however, possible to overstate the costs of hosting refugees. As Maystadt and Breisinger's review of refugee hosting concludes, "in developing countries, the impact of refugee inflows can be positive if there is sufficient donor aid" (2015, 3).

An analysis of the interplay between hunger and forced migration reveals four common misperceptions. These misperceptions about both hunger and forced migration are persistent and continue to influence policy despite considerable evidence showing that they are not productive. They stand as obstacles to tackling the root causes of displacement, to meeting people's range of needs for the full duration of their displacement, and to working toward effective solutions.

[1] Throughout this essay, I use the term *forced migration* based on the definition adopted by both the International Association for the Study of Forced Migration (IASFM) and the International Organization for Migration (IOM). It refers to "movements of refugees and internally displaced people (those displaced by conflicts) as well as people displaced by natural or environmental disasters, chemical or nuclear disasters, famine, or development projects" (Forced Migration Online 2012; IOM 2018). This broad definition—adopted by both the research and the policy/practice communities—encompasses more than just refugees to include other types of displaced people, as well as a wide range of potentially overlapping causes of displacement, and is particularly relevant when discussing hunger and food and nutrition insecurity in connection with displacement.

Note: The views expressed in this chapter are those of the author. They do not necessarily reflect the views of Welthungerhilfe or Concern Worldwide.

This essay challenges each of these misperceptions and proposes the following ways of understanding and addressing the issues:

1. **HUNGER AND DISPLACEMENT** should be recognized and dealt with as political problems.

2. **HUMANITARIAN ACTION ALONE** is an insufficient response to forced migration, and more holistic approaches involving development support are needed.

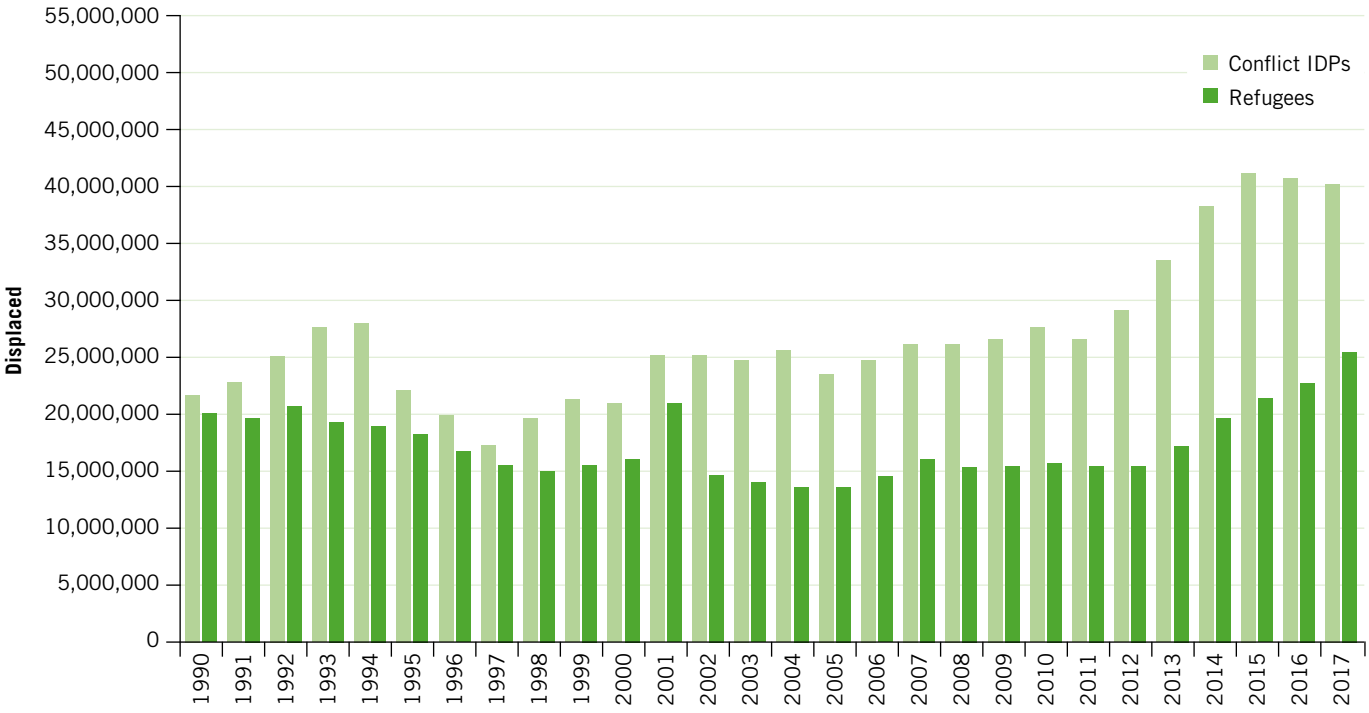
3. **FOOD-INSECURE** displaced people should be supported in their regions of origin.

4. **THE PROVISION OF SUPPORT** should be based on the resilience of the displaced people themselves, which is never entirely absent.

Overall, the tools currently used to respond to forced migration are insufficient because they focus on technical, short-term humanitarian responses rather than addressing the political economy of displacement and the longer-term needs of the displaced.

This call to refocus the world's approach to forced migration and hunger is relevant and timely. The Sustainable Development Goals (SDGs) promise to "leave no one behind," and SDG2 commits the world to ending hunger by 2030. Yet for regions hosting millions of displaced persons, the prospects for meeting those goals without considering how to include displaced populations are slim. In September 2018, the Global Refugee Compact, a nonbinding agreement, was ratified by the UN General Assembly 2018. This agreement seeks to bring together the international community to address a perennial gap in the international system for the protection of refugees: the need for more predictable and equitable sharing of the burden and responsibility among states and other stakeholders (UNHCR 2018f). Furthermore, in May 2018 a Plan of Action for Advancing Prevention, Protection and Solutions for Internally Displaced People 2018–2020 was launched (Global Protection Cluster 2018) to mark the 20th anniversary of the Guiding Principles on Internal Displacement. Progress in these areas will depend on a clear understanding of the causes and consequences of hunger and forced displacement.

FIGURE 3.1 **REFUGEES AND IDPS DISPLACED BY CONFLICT AND VIOLENCE, 1990–2017**



Source: IDMC (2018b), UNHCR (2016, 2018g).

1 Hunger and Displacement Must Be Understood and Addressed as Political Problems

Hunger is often understood to result from environmental or natural causes. Many analysts attributed the 2011 famine in Somalia, for instance, to the "worst drought in 60 years" (BBC 2011) rather than to the complex interplay of violent conflict and the blocking of humanitarian access and displacement routes—factors that, when combined with the drought and the extreme destitution of people living in agricultural and agro-pastoral areas of southern and central Somalia, led to mass starvation.

In fact, hunger, like displacement, is usually the result of political circumstances. Natural disasters—droughts, floods, and severe weather events—lead to hunger and displacement only when governments are unprepared or unwilling to respond because they either lack the capacity or engage in deliberate neglect or abuse of power. Drought, for example, is a slow-onset disaster that takes several years to develop. With adequate early warning and response systems, as well as a healthy dose of political will, there is no reason that drought must lead to hunger and famine.

As Alex de Waal pointed out in his 2015 essay for the Global Hunger Index report, large-scale famines are becoming a thing of the past (von Grebmer et al. 2015). Governments are increasingly able to predict, prepare for, prevent, and respond to the circumstances that once caused millions of people to starve to death, and they are held to account by their citizens, who expect them to take these actions. Early warning systems, emergency food security reserves, strategies to protect and build assets, risk insurance, and employment schemes are but a few mechanisms for ensuring that people affected by natural disaster, economic misfortune, conflict, or violence do not go hungry. Moreover, as Amartya Sen has argued, governance systems that are held to account by the people they represent—through a free press, democratic participation, and transparent leadership—are much less likely to allow hunger to develop on their watch, lest they find themselves removed from power by their constituents (Sen 2001). This argument can be extended to non-state actors that aspire to take control of government at local or national levels; demonstrating the capacity and willingness to work to prevent hunger and displacement may help attract supporters if a non-state actor is seen as behaving like an accountable state.[2]

Nonetheless, hunger and its most extreme form—famine—are still allowed to occur, often because of deliberate policy or targeting, negligence, or lack of capacity that prevents people from getting access to the resources they need. Culpability for causing hunger can often be assigned to individuals or institutions (Edkins 2008; Menkhaus 2012). Countries with the highest incidence of hunger in 2018 are also places affected by conflict, political violence, and population displacement.

Populations affected by disaster often face an increased risk of hunger whether they are forcibly displaced or forcibly immobilized. The factors that compel people to move also block their access to food. People who are unable to work, to move freely in their home area, to sell their farm products at market, or to access basic services face major challenges in securing enough food to support themselves and their family. Sometimes they are unable to move in the face of these risks because it is too dangerous to leave or because they cannot afford to go. Civilians facing starvation in Syria and Yemen in 2018, for instance, include both internally displaced people and people trapped in siege conditions. In Syria in 2016, 1 in 3 people who were internally displaced or living under siege was unable to afford basic food items; the displaced were reported to be the most vulnerable citizens remaining in the country (Lovelle 2016). In Yemen, Human Appeal reports that "the Household Hunger Scale (HHS) has nearly tripled since 2014, seeing 40% of Yemeni households going to sleep hungry, and nearly 20% of households reported having gone 24 hours without eating" (Human Appeal 2018, 15).

International humanitarian law prohibits the use of food deprivation or hunger as a weapon of war. This prohibition includes the deliberate targeting of "foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works, for the specific purposes of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive" (Additional Protocol I to the Geneva Conventions, 1977: Article 54(1)). This prohibition is reiterated in UN Security Council Resolution 2417 on hunger and conflict, passed in May 2018, condemning the starving of civilians and unlawful denial of humanitarian access as a tactic of war. However, violations of humanitarian law take place regularly, and making people go hungry is a common tactic used by state and non-state actors.

The tactic was used in 2011 in Somalia, where drought, conflict, lack of humanitarian access, and high global food prices combined to create a deadly perfect storm in which it is estimated that more than 250,000 people died (LSHTM and Johns Hopkins University 2013). One factor precipitating the famine was action by the rebel al-Shabaab movement, which blocked people who were trying to leave the areas worst affected by drought so that they could not reach the IDP camps in the capital, Mogadishu, or the Dadaab refugee camps in Kenya (Menkhaus 2012; Maxwell and Majid 2016). The movement

[2] This is a reason that the Guiding Principles on Internal Displacement are promoted not only among state parties but among non-state actors. See Bellal, Giacca, and Casey-Maslen (2011).

claimed that it did not want to encourage dependency among those who had been affected by drought and that it would be better for people to be assisted closer to their homes so that they could get back to work as quickly as possible. This strategy was intended to maintain al-Shabaab's base of support in the rural areas by preventing people from going to government strongholds in urban centers, a strategy that was generally unsuccessful and worsened the suffering of those who were unable to leave the area. At the same time, the Transitional Federal Government of Somalia (TFG) blocked aid agencies' access to areas under al-Shabaab control. According to Menkhaus, "humanitarian agencies were also targeted by the TFG, which accused them of channeling food aid and colluding with 'the enemy.' Many security incidents involving aid agencies were suspected of being the work of TFG officials and their paramilitaries, not al-Shabaab. The operating environment was thus not only much more dangerous and nonpermissive, but unpredictable" (Menkhaus 2012, 32).

This reality means that responses to forced displacement must engage with the underlying political factors. Support is needed for policies designed to prevent conflict and build peace at all levels, as well as for policies that reinforce government accountability and transparency, which make it more difficult for governments to shirk their duty to meet citizens' basic needs for safety and food security.

2 Humanitarian Action Alone Is an Insufficient Response to Forced Migration

The world's response to situations of forced migration is almost always to undertake humanitarian action—and nothing else. When a displacement crisis begins, humanitarian operations are launched for refugees and IDPs to save lives and provide basic shelter, health care, water and sanitation, and food security and nutrition. Assistance is designed to protect people from imminent death, disease, and starvation. This support can help stabilize an emergency situation and save many lives in the short term, particularly the lives of those weakened by the conditions of displacement and the journey to safety.

Humanitarian assistance is not designed to support people over the long term. Refugees receive assistance to meet only their most basic food and nonfood needs, often in the hope and expectation that they will be able to return to their areas of origin before long. This wager has proven time and time again to be misguided, as people remain displaced for years. Most forced migration is protracted: people spend many years—even generations—being displaced. It is estimated that more than 80 percent of the world's 22 million refugees have been displaced for more than 10 years, while 40 percent have been displaced for more than 20 years. The average duration of displacement for a refugee is currently 26 years (UNHCR 2017a). Even where people are displaced short distances and can sometimes return to their homes, as in South Sudan, the dynamics of violence and the unpredictability of attacks prevent people from returning in the longer term.

Protracted displacement is both a political and a development problem, and the failure to see it as such leaves people unable to secure their livelihoods in ways that would protect them from hunger and make them more resilient to shocks. In refugee settings, food rations and cash support are minimal, and after the initial emergency phase is over, micronutrient diseases—such as iron-deficiency anemia, vitamin A deficiency, pellagra (niacin deficiency), and scurvy (vitamin C deficiency)—are common (Seal and Prudhon 2007). Displaced people's mobility, legal status, access to services, and employment remain constrained and therefore precarious. Often, they are not integrated into labor markets, they do not own productive assets such as land or livestock, and they do not have reliable access to affordable education, health care, or other services. They may not be able to call on their relatives and neighbors as effectively to help them if the entire community has been displaced for the same reasons or if they have moved without that social network. Moreover, the humanitarian tools used to prevent and respond to hunger among the displaced, or those at risk of displacement, cannot keep hunger at bay because they tend not to address the long-term dynamics and implications of displacement. Furthermore, they do not sufficiently address the causes of hunger, which means that those who are affected do not recover sufficiently to withstand future shocks.

In the Horn of Africa, Somali refugees living in camps in Kenya are not able to move freely outside the camps; they lack access to land and livestock and most forms of employment. IDPs living in Somalia are similarly constrained, not by regulations but by extreme marginalization and destitution; they lack access to steady employment and are often unable to return to their areas of origin owing to continued insecurity.

There has been some recognition of the need to address protracted displacement as a development issue, but little action has been taken. The 2016 World Humanitarian Summit (WHS) called for a "new approach" to "recognize both the humanitarian and development challenges of displacement" (WHS 2016). In a follow-up initiative to the WHS titled the Grand Bargain, countries committed to "enhance engagement between humanitarian and development actors" (UN OCHA 2018). Several initiatives have been devised to try to coordinate humanitarian and development activities for displaced populations—including the EU's efforts to link relief, rehabilitation, and development (LRRD) (EU 2012) and the Committee on World Food Security's Framework for Action for Food Security and Nutrition in Protracted Crises (CFS 2015). At present, however, there

is no effective way of transitioning from humanitarian assistance to more development-oriented support. Funding for development-oriented support for protracted displaced persons—those displaced for more than five years—is in short supply. The result is that there is inadequate (and sometimes a complete lack of) support to help people rebuild their lives while they live as displaced persons or refugees. This causes emergency operations to extend for years and years, while the very nature of protracted displacement renders people chronically vulnerable to hunger and destitution. They become reliant on external support for food and other basic requirements of life, and when these resources are not available on a regular and adequate basis they may be vulnerable to the effects of food insecurity.

Protracted displacement is a growing phenomenon, reflecting failed and failing politics at many levels. Within this political vacuum, humanitarian aid has been—and continues to be—the default response. Yet the burden on that humanitarian system is growing year on year as the number of emergencies rises and the gap between promised and delivered funding widens. In 2017, global humanitarian funding stood at just over US$27 billion; even so, the UN appeals suffered a shortfall of 41 percent (Development Initiatives 2018). Such funding gaps not only leave humanitarian budgets significantly overstretched but also diminish the capacity to invest in long-term efforts to overcome chronic food insecurity by, for example, promoting economic livelihoods and building resilience.

A more holistic approach would also offer benefits to the communities that host displaced people. Displacement can bring food insecurity to host populations, who share what they have with their displaced relatives and neighbors. In some cases, the hosts themselves are former displaced persons who may become unable to continue hosting or may even themselves be displaced again when they run out of resources to share, leading to "overlapping displacements" (Fiddian-Qasmiyeh 2016). In Kenya, families hosting IDPs during the post-2007 election violence were initially generous, but they "eventually struggled to make ends meet, particularly in the context of high inflation and elevated food costs" (Brookings-LSE 2013, 13). In other cases, as with IDPs in Colombia, relations between hosts and displaced persons become strained as they compete for resources (Arredondo et al. 2011; Brookings-LSE 2013).

3 Food-Insecure Displaced People Usually Stay in Their Region of Origin and Need Support There

The large numbers of refugees and migrants entering the European Union, particularly since 2015, have preoccupied many policymakers, but this attention has produced a misleading picture of the global refugee crisis. In 2015, more than 1 million people—mostly refugees from Afghanistan, Syria, and parts of East and West Africa—entered the EU through extremely hazardous sea and land crossings. More recently, these movements have dropped dramatically: in 2017 the International Organization for Migration estimated that 186,768 "irregular migrants" (including refugees as well as migrants traveling without legal documentation)[3] entered the EU. Even at their peak in 2015, however, refugees to Europe accounted for only about 6 percent of the global refugee population (UNHCR 2016). Moreover, refugees entering the EU tend to move for reasons other than hunger, given that traveling across multiple countries to reach Europe is an expensive undertaking that is likely beyond the reach of people who lack the basic resources to meet their immediate food needs. The situation in the United States is similar: the issue of how to handle the arrival of forcibly displaced people receives heavy media and policy attention, but the actual number of migrants is small in the global context.

In contrast, people facing food insecurity tend to seek the closest possible place of safety. Evidence from the Horn of Africa in 2017, for instance, shows that the regional food crisis did not result in large increases in the numbers of people fleeing to Yemen and Saudi Arabia, but rather produced large increases in displacement to urban areas (EUTF REF 2018). People affected by food insecurity typically move to the nearest city or across an international border to the closest refugee camp or market center, because they often cannot afford to go any further. They may also prefer to stay closer to their homes to preserve social networks and to be able to maintain their agricultural, pastoral, or trading practices. They may want to stay in areas where they have ethnic, religious, or language affinities. This does not, however, mean that efforts to curb hunger and address the drivers of forced migration are not related or that there is not a pressing need for European governments to take action. Rather, it shows where the focus of such efforts should be directed.

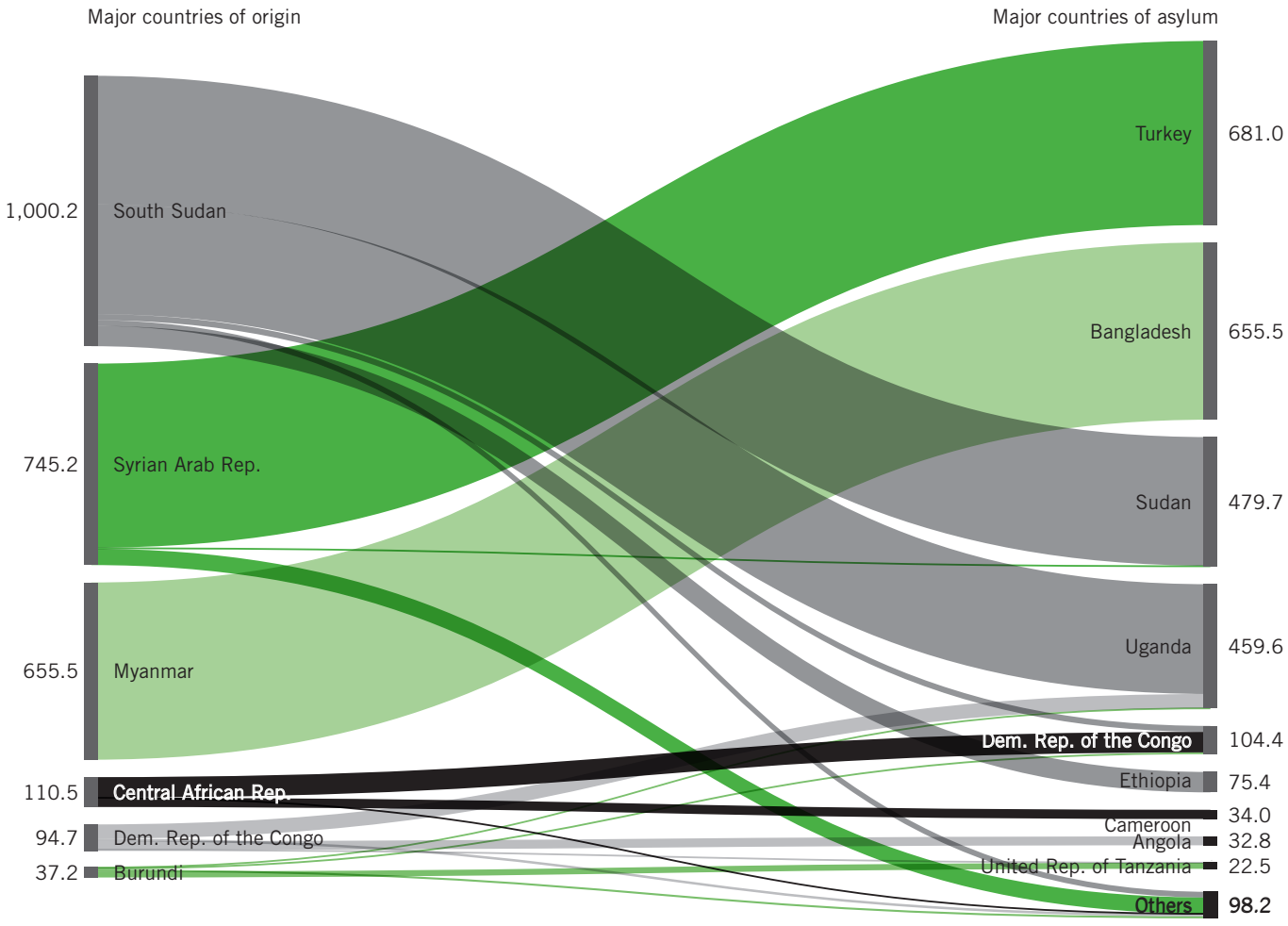
The major displacement centers in the world—those involving people from Afghanistan, Myanmar, Somalia, South Sudan, and Syria—host many more forcibly displaced people than those coming to Europe. These centers are also in poorer regions whose ability to absorb large numbers of displaced is extremely limited (Figure 3.2

[3] Irregular migrants are people who lack legal documentation and authorization to enter a country. Irregular migrants entering the EU from Africa and the Middle East do not have entry visas, and many lack passports or other identity documents.

shows how new displacements tend to be contained within regions of origin). Of the 20 countries ranked at the bottom of the Human Development Index, 16 have current or very recent experience with displacement and/or hosting of refugees (UNDP 2017), and all fall into either the *serious*, *alarming*, or *extremely alarming* categories in this year's GHI or lack sufficient data but remain cause for significant concern.

International agreements and laws contribute to the reality that displaced people tend to stay in their region of origin. The 1951 Convention Relating to the Status of Refugees defines a refugee as a person who has a "well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group, or political opinion" (Article 1) (UNHCR 2010). Under these terms, the risk that a refugee faces must be directed at that person individually and must be the result of the state's direct persecution or its inability or unwillingness to protect that person. In essence, when a person is unable to call on his or her country's government to provide the basic protection that a citizen should be able to expect, then international refugee law asserts the right to protection to be provided by another country or by the United Nations.

FIGURE 3.2 **WHERE NEW REFUGEES FOUND ASYLUM IN 2017 (NUMBER OF REFUGEES IN THOUSANDS)**



Source: UNHCR (2018g).

In Africa and Latin America, binding regional refugee conventions acknowledge "breakdowns in civil order"—including hunger and famine—as additional legitimate grounds (beyond the terms of the 1951 Convention) for a person to be recognized as a refugee.[4] Regional instruments—such as the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (sometimes referred to as the Kampala Convention)—extend much of this protection to IDPs as well. This distinction between African and Latin American legal protection for refugees and the 1951 Convention's definition is crucial. It means that an individual who flees famine in Somalia, for example, would be recognized de facto as a refugee in Ethiopia or Kenya, because all African states have signed and ratified the African Union's Convention and the United Nations abides by this convention in Africa. In other words, under the 1951 Convention, this individual would not automatically be afforded refugee status.

Given their short-range movements and the disproportionate burden on host communities, food-insecure refugees and IDPs need to be assisted, if possible, in their regions of origin. Food security support may take the form of food aid, but this approach comes with a host of disadvantages, including the high cost of procuring and transporting foodstuffs, the potential for distorting local markets, and the difficulty of providing food in adequate amounts and variety to sustain populations over long periods of time. Other instruments are increasingly being used, including cash transfers or vouchers that allow people to buy what they need from local markets and employment generation schemes that enable people to earn incomes, thus preserving their resilience and reducing the risk of dependency. Such support can also—in the right contexts—help promote prevention before and recovery after disaster or displacement. These kinds of cash-based assistance are transforming food security programming, although careful assessment is needed to determine when local economic conditions are conducive to using cash and when they are not.[5]

Assistance must also include safeguards for people's ability to move and to find secure livelihood options in and near the places to which they are displaced. Evidence from Uganda suggests that when the displaced are able to move freely and are supported in securing their own livelihoods, they are more self-sufficient and can contribute more to local and national economies than when they are confined to camps and dependent on external assistance (Betts et al. 2014). The Ugandan government had provided farmland to refugees from South Sudan. This practice has raised challenges as the number of displaced people has increased and the availability of land has dwindled. However, the principle of supporting refugee resilience and livelihoods in open settlements remains an important one.

More broadly, regional development is needed to help support displaced people and combat hunger at the same time within the same populations. Such regional development can create thriving economies in host communities so that they support the resilience of the displaced. With increased economic resilience, people are often in a better position to move more safely. For those who are displaced, economic opportunities in regions closer to home may mean that they have a wider range of choices about where to go, and ultimately may be able to avoid the risks associated with irregular migration—often across longer distances.

Promoting economic and social development in areas and communities affected by displacement also requires engaging with governance structures, state policy, and civil society in ways that will necessarily help protect resilience at the individual, household, and community level and that will prevent the kinds of persecution, societal breakdown, and food insecurity that leads to further mass forced migration and hunger. This type of political engagement can be a challenge for assistance providers and donors, who have sometimes strategically side-stepped political issues, fearing that their access to populations in need may be compromised if they speak out on political issues. Remaining silent, however, risks helping perpetuate the circumstances that give rise to displacement.

Despite the focus on providing protection and assistance to the displaced in their regions of origin, there may, under certain circumstances, be a need to support some refugees outside the region of origin, such as when there is no prospect of return or the host country is unable to provide for the needs of the refugees who have sought asylum. Some hosts rank so far down on the Human Development Index that they are not able to care adequately for their own citizens, let alone for their refugee populations. In such cases, resettlement to a third country outside the region may be necessary for some refugees. Consequently, although willingness to resettle refugees has waned in recent years, it is still needed in many instances.

[4] See the 1969 OAU (now African Union) Convention Governing the Specific Aspects of Refugee Problems in Africa (OAU 1969) and the Cartagena Declaration on Refugees (1984).

[5] See, for example, Danish Refugee Council (2014) and Kiaby (2017).

4 The Resilience of the Displaced Is Never Entirely Absent

Displacement is a coping strategy that people take to escape danger, whether political or hunger-related, but it takes various forms. Different people choose to move at different times. Some move before they have lost their assets, whereas others wait in their home areas until they have lost everything, hoping that conditions will improve and that they will not have to move. Some families move all together, while others leave one or two relatives behind to protect their houses and land, making it more feasible—they hope—to return soon.

Understanding why and when people have been displaced is essential to identifying their assistance and protection needs, determining the conditions that are likely to keep them displaced, and taking the actions that might give them the confidence to return (or understanding why return will not be possible and why other solutions must be found to their displacement). Such an understanding will incorporate the intricacies of the local political economy, the dynamics of conflict, and the multiple layers of causation that explain not only why people move, but whom they move with, what they bring with them, and where they move to.

Despite being compelled to move, forcibly displaced people never entirely lose their agency and resilience. Displacement is itself an act of agency, of moving in order to reach security and safety. No matter how destitute they are or what circumstances surround their displacement, refugees and IDPs work to secure access to food, often in creative ways that assistance providers mistake for manipulation or misuse of aid. To cope with infrequent and inadequate food distribution, they may seek to secure more ration cards than they are entitled to. Some supplement their food rations with food obtained from markets through, for instance, trade, wage labor, and sale of charcoal. They diversify their livelihood activities by engaging in daily wage labor, selling assets, or sending children to work for urban households. Some people share their assistance with relatives who remain in their original homes to protect their property; they do this as a long-term investment in the future, even when the assistance they receive is barely enough to sustain them. A recent study found that many IDPs in Mogadishu, Somalia, are sharing meager assistance with relatives living in rural areas to help keep them there, so that when security conditions finally improve they might have some property to return to outside the city (EUTF REF 2018).

Policies designed to assist refugees and IDPs should build on their resilience, but in fact such policies often work to undermine the resilience of displaced people. They may be legally prohibited from moving through the country, owning property, or working legally. In Kenya, for instance, Somali refugees are subject to all of these restrictions. This limits the ability of displaced people to gain access to food that is adequate in quantity and quality. In Ethiopia and Jordan, among other countries, jobs are being created especially for refugees, enabling them to work alongside nationals of the country. These efforts may have the benefit of providing income to refugees, but unless they also address protection risks, they raise the risk that refugees will be seen primarily as workers, that their other needs besides the need for income may be overlooked, and that tensions between hosts and refugees will deepen (Crawley 2017).

Conclusion

Forced migration and hunger—closely intertwined challenges—affect some of the poorest and most conflict-ridden regions of the world. This essay has focused on key obstacles to supporting people before, during, and after displacement more effectively. Support for food-insecure displaced people needs to be improved in four main areas:

1. **RECOGNIZING** and addressing hunger and displacement as political problems;

2. **DEVELOPING** more holistic approaches to protracted displacement settings involving development support;

3. **PROVIDING SUPPORT** to food-insecure displaced people in their regions of origin; and

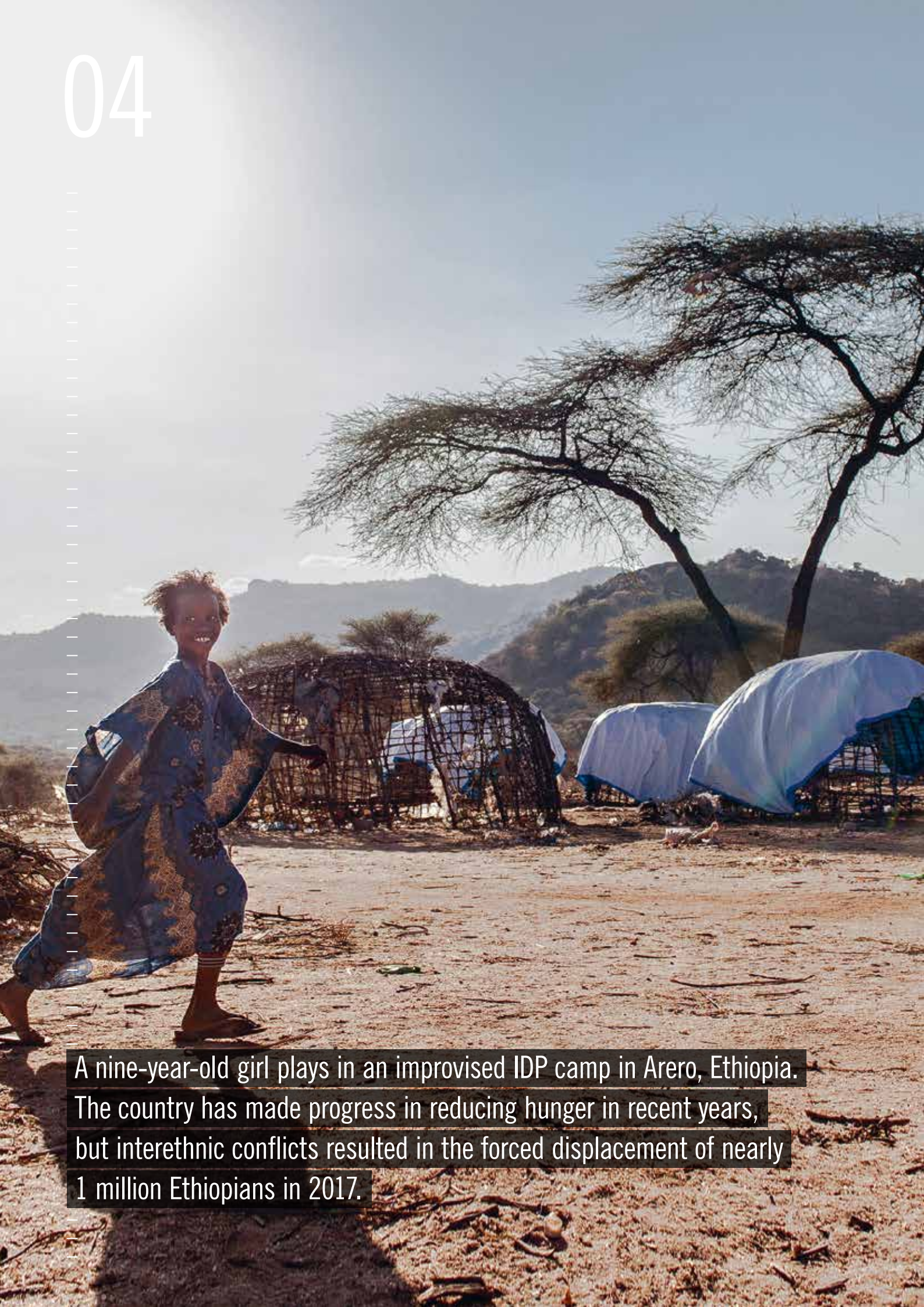
4. **RECOGNIZING** that the resilience of displaced people is never entirely absent and should be the basis for providing support.

Policy documents, international agreements, advocacy pieces, and academic writing often pay lip service to these four points, but they are rarely incorporated into action on the ground. Addressing the challenges effectively requires going beyond humanitarian responses, recognizing the political solutions that must be encouraged and strengthened, and engaging in longer-term development efforts in the meantime. This approach must extend to all sectors: facilitating mobility and income-generation opportunities, supporting education and training linked to employment opportunities in and around areas of displacement, providing health care support to people with chronic illnesses, and ensuring that people have access to markets so they can obtain enough high-quality food for the long term. From the outset, displacements should be seen not as short-term crises but as potentially long-term moves that will extend over many years. If such a view is taken from the start, a great deal of time, resources, and suffering can be saved.

A holistic response to forced migration and hunger must involve deep engagement with the political factors that undermine resilience and create risks of hunger and displacement. It must seek to integrate development into support for the displaced even as humanitarian assistance is provided. It must focus on supporting livelihoods in regions of origin and bolstering resilience in ways that support local markets and strengthen livelihood systems, thus making people's own self-help strategies more effective. Finally, efforts to tackle hunger and displacement in developing countries should take a regional approach, helping host countries and communities better respond to the needs of the displaced without becoming impoverished themselves.

In the past half-century the world has made great strides in reducing the severity of famines. In the next half-century, similar progress in reducing mass displacement, wherever it occurs, could result in lasting gains for food and nutrition security for millions of people.

04



A nine-year-old girl plays in an improvised IDP camp in Arero, Ethiopia. The country has made progress in reducing hunger in recent years, but interethnic conflicts resulted in the forced displacement of nearly 1 million Ethiopians in 2017.

A CLOSER LOOK AT HUNGER AND UNDERNUTRITION

Bangladesh

Challenges for a Growing Economy

Bangladesh is one of the world's most densely populated countries, with approximately 163 million people living within a relatively small landmass (FAO 2016; World Bank 2018b). Considered a lower-middle-income country—it had a per capita GDP of $1,517 in 2017[1] —Bangladesh experienced rapid GDP growth of 4–7 percent a year between 2000 and 2016. During that period, the country's poverty rate plunged from 34.8 percent to 14.8 percent.[2] However, poverty reduction in 2010–2016 was slower than in 2005–2010 (World Bank 2018b). Since 2016, the Bangladeshi economy has faced formidable challenges, including above-average flooding that has been detrimental to agriculture, increasing rice prices, governance issues around the banking sector, and the influx of Rohingya refugees from Myanmar, of whom nearly 900,000 are now in Bangladesh (UNHCR 2018b; World Bank 2018a). Because of its densely populated, low-lying coastal landmass, it is also considered one of the world's most vulnerable countries to the effects of climate change and rising sea levels (Karim and Mimura 2008).

The economy is fairly diverse: the service sector accounts for 56 percent of GDP, while industry and agriculture account for 29 and 15 percent, respectively (World Bank 2018b). Agriculture is an important source of livelihoods, representing 42 percent of total employment (FAO 2016). However, farmers face numerous challenges, including a lack of access to resources and services, especially for women farmers; destructive weather events linked to climate change; and population pressure that limits many farmers' access to arable land (FAO 2016; World Bank 2016). Poverty has declined primarily in rural areas, especially for rural households involved mainly in industry or services rather than in agriculture. Indeed, growth in agriculture contributed less to poverty reduction in 2010–2016 than it did in 2005–2010 (World Bank 2018a).

Women and Children Face Nutritional Challenges

Although it is improving, Bangladesh's hunger and undernutrition situation remains troubling. Its 2018 GHI score is 26.1, considered *serious*, down from a 2000 GHI score of 36.0, considered *alarming*. Since 2000, its rates of undernourishment, child stunting, and child mortality have all declined. Its child wasting rate, which is subject to seasonal variation, has fluctuated since 2000, and the latest data show that it is higher than it was in 2000 (Figure 4.2).

FIGURE 4.1 **MAP OF BANGLADESH**

Bangladeshis consume a diet that centers on rice, from which they receive about two-thirds of their calories. In 2012, the country achieved self-sufficiency in rice, producing enough rice domestically to meet its consumption needs (FAO 2016), yet poor access to food is an ongoing problem: 15.2 percent of the population is still considered undernourished, with insufficient access to calories (Compact2025 2016; FAO 2018d). Besides rice, vegetables and fish are important components of the diet for some people, yet for many others, dietary diversity is low and micronutrient deficiencies are widespread (Osmani et al. 2016).

While child stunting has decreased in recent years, it is still a pressing concern (Table 4.1). The nutrition status of pregnant mothers may be a factor. In 2015, 22.6 percent of Bangladeshi babies were born with low birth weight (NNS 2017), and there is evidence that this condition contributes to child stunting. Stunting begins even before birth; for example, according to a study of children in the urban slums of Bangladesh, the length of babies at the time of birth and socioeconomic status independently influenced stunting at age

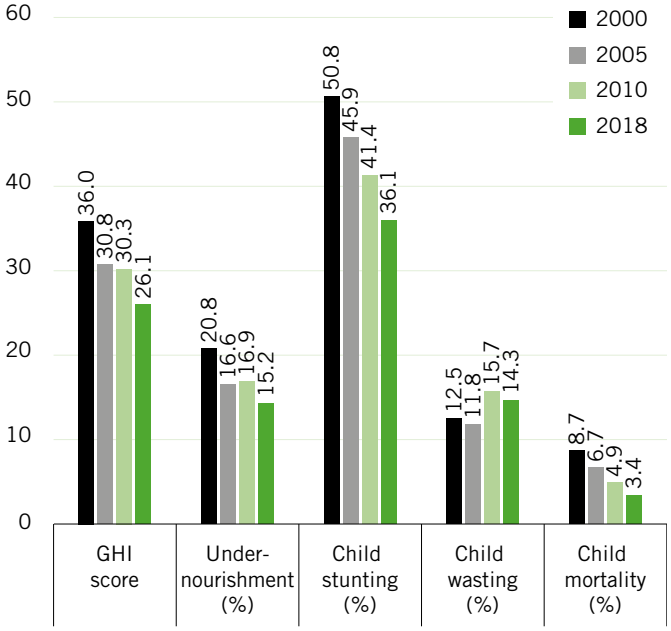
[1] GDP per capita is expressed in current US dollars.

[2] This rate reflects the share of the population living on less than $1.90 a day (based on 2011 purchasing power parity).

12–24 months, whereas dietary diversity and exclusive breastfeeding did not show significant effects (Islam et al. 2018). Similarly, a study in an urban borough of Mirpur in Dhaka showed that a child's size at birth and the mother's weight were strongly associated with the child's height at age two (Donowitz et al. 2018). The problem is exacerbated by a high rate of teenage pregnancy, which puts nutritional strain on the developing fetus because the mother's body is still growing and has elevated nutrition needs. In 2014, 31 percent of 15- to 19-year-old women in Bangladesh had already given birth, down just slightly from 33 percent in 1993–1994 (Osmani et al. 2016).

Diets are commonly inadequate for children under the age of two, a period when proper nutrition is considered critical to healthy development. According to the 2014 Demographic and Health Survey for Bangladesh, 77 percent of children under the age of 24 months receive age-appropriate breastfeeding, but just 23 percent of children aged 6–23 months were fed the "minimum acceptable diet"—a standard that combines minimum dietary diversity and minimum meal frequency and has different recommendations for breastfed and non-breastfed children (NIPORT et al. 2016).

FIGURE 4.2 **BANGLADESH'S GLOBAL HUNGER INDEX SCORES AND INDICATOR VALUES, 2000, 2005, 2010, AND 2018**



Source: Authors.

Note: Undernourishment values refer to the prevalence of undernourishment for the country's population as a whole; child stunting, child wasting, and child mortality refer to the rates for each indicator for children under the age of five. Data for GHI scores, child stunting and child wasting are from 1998–2002 (2000), 2003–2007 (2005), 2008–2012 (2010), and 2013–2017 (2018). Data for undernourishment are from 1999–2001 (2000), 2004–2006 (2005), 2009–2011 (2010), and 2015–2017 (2018). Data for child mortality are from 2000, 2005, 2010, and 2016 (2018). See Appendix A for the formula for calculating GHI scores and Appendix B for the sources from which the data are compiled.

The health status of children also influences their nutrition. Studies have shown a potential connection between childhood stunting and environmental enteropathy, a condition involving abnormal intestinal function due to exposure to environmental pathogens. A study in Tangail district, Dhaka division showed that *E. coli* bacteria were commonly found in soil, that nearly 30 percent of children were reported to have consumed soil within the preceding week, and that these children were twice as likely to be stunted as other children nine months later (George et al. 2015). Evidence from other parts of rural Bangladesh also suggests that environmental contamination characterized by poor water, sanitation, and hygiene conditions in the household causes faltering growth by means of environmental enteropathy (Lin et al. 2013).

What Has Worked in Addressing Hunger and Undernutrition

Bangladesh's steady decline in child stunting in recent decades has been a remarkable success. A 2015 study sought to identify the reasons behind this decline at the national level (Headey et al. 2015). Using data from 1997 through 2011, the study attributed the decrease primarily to rising household wealth associated with pro-poor economic growth and gains in parental education, as well as health, sanitation, and demographic factors. The authors conclude that success in this area can be achieved with economic growth and attention to "nutrition-sensitive" sectors such as education, sanitation, and health, even without the successful implementation of large-scale nutrition programs.

Compared with many other low- and lower-middle-income countries, Bangladesh is the subject of a relative abundance of literature on the impact of interventions on food and nutrition security. This is in part because several innovative development and food security programs have been fostered in Bangladesh.

Agricultural and home gardening projects have demonstrated some success in improving food production, consumption, and nutrition. According to data from 1996–2011, the increased rice yields associated with the Green Revolution helped raise calorie availability and boost children's weight; however, no effect on children's height was found, and improvements in dietary diversity were limited (Headey and Hoddinott 2016). Bangladesh was the site of many early home gardening and homestead food production projects. In Barisal, Faridpur, Jessore, and Patuakhali districts, a home gardening project led by the World Vegetable Center and implemented by BRAC that provided women with nutrition education and gardening training enabled households to produce and consume more vegetables and raised their supply of micronutrients (Schreinemacher, Patalagsa, and Uddin 2016). A review of homestead food production programs—which

combine nutrition education, fruit and vegetable gardening, and livestock production—suggested that the programs increased households' production and consumption of micronutrient-rich foods, contributed to their dietary diversification, improved women's status, and increased income (Iannotti, Cunningham, and Ruel 2009).

Aquaculture and fisheries projects—relatively common in Bangladesh given the country's vast waterways and the importance of fish in the national diet—have also produced some positive results. A project providing aquaculture extension services to fish farmers was shown to increase income and fish consumption among beneficiaries in Mymensingh, Comilla, Magura, and Bogra districts more than among control groups (Jahan, Ahmed, and Belton 2010). Another project trained farmers in integrated agriculture and aquaculture techniques, such as how to use the byproducts and excess resources from fishing for farming and vice versa, and it was shown to increase the consumption of fish and other foods by project farmers relative to control farmers (Jahan and Pemsl 2011).

Broader antipoverty programs have had effects on food security as well. The Bangladeshi NGO BRAC developed a program known as "Challenging the Frontiers of Poverty Reduction: Targeting the Ultra Poor," which has been implemented at large scale in Bangladesh and replicated in about 20 countries (Banerjee et al. 2015). Carefully targeted to the poorest households, the program provides an income-generating asset (most commonly livestock or poultry), business development training, enterprise management assistance, a subsistence allowance, health services, and a social support network. The BRAC program, which originated in Rangpur, Kurigram, and Nilphamari districts, was shown to have reduced beneficiaries' perceived food deficits and increased household food consumption when measured two years after the program had been completed (Ahmed et al. 2009; Emran, Robano, and Smith 2014).

Microfinance is another approach that originated in Bangladesh and has spread well beyond its borders. The effects of microcredit—a type of microfinance—on poverty are hotly debated (see Pitt and Khandker 1998; Roodman and Morduch 2014; Pitt 2014). Regarding the effect of microfinance on food security and nutrition specifically, Pitt et al. (2003) found that women's participation in microcredit programs in Bangladesh increased children's height-for-age and arm circumference. A recent study of participants in Bangladeshi microcredit programs using data from 13 districts found that participation increased calorie availability, did not affect dietary diversity, and had mixed effects on anthropometric measures among participants (Islam et al. 2016).

Because of the high prevalence of low-birth-weight babies in Bangladesh and the association of low birth weight with child undernutrition, some interventions have aimed to improve pregnant women's nutritional status and increase children's birth weight. A nutrition education program in Dhaka city targeted to women in the third trimester of pregnancy increased mothers' weight gain and decreased the incidence of low birth weight (Akter et al. 2012). A randomized trial in Matlab subdistrict, Chandpur district, had ambiguous results. The sons of women given early food supplementation had lower stunting rates than those of women given later food supplementation; stunting was higher among boys whose mothers were given multiple micronutrient supplementation rather than just iron and folate. However, no difference was found in the weight or height of babies at birth (Khan et al. 2011). In the same project, infant and child mortality rates were lower for children of mothers given early food supplementation and multiple micronutrient supplementation compared with those of mothers given later food supplementation and just iron and folate (Persson et al. 2012).

TABLE 4.1 **GHI INDICATOR VALUES FOR DIVISIONS, BANGLADESH**

Division	Child stunting (%)	Child wasting (%)	Child mortality (%)
Barisal	39.9	17.7	3.5
Chittagong	38.0	15.6	5.0
Dhaka	33.9	11.9	4.1
Khulna	28.1	13.5	5.6
Rajshahi	31.1	17.3	4.3
Rangpur	36.0	17.7	3.9
Sylhet	49.6	12.1	6.7
Total	**36.1**	**14.3**	**4.6**

Source: NIPORT et al. (2016).

Note: All indicators are for children from age zero to five. Undernourishment values at the subnational level are not currently available for Bangladesh. The national child mortality estimates here and in Figure 4.2 differ because NIPORT et al. (2016), which contains subnational values, is cited here, while UN IGME (2017a), cited in Figure 4.2, is used for the calculation of GHI scores. Mymensingh division, created in 2015, did not exist at the time of data collection in 2014.

Policy Environment Affecting Food Security and Nutrition

The following are some of the key policies and frameworks designed to promote food and nutrition security in Bangladesh. The list is by no means exhaustive, but it highlights the government's expressed commitment and dedication to ensuring food and nutrition security for the country.

→ Bangladesh's national development framework is Vision 2021, which seeks to turn the country into a middle-income economy

from which poverty has been virtually eradicated by 2021. The Seventh Five-Year Plan (7FYP, 2016–2020) details the means to achieve Vision 2021 and includes the objective of achieving an adequate and stable supply of safe and nutritious food for all, especially women and children. It includes interventions in a variety of relevant sectors, including agriculture, fisheries, and livestock; water and sanitation; food; education; and women and children's affairs (Compact2025 2016).

- The objective of the National Agriculture Policy is to "make the nation self-sufficient in food through increasing production of all crops, including cereals, and ensure a dependable food security system for all." Additional objectives include empowering women and encouraging production of diversified, nutritious crops (Compact2025 2016).

- Launched in 2006, the National Food Policy (NFP) has the goal of ensuring "a dependable food security system for all people of the country at all times" by meeting three objectives: (1) ensuring an adequate and stable supply of safe and nutritious food; (2) enhancing people's purchasing power for increased food accessibility; and (3) ensuring adequate nutrition for all (especially women and children). The NFP has been implemented and monitored by the National Plan of Action (POA, 2008-2015) and funded through the Country Investment Plan (CIP) (Compact2025 2016). The NFP and POA are currently under revision by the Ministry of Food (Osmani et al. 2016), and the Second Country Investment Plan (CIP2) on Nutrition Sensitive Food Systems has been finalized.

- The National Nutrition Policy (NNP, 2015) seeks to improve the nutritional status of Bangladeshis by ensuring the availability of adequate and safe food as well as the diversification of diets. The NNP takes a multisectoral approach and includes both nutrition-specific interventions, such as breastfeeding promotion programs, and nutrition-sensitive interventions, such as agricultural programs to promote micronutrient-rich foods (FAO 2016; Osmani et al. 2016). The Second National Plan of Action for Nutrition (NPAN2, 2016–2025), a multisectoral plan aligned with the NNP, focuses on children, adolescent girls, pregnant women, and lactating mothers. The NNP and NPAN2 are developed and led by the Ministry of Health and Family Welfare (MoHFW) (ReliefWeb 2017).

- Instituted in 2008, the National Policy for Women's Advancement is intended to "eliminate discrimination against women, eradicate the persistent burden of poverty on women and enhance women's economic integration." The National Women Development Policy (2011) "promotes women's equality and greater rights for women in terms of employment, property and inheritance" (FAO 2016). These policies have the potential to improve food and nutrition security because of the positive association of women's empowerment and control of income and other resources with food and nutrition security (van den Bold, Quisumbing, and Gillespie 2013).

Recommendations for Making More Progress in Tackling Hunger and Undernutrition

- Continue to promote inclusive economic growth, with attention to the segments of the population that struggle most with poverty, hunger, and undernutrition.

- Develop a comprehensive national strategy on nutrition advocacy and communication by aligning advocacy, social mobilization, and behavior change communication interventions.

- Continue to prioritize nutrition in national policy. Develop systems for multisectoral cooperation on food and nutrition security from the national to local levels.

- Promote nutrition-sensitive agriculture, including the production of nutrient-rich crops such as fruits and vegetables as well as fish and other animal-source foods, and the development of markets and infrastructure to support the farmers who commit to producing these products.

- Increase efforts to promote women's empowerment and well-being, including women's food and nutrition security, land rights, access to education, and delay of early marriage. Facilitate adolescents' and women's knowledge and awareness of sexual and reproductive health rights and laws, such as those detailed in the National Strategy for Adolescent Health 2017–2030.

- Support policies and programs to build resilience and preparedness for the adverse impacts of climate change, particularly as it affects agriculture and food security, taking into account the unique vulnerabilities presented by Bangladesh's geography.

- Ensure continued progress in water, sanitation, and hygiene (WASH), with a particular focus on providing improved latrines and increasing the standard of people's hygiene and handwashing practices.

Ethiopia

A Poor Country but Growing Fast

Although Ethiopia is a low-income country, recent rapid economic growth has done a great deal to reduce the share of Ethiopians living in poverty. In fact, with GDP growth averaging 10.3 percent a year between 2005/2006 and 2015/2016 (World Bank 2018c), Ethiopia has been one of the world's fastest-growing economies in recent times (Gebru, Remans, and Brouwer 2018). From 1999 to 2015, its poverty rate fell from 55.5 percent to 26.7 percent (World Bank 2018b).[3] Still, in 2017 GDP per capita was just $768 (World Bank 2018b).[4]

The country's recent economic growth has been driven largely by growth in agriculture, which plays a prominent role in Ethiopia's economy and has been the focus of recent government investments and policies (FAO 2018b). About 85 percent of the population engages in smallholder farming, with agriculture accounting for 37 percent of GDP in 2016 (FAO 2018b; World Bank 2018b). The bulk of agricultural land is used to grow cereal crops including teff (a local grain), wheat, maize, sorghum, and barley (Taffesse, Dorosh, and Asrat 2012). The rapidly growing service sector is also playing an expanding role in the overall economy (World Bank 2015).

With the decline in poverty, income inequality has also fallen. Regional disparities in poverty rates have narrowed since 1996, when some regions had much higher poverty rates than others. Yet at a finer level of detail, disparities remain: marginalized groups and people with limited access to roads, markets, health services, and other institutions face the highest levels of poverty (World Bank 2015).

FIGURE 4.3 **MAP OF ETHIOPIA**

Hunger and Undernutrition Persist

Like poverty, hunger and undernutrition among Ethiopians have decreased in recent decades but remain problematically high. Ethiopia's 2000 Global Hunger Index (GHI) score was 55.9—considered *extremely alarming*—whereas its 2018 GHI score is 29.1, which is at the upper end of the *serious* category (see Chapter 1 for a guide to interpreting GHI scores). Each of the GHI indicators has also declined since 2000 (Figure 4.4). Yet serious threats remain. An El Niño–induced drought worsened the food security situation in Ethiopia in 2016–2017 (FAO GIEWS 2017b). Furthermore, a flare-up of conflict in the Oromia and Somali regions in 2017 has led to the displacement of nearly 1 million people, threatening their agricultural activities, livelihoods, and food security (FEWS NET 2018a). Most Ethiopians consume a poor-quality diet that lacks a diverse range of foods; provides inadequate amounts of key nutrients including protein, vitamin A, and zinc as well as micronutrient-rich foods such as fruits and vegetables; and exposes consumers to food-borne pathogens (Gebru, Remans, and Brouwer 2018).

Of particular concern is the nutrition situation of children, given that poor nutrition during gestation and in the first two years of life has lifelong consequences. At 38.4 percent, Ethiopia's child stunting level for children under five is considered "high" verging on "very high," and at 9.9 percent its child wasting level for this age group is considered "poor" verging on "serious" according to World Health Organization guidelines (WHO 2010). These rates vary from region to region within Ethiopia, and in some cases the regional rates are substantially higher than the national averages (Table 4.2).

Poor feeding practices for infants and children seem to be a major factor behind these troubling numbers. Sixty-seven percent of children under the age of 24 months receive age-appropriate breastfeeding, but just 7.3 percent of children aged 6–23 months are fed the minimum acceptable diet.[5] Even in Addis Ababa, which has the country's largest share of children in this age group consuming the minimum acceptable diet, the rate is still low at just 27.1 percent (CSA and ICF 2016). Many other recent studies have documented the inadequacy of infant and young child feeding practices in various

[3] The poverty rates expressed here are poverty headcount ratios at $1.90 per day (2011 purchasing power parity).

[4] GDP per capita is expressed in current US dollars.

[5] The minimum acceptable diet is a core indicator of children's diets that includes standards for minimum dietary diversity and minimum meal frequency, with different recommendations for breastfed and non-breastfed children.

parts of Ethiopia, including Abiy Addi town, Tigray region (Mekbib et al. 2014), and Sidama Zone, Southern Nations, Nationalities, and Peoples' Regional State (SNNP) (Tessema, Belachew, and Ersino 2013; Gibson et al. 2009).[6] In many of these studies, the authors conclude that inadequate infant and young child feeding practices are a primary cause of child stunting. Even in an area with surplus food production (West Gojjam Zone, Amhara region), child stunting was found to be high in past research, and inappropriate feeding practices were the principal risk factor for nutritional deprivation among children under the age of five (Teshome et al. 2009).

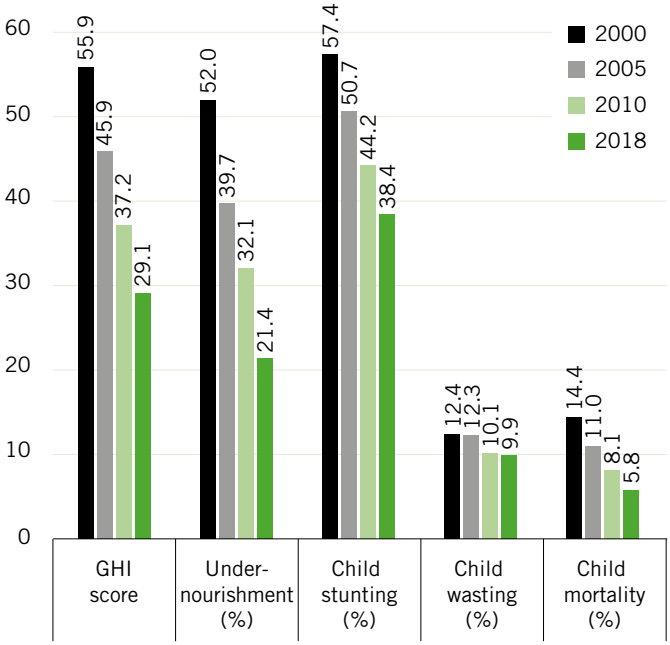
The overall health of children also plays a role in their nutrition. Studies have shown that diarrheal disease is associated with child stunting, wasting, and underweight (Asfaw et al. 2015). In Haramaya *woreda,* Oromia region, diarrhea is associated with underweight, and fever is associated with wasting (Yisak, Gobena, and Mesfin 2015).

The nutritional status of women is also important to consider, both for the sake of women themselves and for their children. Women with low levels of empowerment and decision-making power are about 50 percent more likely to experience undernutrition than other women (Tebekaw 2011). Approximately one-quarter of women of childbearing age in Ethiopia have a low body mass index (BMI), which puts their children's nutritional status at risk (Negash et al. 2015; Tigga and Sen 2016). Early childbearing is common, with 27.7 percent of women giving birth before the age of 19, which places strain on the nutritional status of women and infants (USAID 2018a). In Debub Misraqawi Zone, Tigray region, breastfeeding women had inadequate dietary intake and poor anthropometric measures—factors that have negative implications for the nutrition of their children (Haileslassie, Mulugeta, and Girma 2013).

Livestock ownership—an important part of many Ethiopian households' livelihoods—can contribute to children's nutrition, but the link is not always straightforward. Cow ownership raises children's milk consumption and height-for-age and reduces child stunting, particularly in areas where markets for milk are limited and home consumption is more important (data from Amhara, Oromiya, SNNP, and Tigray regions in Hoddinott, Headey, and Dereje 2015). Qualitative research in the pastoralist Sitti (formerly Shinile) and Liben Zones of Somali region revealed that animal milk plays a large role in the diets of young children, but that milk supply is vulnerable during the dry season and droughts (Sadler and Catley 2009). In Amhara, Oromia, Somali, SNNP, and Tigray regions, a household's poultry ownership is positively associated with children's height-for-age, but keeping poultry inside the home overnight is negatively associated with children's height-for-age, suggesting a trade-off between improved diet and increased exposure to pathogens that can negatively affect nutritional status (Headey and Hirvonen 2016).

Finally, several studies show an association between market access, roads, and nutrition. All else being equal, children whose households are located closer to food markets in East Tigray Zone, Tigray region, have greater weight-for-age and weight-for-height, although proximity to markets is not sufficient to offset poor nutrition in the lean season (Abay and Hirvonen 2016). In Alefa *woreda*, Amhara region, remote communities have poorer diets than communities that are less remote (Stifel and Minten 2017). Mothers' nutritional knowledge is positively associated with children's dietary diversity in Alefa *woreda*, Amhara region, but only in areas with good access to markets (Hirvonen et al. 2017). Furthermore, children in households that produce a more diverse range of agricultural products tend to have more diverse diets, particularly in areas where there is poor market integration (Hirvonen and Hoddinott 2014).

FIGURE 4.4 **ETHIOPIA'S GLOBAL HUNGER INDEX SCORES AND INDICATOR VALUES, 2000, 2005, 2010, AND 2018**



Source: Authors.

Note: Undernourishment values refer to the prevalence of undernourishment for the country's population as a whole; child stunting, child wasting, and child mortality refer to the rates for each indicator for children under the age of five. Data for GHI scores, child stunting, and child wasting are from 1998–2002 (2000), 2003–2007 (2005), 2008–2012 (2010), and 2013–2017 (2018). Data for undernourishment are from 1999–2001 (2000), 2004–2006 (2005), 2009–2011 (2010), and 2015–2017 (2018). Data for child mortality are from 2000, 2005, 2010, and 2016 (2018). See Appendix A for the formula for calculating GHI scores and Appendix B for the sources from which the data are compiled.

[6] Regions are Ethiopia's largest administrative divisions. These are broken into zones, which are further divided into *woredas* (districts) and then *kebeles* (wards).

What Has Worked in Addressing Hunger and Undernutrition

Ethiopia's sustained economic growth has contributed to improvements in children's nutrition, including child stunting, child wasting, and child underweight. These improvements may be due in part to associated increases in household expenditure on food and increased public spending on health, infrastructure, and other areas related to development (Biadgilign, Shumetie, and Yesigat 2016). As described below, much evidence is available on the impact of interventions that have been implemented in Ethiopia to address hunger and undernutrition.

Some of these projects have centered on livestock and other agricultural interventions. Government policies to promote agricultural productivity and food security in Tigray region, including the promotion of fertilizers and improved seeds, are associated with increased food availability and food self-sufficiency (van der Veen and Gebrehiwot 2011). In Holetta town, Oromia region, a project promoting ownership of crossbred cows that can be used for both traction and milk production was associated with higher household income and increased caloric intake (Ahmed, Jabbar, and Ehui 2000). In the Liben and Sitte (formerly Shinile) Zones of Somali region, a project offering livestock feed, vaccinations, and deworming to pastoralist communities during the dry season/drought resulted in increased milk production, raised children's milk consumption, and stabilized their weight-for-age (Sadler et al. 2012).

Food aid programs also improved recipients' diets and nutrition. In rural Ethiopia, the Employment Generation Schemes—a food-for-work program—and a free food distribution program known as Gratuitous Relief both raised household food consumption, even after the programs had ended (Gilligan and Hoddinott 2007). Quisumbing (2003) finds that food-for-work and free distribution of food boosted children's weight-for-height in rural areas. Using nationally representative data, Yamano, Alderman, and Christiaensen (2005) find that food aid increased children's height relative to that of children in control communities.

An assessment of an Alive & Thrive program, which promotes proper infant and young child feeding practices, in SNNP and Tigray regions showed a positive association between the program and improved breastfeeding and complementary feeding practices (Kim et al. 2016).

Safety net programs can make a difference as well. The Productive Safety Net Programme (PSNP)—a large-scale, government-led safety net program that has reduced poverty in Ethiopia by 2 percentage points (World Bank 2015)—provides food or monetary transfers to food-insecure people. Started in 2005, it has reached more than 1 million participants and their families (Berhane et al. 2014). With data from Tigray, Amhara, Oromiya, and SNNP regions, Berhane et al. (2011) show that the PSNP and associated programs improved food security by reducing the number of months without sufficient food. Using data from the same regions, Gilligan, Hoddinott, and Tafesse (2009) show that the PSNP in combination with the complementary Other Food Security Programme (OFSP) improved household food security.[7] Using data from Tigray region, Debela, Shively, and Holden (2015) find that the PSNP improved weight-for-height in children. In Abiy Addi and Hintalo Wajirat *woredas*, Tigray region, the Social Cash Transfer Pilot Programme, which was targeted to poor and labor-constrained households, also improved diet quantity and quality (Berhane et al. 2015).

Researchers have evaluated more multifaceted projects as well. The Ibnat-Belessa integrated food security program, which includes environmental rehabilitation, water supply, irrigation, livestock, crop production, fruit and vegetable production, feeder road construction and maintenance, and off-farm activities, increased the calories consumed in beneficiary households in Amhara region (Abebaw, Fentie, and Kassa 2010). A study of the Graduation Programme, which

[7] The authors found that PSNP alone, without OFSP, had little impact on beneficiaries on average, in part because actual transfer levels were far below the program targets. This study evaluated the program using data from 2005/2006 in the early years of its implementation.

TABLE 4.2 **GHI INDICATOR VALUES FOR REGIONS AND CHARTERED CITIES, ETHIOPIA**

Region/city	Child stunting (%)	Child wasting (%)	Child mortality (%)
Tigray	39.3	11.1	5.9
Afar	41.1	17.7	12.5
Amhara	46.3	9.8	8.5
Oromia	36.5	10.6	7.9
Somali	27.4	22.7	9.4
SNNP	38.6	6.0	8.8
Gambela	23.5	14.1	8.8
Harari	32.0	10.7	7.2
Benishangul-Gumuz	42.7	11.5	9.8
Addis Ababa	14.6	3.5	3.9
Dire Dawa	40.2	9.7	9.3
Total	**38.4**	**9.9**	**6.7**

Source: CSA and ICF (2016).

Note: All indicators are for children from age zero to five. Undernourishment values at the subnational level are not currently available for Ethiopia. The national child mortality estimates here and in Figure 4.4 differ because CSA and ICF (2016), which contains subnational values, is cited here while UN IGME (2017a), cited in Figure 4.4, is used for the calculation of GHI scores.

combines temporary consumption support with an asset transfer and other activities, showed that beneficiaries experienced higher per capita food consumption and greater improvements in self-reported food security indicators, such as whether everyone in the household receives enough food relative to controls (Banerjee et al. 2015).

Water, sanitation, and hygiene interventions can potentially improve nutrition by reducing the incidence of infection and disease, which limit the body's ability to absorb nutrients. A study from South Wollo Zone, Amhara region, compared groups that received water, sanitation, and hygiene interventions; nutrition education; health support; a combination of all interventions; and a control group. Only the water, sanitation, and hygiene group showed a significant reduction in child stunting, possibly through improved hygiene (Fenn et al. 2012).

Nutrition; health; and water, sanitation and hygiene interventions have paid off in terms of child survival as well. Nutrition interventions resulting in decreased rates of wasting and stunting; water, sanitation, and hygiene interventions; treatment of diarrhea with oral rehydration solution; and the introduction of the Hib vaccine were determined to be the main factors behind the decline in child mortality between 2000 and 2011 (Doherty et al. 2016).

Existing Policies That Affect Food Security and Nutrition

In recent years, the Government of Ethiopia has implemented a variety of policies and programs that reflect a strong commitment to addressing food insecurity and malnutrition:

- The Growth and Transformation Plan (GTP) guides public spending. Agriculture, food security, education, health, roads, and water constitute 70 percent of total general government expenditure (World Bank 2015).

- The Agricultural Growth Program (AGP-I), 2010/2011 to 2015/2016, emphasized agricultural intensification, growth, and the transformation from subsistence to commercial agriculture. The follow-up, AGP-II, 2016/2017 to 2020/2021, also includes an emphasis on nutrition (Gebru, Remans, and Brouwer 2018).

- The Agricultural Sector Policy and Investment Framework (PIF), 2010 to 2020, serves as a framework for prioritizing and planning investment in agriculture. One of its goals is to "sustainably increase rural incomes and national food security" (FAO 2014).

- The National Nutrition Strategy (NNS), originally put in place in 2008, is intended to coordinate action on nutrition by the relevant governmental and nongovernmental actors (Beyero, Hodge, and Lewis 2015).

- The National Nutrition Programme (NNP), first launched in 2009 and managed by the Ministry of Health (MoH), is the framework for implementing the NNS. The NNPII was revised for 2013–2015 and extended to 2016–2020. NNPII emphasizes the multi-sectoral approach that is needed to address nutrition (SUN 2015).

- The Seqota Declaration (2015) is a commitment by the Government of Ethiopia to end malnutrition by 2030 (Gebru, Remans, and Brouwer 2018; SUN 2015).

- Additional programs include the Food Security Programme (FSP) and the Productive Safety Net Programme (PSNP), which is a part of FSP (Beyero, Hodge, and Lewis 2015). Phase 4 of the PSNP includes increased emphasis on gender equity, in part to increase the impact on nutrition (GOE MOA 2014).

Recommendations for Making More Progress in Tackling Hunger and Undernutrition

Based on existing knowledge of the nature of food and nutrition insecurity in Ethiopia, as well as the evidence regarding the policies and programs that have successfully addressed these challenges, the following actions by the government, nongovernmental organizations, and the international community would be efficient and effective and have a high impact:

- Encourage collaboration between the nutrition, health, and agriculture sectors at all levels, from the national ministries to the regions, zones, *woredas,* and *kebeles.* Support multisectoral interventions and/or co-location of interventions that simultaneously address food security and nutrition; health; and water, sanitation, and hygiene challenges, with an emphasis on the needs of women and children.

- Continue to support agricultural development, with a specific focus on small-scale farmers. Adopt a stronger emphasis on nutrition within the Agricultural Sector Policy and Investment Framework (PIF).

- Invest in infrastructure, particularly road networks and market access, with a focus on benefiting marginalized communities in terms of poverty, nutrition, and health.

→ Support nutrition education and behavior change communication, especially to improve caregivers' knowledge of appropriate infant and young child feeding practices, including timely introduction of complementary foods, minimum meal frequency, and dietary diversity.

→ Invest in water, sanitation, and hygiene interventions, as well as in research on the extent to which these interventions can address child stunting.

→ Continue to support and expand access to the PSNP with emphasis on the impacts on gender equity and nutrition.

05

A young boy drinks water at a well in Zaatari refugee camp, Jordan's first official camp for Syrian refugees. Since the Syrian conflict began, 6.7 million people have been displaced within Syria and a further 5 million have been forced to flee to neighboring countries.

POLICY RECOMMENDATIONS

The number of forcibly displaced people is on the rise, and hunger is often both a cause and a consequence of displacement. Actions are needed from many actors, including the international community, national governments, and civil society:

Leave No One Behind

→ Focus resources and attention on the regions of the world where the majority of displaced people are located: low- and middle-income countries and the least-developed countries. Displaced people and host communities in these countries should receive strong, sustained support from governments and international organizations.

→ Provide stronger political and humanitarian support to internally displaced people (IDPs) and advocate for their legal protection. Governments must accelerate progress under the UN Plan of Action for Advancing Prevention, Protection, and Solutions for Internally Displaced People 2018–2020.

→ Follow up on UN Resolution 2417 (2018), which focuses on the links between armed conflict, conflict-induced food insecurity, and the threat of famine. Introduce a robust monitoring, reporting, and accountability mechanism for addressing violations.

→ Prioritize actions to address the special vulnerabilities and challenges of women and girls. Ensure that displaced women and girls have equal access to assets, services, productive and financial resources, and income-generating opportunities. Work with men, women, boys, and girls to end gender-based violence and exploitation.

→ Scale up investment and improve governance to accelerate development in rural areas, where large numbers of displaced people originate and where hunger is often greatest. Support people's efforts to diversify their livelihoods and secure access to land, markets, and services. Promote sustainable agricultural practices that increase households' resilience and enhance domestic food supplies.

Implement Long-Term Solutions

→ Strengthen the resilience of displaced populations by providing access to education and training, employment, health care, agricultural land, and markets so they can build their self-reliance and ensure their long-term food and nutrition security, as outlined in the core commitments on forced migration from the 2016 World Humanitarian Summit.

→ Implement durable solutions, such as local integration or return to regions of origin on a voluntary basis. Expand safe, legal pathways for refugees through resettlement programs, such as humanitarian admission programs. Create mechanisms to accelerate status determination so that people do not have to live with uncertainty for long periods. Equally, pursue long-term solutions for displaced people living outside of camps, who often receive little or no official support.

→ Design policies and programs that recognize the complex interplay between hunger and forced migration as well as the dynamics of displacement. For example, support flexible approaches that allow people to maintain businesses, livelihoods, and social ties in multiple locations.

Show Solidarity, Share Responsibility

→ Adopt and implement the UN Global Compact on Refugees (GCR) and the Global Compact for Safe, Orderly and Regular Migration (GCM), and integrate their commitments into national policy plans. Monitor and report regularly on progress.

→ Deliver on and scale up government commitments to international humanitarian organizations that support refugees and IDPs and close the funding gaps that already exist.

→ Uphold humanitarian principles and human rights when assisting and hosting refugees, IDPs, and their host communities. Do not use official development assistance as a bargaining chip in negotiations over migration policies.

→ Address the root causes of forced displacement, especially in the areas of poverty and hunger reduction; climate action; responsible consumption and production; and promotion of peace, justice, and strong institutions.

→ Foster a fact-based discussion around migration, displacement, and refugees. Governments, politicians, international organizations, civil society, and the media should work to proactively counter misconceptions and promote a more informed debate on these issues.

A

APPENDIXES

FORMULA FOR CALCULATION OF GLOBAL HUNGER INDEX SCORES

GHI scores are calculated using a three-step process:

First, values for the four component indicators are determined from the available data for each country. The indicators are

- → the percentage of the population that is undernourished,
- → the percentage of children under five years old who suffer from wasting (low weight-for-height),
- → the percentage of children under five years old who suffer from stunting (low height-for-age), and
- → the percentage of children who die before the age of five (child mortality).

STEP 1 Determine values for each of the component indicators:

PUN: proportion of the population that is undernourished (in %)
CWA: prevalence of wasting in children under five years old (in %)
CST: prevalence of stunting in children under five years old (in %)
CM: proportion of children dying before the age of five (in %)

Second, each of the four component indicators is given a standardized score based on thresholds set slightly above the highest country-level values observed worldwide for that indicator between 1988 and 2013.[1] For example, the highest value for undernourishment estimated in this period is 76.5 percent, so the threshold for standardization was set a bit higher, at 80 percent.[2] In a given year, if a country has an undernourishment prevalence of 40 percent, its *standardized* undernourishment score for that year is 50. In other words, that country is approximately halfway between having no undernourishment and reaching the maximum observed levels.

STEP 2 Standardize component indicators:

$$\text{Standardized PUN} = \frac{\text{PUN}}{80} \times 100$$

$$\text{Standardized CWA} = \frac{\text{CWA}}{30} \times 100$$

$$\text{Standardized CST} = \frac{\text{CST}}{70} \times 100$$

$$\text{Standardized CM} = \frac{\text{CM}}{35} \times 100$$

Third, the standardized scores are aggregated to calculate the GHI score for each country. Undernourishment and child mortality each contribute one-third of the GHI score, while the child undernutrition indicators—child wasting and child stunting—each contribute one-sixth of the score.

STEP 3 Aggregate component indicators:

$$\begin{aligned} &\tfrac{1}{3} \times \text{Standardized PUN} \\ +\ &\tfrac{1}{6} \times \text{Standardized CWA} \\ +\ &\tfrac{1}{6} \times \text{Standardized CST} \\ +\ &\tfrac{1}{3} \times \text{Standardized CM} \\ \hline =\ &\text{GHI score} \end{aligned}$$

This calculation results in GHI scores on a 100-point scale, where 0 is the best score (no hunger) and 100 is the worst. In practice, neither of these extremes is reached. A value of 100 would signify that a country's undernourishment, child wasting, child stunting, and child mortality levels each exactly meets the thresholds set slightly above the highest levels observed worldwide in recent decades. A value of 0 would mean that a country had no undernourished people in the population, no children younger than five who were wasted or stunted, and no children who died before their fifth birthday.

[1] The thresholds for standardization are set slightly above the highest observed values to allow for the possibility that these values could be exceeded in the future.

[2] The threshold for undernourishment is 80, based on the observed maximum of 76.5 percent; the threshold for child wasting is 30, based on the observed maximum of 26.0 percent; the threshold for child stunting is 70, based on the observed maximum of 68.2 percent; and the threshold for child mortality is 35, based on the observed maximum of 32.6 percent.

DATA SOURCES FOR THE GLOBAL HUNGER INDEX COMPONENTS, 2000, 2005, 2010, AND 2018

GHI	Number of countries with GHI	Indicators	Reference years	Data sources
2000	116	Percentage of undernourished in the population[a]	1999–2001[b]	FAO 2018d
		Percentage of wasting in children under five	1998–2002[c]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Percentage of stunting in children under five	1998–2002[c]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Under-five mortality	2000	UN IGME 2017a
2005	117	Percentage of undernourished in the population[a]	2004–06[b]	FAO 2018d
		Percentage of wasting in children under five	2003–07[e]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Percentage of stunting in children under five	2003–07[e]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Under-five mortality	2005	UN IGME 2017a
2010	119	Percentage of undernourished in the population[a]	2009–11[b]	FAO 2018d
		Percentage of wasting in children under five	2008–12[f]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Percentage of stunting in children under five	2008–12[f]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Under-five mortality	2010	UN IGME 2017a
2018	119	Percentage of undernourished in the population[a]	2015–17[b]	FAO 2018d
		Percentage of wasting in children under five	2013–17[g]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Percentage of stunting in children under five	2013–17[g]	UNICEF/WHO/World Bank 2018a; WHO 2018;[d] and authors' estimates
		Under-five mortality	2016	UN IGME 2017a

[a] Proportion of the population with chronic calorie deficiency.

[b] Average over a three-year period.

[c] Data collected from the years closest to 2000; where data from 1998 and 2002 or 1999 and 2001 were available, an average was used.

[d] UNICEF/WHO/World Bank 2018a is the primary data source, and WHO 2018; UNICEF 2018, 2013 and 2009; and MEASURE DHS 2018 are complementary data sources.

[e] Data collected from the years closest to 2005; where data from 2003 and 2007 or 2004 and 2006 were available, an average was used.

[f] Data collected from the years closest to 2010; where data from 2008 and 2012 or 2009 and 2011 were available, an average was used.

[g] The latest data gathered in this period.

C

DATA UNDERLYING THE CALCULATION OF THE 2000, 2005, 2010, AND 2018 GLOBAL HUNGER INDEX SCORES

Country	Proportion of undernourished in the population (%)				Prevalence of wasting in children under five years (%)				Prevalence of stunting in children under five years (%)				Under-five mortality rate (%)			
	'99–'01	'04–'06	'09–'11	'15–'17	'98–'02	'03–'07	'08–'12	'13–'17	'98–'02	'03–'07	'08–'12	'13–'17	2000	2005	2010	2016
Afghanistan	46.1	33.2	22.1	30.3	14.0 *	8.6	9.1 *	9.5	54.3 *	59.3	50.9 *	40.9	13.0	11.0	9.0	7.0
Albania	7.2	10.9	7.4	5.5	12.2	7.3	9.4	7.7 *	39.2	27.0	23.1	18.2 *	2.6	2.0	1.7	1.4
Algeria	10.7	8.8	6.3	4.7	3.1	4.0	4.2 *	4.1	23.6	15.9	13.1 *	11.7	4.0	3.4	2.7	2.5
Angola	71.5	54.8	40.4	23.9	8.8 *	8.2	6.0 *	4.9	47.0 *	29.2	34.5 *	37.6	20.7	16.7	11.9	8.3
Argentina	3.5	4.7	4.0	3.8	1.8 *	1.2	1.6 *	1.6 *	10.2 *	8.2	8.2 *	7.6 *	1.9	1.7	1.5	1.1
Armenia	23.8	7.8	5.5	4.3	2.5	5.5	4.2	4.2	17.7	18.2	20.8	9.4	3.0	2.3	1.8	1.3
Azerbaijan	23.0	5.5	<2.5	<2.5	9.0	6.8	6.6	3.1	24.1	26.8	16.4	18.0	7.4	5.2	3.9	3.1
Bahrain	—	—	—	—	6.6 *	5.9 *	3.1 *	3.0 *	13.4 *	11.1 *	3.7 *	4.1 *	1.3	1.1	0.9	0.8
Bangladesh	20.8	16.6	16.9	15.2	12.5	11.8	15.7	14.3	50.8	45.9	41.4	36.1	8.7	6.7	4.9	3.4
Belarus	<2.5	3.0	<2.5	<2.5	2.5 *	2.2	2.1 *	1.9 *	6.5 *	4.5	4.1 *	3.0 *	1.3	0.9	0.6	0.4
Benin	22.7	15.4	11.8	10.4	9.0	8.4	7.1 *	4.5	39.1	44.7	36.5 *	34.0	14.4	12.4	11.1	9.8
Bhutan	—	—	—	—	2.5	6.0 *	5.9	4.8 *	47.7	40.9 *	33.6	28.3 *	7.7	5.8	4.3	3.2
Bolivia	33.4	30.3	26.5	19.8	1.6	1.7	1.5	2.0	33.1	32.5	22.7	16.1	8.0	6.1	4.7	3.7
Bosnia & Herzegovina	4.4	3.2	<2.5	<2.5	7.4	4.0	2.3	2.9 *	12.1	11.8	8.9	8.9 *	1.0	0.9	0.7	0.6
Botswana	35.7	31.9	28.5	28.5	6.0	8.1 *	7.2	6.3 *	29.1	28.5 *	31.4	26.1 *	8.4	7.0	5.3	4.1
Brazil	11.9	4.6	<2.5	<2.5	3.2 *	1.6	2.7 *	5.5	12.1 *	7.1	9.9 *	13.4	3.6	2.6	2.0	1.5
Bulgaria	4.8	6.5	5.6	3.0	3.5 *	3.2	3.2 *	2.8 *	10.6 *	8.8	7.7 *	6.1 *	1.8	1.3	1.1	0.8
Burkina Faso	25.4	24.9	21.2	21.3	15.7	24.4	15.4	7.6	45.5	42.4	35.1	27.3	18.1	15.5	11.6	8.5
Burundi	—	—	—	—	8.2	9.0	6.1	5.1	63.1	57.7	57.5	55.9	15.1	12.4	9.4	7.2
Cambodia	29.3	20.0	18.8	18.5	16.9	8.3	10.8	9.6	49.2	43.7	40.9	32.4	10.7	6.6	4.4	3.1
Cameroon	30.8	20.3	11.5	7.3	6.2	6.8	5.8	5.2	38.2	35.9	32.6	31.7	16.6	13.6	10.8	8.0
Central African Republic	42.5	39.5	32.0	61.8	10.5	12.2	7.4	9.2 *	44.6	45.1	40.7	46.2 *	17.2	16.4	14.9	12.4
Chad	40.1	39.2	40.0	39.7	13.9	16.1	15.7	13.0	39.3	44.8	38.7	39.9	18.5	16.9	15.0	12.7
Chile	4.7	3.9	4.2	3.3	0.5	0.5	0.3	0.3	3.0	2.3	2.0	1.8	1.1	0.9	0.9	0.8
China	15.9	15.2	11.8	8.7	2.5	2.9	2.3	1.9	17.8	11.7	9.4	8.1	3.7	2.4	1.6	1.0
Colombia	9.7	9.7	11.1	6.5	1.1	1.5	0.9	1.1 *	18.1	16.2	12.7	12.2 *	2.5	2.2	1.9	1.5
Comoros	23.1	16.5	19.8	20.4	13.3	9.6	11.1	9.8 *	46.9	49.8	32.1	41.8 *	10.3	10.0	8.8	7.3
Congo, Dem. Rep.	—	—	—	—	20.9	14.0	8.5	8.1	44.4	45.8	43.5	42.6	16.0	13.7	11.6	9.4
Congo, Rep.	36.8	40.2	40.5	37.5	8.5 *	8.0	5.9	8.2	27.6 *	31.2	25.0	21.2	11.7	9.0	6.4	5.4
Costa Rica	5.1	5.4	5.2	4.4	1.6 *	1.5 *	1.0	1.4 *	7.8 *	6.1 *	5.6	4.9 *	1.3	1.1	1.0	0.9
Côte d'Ivoire	20.4	20.0	21.9	20.7	6.9	8.4	7.6	6.0	31.5	40.1	29.6	21.6	14.6	12.8	11.1	9.2
Croatia	10.4	2.9	2.5	<2.5	1.4 *	1.3 *	1.3 *	1.2 *	1.4 *	1.3 *	1.4 *	1.0 *	0.8	0.7	0.6	0.5
Cuba	3.7	<2.5	<2.5	<2.5	2.4	2.7	2.3 *	2.0 *	7.0	7.5	5.6 *	4.7 *	0.8	0.7	0.6	0.6
Djibouti	48.1	32.2	22.3	19.7	19.4	26.0	21.5	16.7 *	26.5	32.6	33.5	27.4 *	10.0	8.9	7.7	6.4
Dominican Republic	28.1	24.4	16.5	10.4	1.5	1.9	1.8 *	2.4	8.0	10.5	8.0 *	7.1	4.1	3.7	3.4	3.1
Ecuador	18.5	17.0	10.7	7.8	3.2	2.2	2.2 *	1.6	32.5	27.5	25.4 *	23.9	3.5	2.9	2.5	2.1
Egypt	5.2	5.4	4.5	4.8	7.0	5.3	7.9	9.5	24.6	23.8	30.7	22.3	4.7	3.6	2.9	2.3
El Salvador	11.0	10.5	12.4	10.3	1.5	1.3	1.6	2.1	32.3	24.6	20.6	13.6	3.3	2.5	1.9	1.5
Equatorial Guinea	—	—	—	—	9.2	2.8	3.1	2.7 *	42.6	35.0	26.2	26.0 *	15.2	13.1	11.1	9.1
Eritrea	—	—	—	—	14.9	14.4 *	15.3	14.5 *	43.7	48.6 *	50.3	52.8 *	8.9	6.9	5.5	4.5
Estonia	5.6	4.2	2.6	2.8	2.9 *	2.7 *	2.7 *	3.4 *	7.1 *	6.1 *	6.3 *	6.0 *	1.1	0.7	0.5	0.3
Ethiopia	52.0	39.7	32.1	21.4	12.4	12.3	10.1	9.9	57.4	50.7	44.2	38.4	14.4	11.0	8.1	5.8
Fiji	4.8	4.3	4.5	4.4	7.9 *	6.3	6.3 *	7.2 *	5.7 *	7.5	4.0 *	4.5 *	2.2	2.3	2.4	2.2
Gabon	10.5	10.9	10.8	9.4	4.3	3.6 *	3.4	3.7 *	26.3	22.1 *	17.5	20.9 *	8.5	7.6	6.4	4.7
Gambia	13.1	15.1	9.3	9.6	8.9	7.4	9.5	11.1	24.1	27.6	23.4	25.0	11.7	9.7	8.0	6.5
Georgia	13.5	7.2	7.7	7.4	3.1	3.0	1.6	3.3 *	16.1	14.7	11.3	9.1 *	3.6	2.5	1.7	1.1
Ghana	15.6	9.3	5.3	6.1	9.9	6.1	6.2	4.7	31.3	28.1	22.7	18.8	10.0	8.7	7.5	5.9
Guatemala	20.5	15.8	15.8	15.8	3.7	2.0 *	1.1	0.7	50.0	50.5 *	48.0	46.5	5.2	4.3	3.5	2.9
Guinea	26.3	21.3	17.6	19.7	10.3	10.8	8.0	8.1	46.9	39.3	36.8	32.4	16.6	13.2	10.9	8.9
Guinea-Bissau	25.7	24.4	22.2	26.0	11.8	8.9	5.8	6.0	36.1	47.7	32.2	27.6	17.4	14.5	11.4	8.8
Guyana	8.3	9.4	11.2	7.5	12.1	8.3	5.3	6.4	13.8	18.2	19.5	12.0	4.6	4.2	3.8	3.2
Haiti	54.9	57.1	49.5	45.8	5.6	10.3	5.2	6.7 *	28.3	29.7	21.9	26.0 *	10.5	9.0	20.8	6.7
Honduras	19.6	17.0	15.2	15.3	1.2	1.4	1.4	1.5 *	34.5	29.9	22.7	22.4 *	3.7	2.9	2.3	1.9
India	18.2	22.2	17.5	14.8	17.1	20.0	16.7 *	21.0	54.2	47.9	42.2 *	38.4	9.2	7.4	5.9	4.3
Indonesia	17.8	18.5	12.4	7.7	5.5	14.4	12.3	13.5	42.4	28.6	39.2	36.4	5.2	4.2	3.3	2.6
Iran	4.9	6.1	5.8	4.9	6.1	4.8	4.0	3.8 *	20.4	7.1	6.8	7.4 *	3.4	2.6	1.9	1.5
Iraq	28.3	28.2	27.3	27.7	6.6	6.4	7.4	5.2 *	28.3	23.8	22.6	19.7 *	4.5	4.1	3.7	3.1
Jamaica	7.4	7.0	8.8	8.9	3.0	3.9	3.5	3.6	6.6	5.1	4.8	6.2	2.2	2.0	1.8	1.5
Jordan	12.6	6.6	8.2	13.5	2.5	2.2 *	1.6	2.4 *	12.0	9.4 *	8.3	10.6 *	2.8	2.4	2.1	1.8
Kazakhstan	5.9	5.9	3.1	<2.5	2.5	4.9	4.1	3.1	13.9	17.5	13.1	8.0	4.3	3.2	2.2	1.1
Kenya	31.3	28.2	23.5	24.2	7.4	7.7	7.0	4.0	41.0	40.9	35.2	26.0	10.1	8.1	6.2	4.9
Kuwait	<2.5	<2.5	<2.5	<2.5	2.2	3.3	2.4	3.1	4.0	4.5	4.1	4.9	1.3	1.2	1.1	0.8
Kyrgyz Republic	16.3	9.7	8.3	6.5	3.4 *	3.4	1.3	2.8	23.1 *	18.1	22.6	12.9	4.9	3.9	3.0	2.1
Lao PDR	37.7	27.0	21.1	16.6	17.5	7.3	6.4	7.8 *	48.2	47.6	43.8	33.5 *	11.7	9.6	7.9	6.4
Latvia	5.3	<2.5	<2.5	<2.5	2.8 *	2.7 *	2.8 *	3.6 *	7.4 *	6.5 *	6.5 *	6.4 *	1.4	1.1	0.8	0.5
Lebanon	<2.5	3.4	4.5	10.9	4.7 *	6.6	4.0 *	4.7 *	15.9 *	16.5	12.3 *	15.7 *	2.0	1.4	1.0	0.8
Lesotho	13.6	11.7	12.7	12.8	6.7	5.6	3.9	2.8	53.0	45.2	39.0	33.2	11.0	11.5	10.0	9.4

DATA UNDERLYING THE CALCULATION OF THE 2000, 2005, 2010, AND 2018 GLOBAL HUNGER INDEX SCORES

Country	Proportion of undernourished in the population (%)				Prevalence of wasting in children under five years (%)				Prevalence of stunting in children under five years (%)				Under-five mortality rate (%)			
	'99–'01	'04–'06	'09–'11	'15–'17	'98–'02	'03–'07	'08–'12	'13–'17	'98–'02	'03–'07	'08–'12	'13–'17	2000	2005	2010	2016
Liberia	38.4	39.4	36.5	38.8	7.4	7.8	2.8	5.6	45.3	39.4	41.8	32.1	18.4	12.5	8.9	6.7
Libya	—	—	—	—	7.4 *	6.5	6.3 *	3.9 *	26.8 *	21.0	19.9 *	25.3 *	2.8	2.3	1.7	1.3
Lithuania	<2.5	<2.5	<2.5	<2.5	3.2 *	2.9 *	2.8 *	3.5 *	6.6 *	5.6 *	4.8 *	6.2 *	1.1	0.9	0.6	0.5
Macedonia, FYR	7.9	6.1	4.4	4.1	1.7	3.4	4.3	2.6 *	8.0	11.5	7.7	6.9 *	1.6	1.4	1.0	1.2
Madagascar	34.4	35.0	31.8	43.1	10.3 *	15.2	9.4 *	8.4 *	55.2 *	52.8	49.2	46.1 *	10.8	8.2	6.2	4.6
Malawi	27.1	26.1	21.8	26.3	6.8	6.3	4.1	2.7	54.6	52.5	47.8	37.1	17.5	11.5	9.1	5.5
Malaysia	2.8	3.9	3.7	2.9	15.3	11.7 *	10.4 *	11.5	20.7	17.2	16.2 *	20.7	1.0	0.8	0.8	0.8
Mali	14.6	11.1	6.9	6.0	12.6	15.3	8.9	13.5	42.7	38.5	27.8	30.4	22.0	17.2	13.7	11.1
Mauritania	11.6	12.1	8.2	11.3	15.3	13.4	12.2	14.8	39.5	28.9	22.5	27.9	11.3	10.9	9.7	8.1
Mauritius	6.6	5.2	4.8	5.8	15.2 *	16.0 *	15.1 *	9.4 *	12.3 *	11.2 *	9.6 *	8.4 *	1.9	1.6	1.5	1.4
Mexico	4.4	5.5	4.6	3.8	2.3	2.0	1.6	1.0	21.7	15.5	13.6	12.4	2.7	2.1	1.7	1.5
Moldova	—	—	—	—	3.7 *	5.8	1.9	3.0 *	12.0 *	11.3	6.4	6.8 *	3.1	2.0	1.7	1.6
Mongolia	35.1	31.0	20.8	18.7	7.1	2.7	1.7	1.0	29.8	27.5	15.5	10.8	6.3	4.1	2.6	1.8
Montenegro	—	—	<2.5	<2.5	—	4.2	2.8 *	2.8	—	7.9	9.4 *	9.4	—	—	0.7	0.4
Morocco	6.8	5.7	5.2	3.9	4.2 *	10.8	2.3	3.7 *	24.2 *	23.1	14.9	17.4 *	5.0	4.1	3.4	2.7
Mozambique	40.3	37.0	30.0	30.5	6.8	5.4	6.1	4.3 *	49.6	47.0	43.1	38.0 *	17.6	13.4	10.1	7.1
Myanmar	48.3	32.0	16.9	10.5	10.7	10.7	7.9	7.0	40.8	40.6	35.1	29.2	9.0	7.8	6.4	5.1
Namibia	26.2	25.1	37.4	25.4	10.0	7.5	6.7 *	7.1	29.5	29.6	26.1 *	23.1	7.5	7.1	5.6	4.5
Nepal	22.0	16.0	10.1	9.5	11.3	12.7	11.2	9.7	57.1	49.3	40.5	35.8	8.2	6.2	4.7	3.5
Nicaragua	32.6	24.4	20.9	16.2	2.3	0.3	2.2	1.4 *	25.2	18.8	17.3	17.3 *	4.0	3.1	2.5	2.0
Niger	21.6	15.1	11.3	14.4	16.2	12.4	16.0	10.3	54.2	54.8	47.0	42.2	22.7	17.2	12.3	9.1
Nigeria	9.3	6.5	6.2	11.5	17.6	12.3	10.2	10.8	39.7	42.9	36.0	43.6	18.7	15.8	13.0	10.4
North Korea	37.5	35.4	41.8	43.4	12.2	8.5	5.2	8.1 *	51.0	43.1	32.4	39.8 *	6.0	3.3	3.0	2.0
Oman	11.9	10.5	5.6	5.4	7.3	9.9 *	7.1	7.5	12.9	15.2 *	9.8	14.1	1.7	1.3	1.2	1.1
Pakistan	23.4	23.3	21.1	20.5	14.2	13.3 *	14.8	10.5	41.5	42.6 *	43.0	45.0	11.3	10.2	9.2	7.9
Panama	27.7	22.9	13.2	9.2	1.3 *	1.2 *	1.2	1.1 *	21.3 *	22.2	19.1	13.3 *	2.6	2.3	2.0	1.6
Papua New Guinea	17.9	20.1	20.2	26.6	8.3 *	4.4	14.3	7.2 *	48.1 *	43.9	49.5	39.7 *	7.7	7.3	6.5	5.4
Paraguay	12.9	11.9	12.2	11.2	2.2 *	1.1	2.6	1.0	16.9 *	17.5	10.9	5.6	3.4	2.9	2.4	2.0
Peru	21.8	19.6	11.2	8.8	1.1	1.0	0.7	1.0	31.3	29.8	23.3	13.1	3.9	2.7	2.0	1.5
Philippines	20.4	16.3	13.3	13.7	8.0	6.0	7.3	7.1	38.3	33.8	33.6	33.4	4.0	3.6	3.2	2.7
Qatar	—	—	—	—	2.8 *	3.4 *	2.5 *	2.1 *	3.0 *	2.5 *	1.6 *	1.6 *	1.3	1.0	0.9	0.9
Romania	<2.5	<2.5	<2.5	<2.5	4.3	3.4 *	3.5 *	3.0 *	12.8	12.0 *	11.2 *	7.6 *	2.2	1.8	1.2	0.9
Russian Federation	5.1	<2.5	<2.5	<2.5	4.4 *	4.0 *	4.1 *	4.2 *	15.8 *	13.6 *	13.5 *	11.3 *	1.9	1.4	1.0	0.8
Rwanda	55.6	45.3	35.0	36.1	8.7	4.8	3.0	2.0	48.3	51.7	44.3	37.3	19.5	11.5	6.4	3.9
Saudi Arabia	6.1	7.9	7.0	5.5	7.6 *	11.8	6.1 *	5.4 *	11.2 *	9.3	7.8 *	8.2 *	2.2	1.8	1.6	1.3
Senegal	28.7	21.6	13.1	11.3	10.0	8.7	9.8	7.2	29.5	20.1	28.7	17.0	13.4	9.6	6.7	4.7
Serbia	—	—	5.9	5.6	—	4.5	3.5	3.9	—	8.1	6.6	6.0	—	—	0.8	0.6
Sierra Leone	39.6	37.0	27.0	25.5	11.6	10.2	8.4	9.4	38.4	46.9	38.8	37.9	23.4	20.4	16.0	11.4
Slovak Republic	5.9	6.2	4.3	2.7	3.5 *	3.2 *	3.2 *	3.4 *	7.8 *	7.2 *	6.6 *	5.8 *	1.0	0.8	0.7	0.6
Somalia	67.7	60.8	58.9	50.6	19.3	13.2	15.0	—	29.2	42.1	25.3	—	17.4	17.4	15.9	13.3
South Africa	5.0	4.4	4.4	6.1	4.5	7.4	5.2	2.5	30.1	32.8	26.1	27.4	6.7	7.4	5.4	4.3
South Sudan	—	—	—	—	—	—	22.7	28.6 *	—	—	31.1	37.6 *	—	—	—	9.1
Sri Lanka	18.6	18.2	13.8	10.9	15.5	14.7	11.8	15.1	18.4	17.3	19.2	17.3	1.6	1.4	1.1	0.9
Sudan	—	—	—	25.2	—	—	15.3	16.3	—	—	34.1	38.2	—	—	—	6.5
Suriname	13.0	10.9	8.0	7.6	7.0	4.9	5.0	5.2 *	14.5	10.7	8.8	9.5 *	3.4	2.8	2.4	2.0
Swaziland	19.2	17.0	23.2	20.7	1.7	2.9	0.8	2.0	36.6	29.5	31.0	25.5	11.8	12.5	9.7	7.0
Syrian Arab Republic	—	—	—	—	4.9	10.3	11.5	—	24.3	28.6	27.5	—	2.4	1.9	1.6	1.8
Tajikistan	—	—	—	—	9.4	8.7	4.3	6.7 *	42.1	33.1	28.8	24.8 *	9.3	6.5	5.2	4.3
Tanzania	36.5	34.4	34.6	32.0	5.6	3.5	4.9	4.5	48.3	44.4	42.5	34.4	13.2	9.4	7.2	5.7
Thailand	18.8	12.5	9.2	9.0	6.5 *	4.7	6.7	5.4	19.8 *	15.7	16.3	10.5	2.3	1.8	1.5	1.2
Timor-Leste	—	31.3	29.2	27.2	13.7	14.3	18.9	11.0	55.7	54.8	57.7	50.2	—	8.2	6.3	5.0
Togo	31.1	26.0	21.0	16.2	12.4	16.3	4.8	6.7	33.2	27.8	29.8	27.5	11.9	10.4	9.0	7.6
Trinidad & Tobago	11.6	11.8	9.6	4.9	5.2	5.6 *	6.3	5.1 *	5.3	7.1 *	11.0	5.7 *	2.8	2.6	2.2	1.9
Tunisia	4.9	5.6	4.8	4.9	2.9	3.4	2.8	3.4 *	16.8	9.0	10.1	10.9 *	3.2	2.3	1.7	1.4
Turkey	<2.5	<2.5	<2.5	<2.5	3.0	1.1	0.8	1.7	19.1	15.6	12.3	9.5	3.9	2.7	1.9	1.3
Turkmenistan	8.2	4.8	4.8	5.5	7.1	7.1	6.3 *	4.2	28.1	18.8	16.2 *	11.5	8.3	7.3	6.2	5.1
Uganda	27.7	24.1	30.9	41.4	5.0	6.3	4.8	3.6	44.8	38.7	33.7	28.9	17.0	12.0	8.1	5.3
Ukraine	4.5	<2.5	<2.5	3.3	8.2	1.5 *	1.5 *	1.4 *	22.9	8.5 *	8.0 *	6.6 *	1.8	1.5	1.2	0.9
Uruguay	4.2	4.3	2.5	<2.5	2.3	3.0	1.3	2.0 *	12.8	13.9	10.7	9.3 *	1.7	1.4	1.1	0.9
Uzbekistan	16.2	14.5	9.0	7.4	8.9	4.5	6.4 *	5.8 *	25.3	19.6	20.5 *	14.8 *	6.3	4.9	3.6	2.4
Venezuela	16.4	10.5	3.1	11.7	3.9	4.8	4.1	3.5 *	17.4	16.2	13.4	13.0 *	2.2	1.9	1.7	1.6
Viet Nam	24.3	18.2	13.6	10.8	9.0	10.7	7.1	6.4	43.0	33.2	29.3	24.6	3.0	2.5	2.3	2.2
Yemen	29.9	30.1	25.7	34.4	15.7 *	15.2	13.3	16.3	54.4 *	57.7	46.6	46.5	9.5	7.3	5.6	5.5
Zambia	47.4	51.1	50.0	44.5	5.7	5.6	5.3 *	6.3	57.9	45.8	46.9 *	40.0	16.1	11.0	8.3	6.3
Zimbabwe	40.2	42.2	41.9	46.6	8.5	7.3	3.5	3.2	33.7	35.8	33.7	26.8	9.7	10.0	9.0	5.6

Note: — = Data not available or not presented. Some countries did not exist in their present borders in the given year or reference period.

*Authors' estimates.

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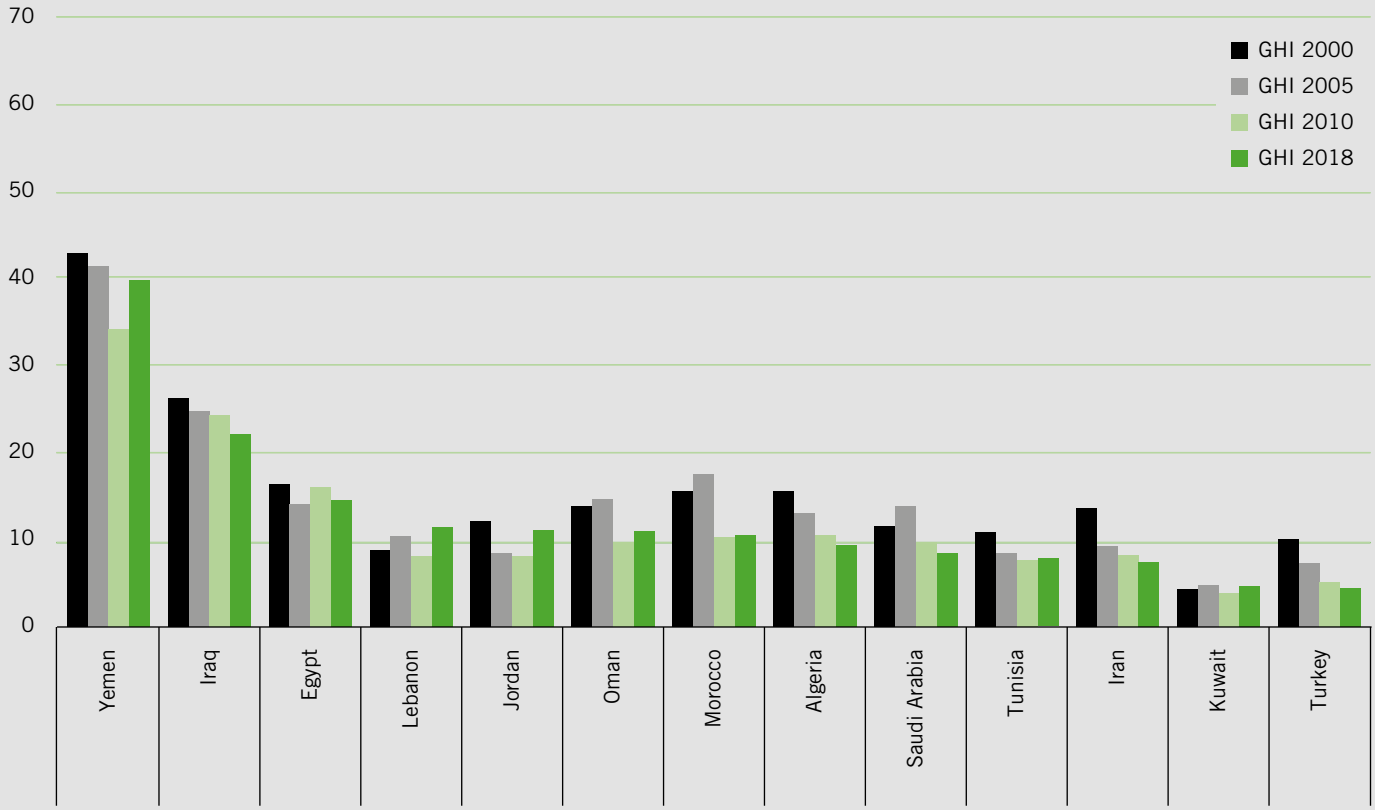
2018 GLOBAL HUNGER INDEX SCORES

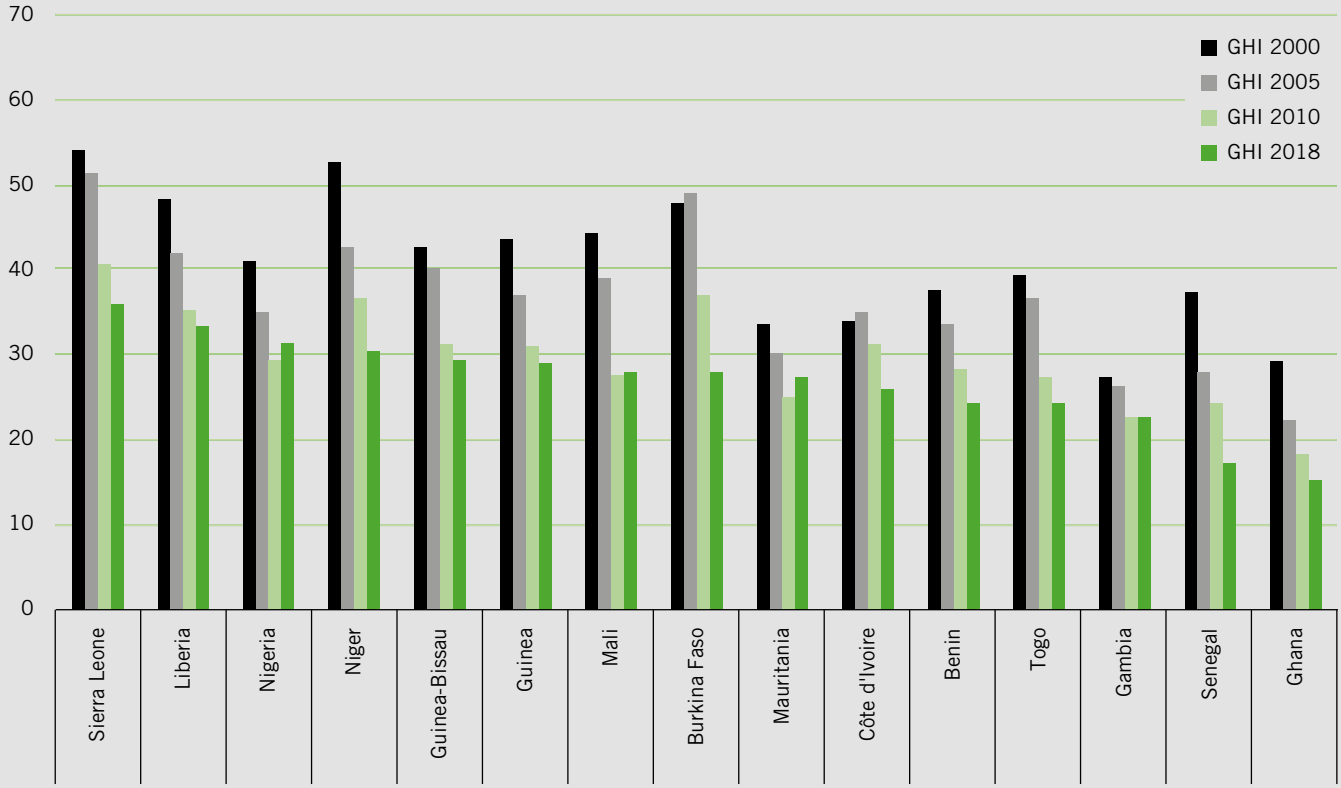
Country	2000	2005	2010	2018	Country	2000	2005	2010	2018
with data from	'98–'02	'03–'07	'08–'12	'13–'17	with data from	'98–'02	'03–'07	'08–'12	'13–'17
Afghanistan	52.3	43.2	35.0	34.3	Lesotho	32.5	29.7	26.3	23.7
Albania	21.6	16.9	15.4	12.2	Liberia	48.4	42.0	35.2	33.3
Algeria	15.6	12.9	10.6	9.4	Libya	—	—	—	—
Angola	65.6	50.2	39.7	29.5	Lithuania	5.0	<5	<5	<5
Argentina	6.7	6.2	5.9	5.3	Macedonia, FYR	7.7	8.5	7.0	5.9
Armenia	18.4	12.8	11.3	7.6	Madagascar	43.5	43.4	36.1	38.0
Azerbaijan	27.4	17.4	12.3	9.5	Malawi	44.7	37.8	31.4	26.5
Bahrain	—	—	—	—	Malaysia	15.5	13.0	11.9	13.3
Bangladesh	36.0	30.8	30.3	26.1	Mali	44.2	38.7	27.5	27.8
Belarus	5.0	<5	<5	<5	Mauritania	33.5	29.7	24.8	27.3
Benin	37.5	33.5	28.1	24.3	Mauritius	15.9	15.2	14.1	11.0
Bhutan	—	—	—	—	Mexico	10.8	9.1	7.7	6.5
Bolivia	30.3	27.1	21.8	16.7	Moldova	—	—	—	—
Bosnia & Herzegovina	9.8	7.2	5.1	<5	Mongolia	31.7	24.9	15.8	12.6
Botswana	33.1	31.2	28.4	25.5	Montenegro	—	—	<5	<5
Brazil	13.0	7.0	6.6	8.5	Morocco	15.7	17.8	10.2	10.4
Bulgaria	8.2	7.8	7.0	5.0	Mozambique	49.1	42.4	35.8	30.9
Burkina Faso	47.4	48.8	36.8	27.7	Myanmar	44.4	36.4	25.9	20.1
Burundi	—	—	—	—	Namibia	30.6	28.4	30.9	24.3
Cambodia	43.5	29.6	27.8	23.7	Nepal	36.8	31.4	24.5	21.2
Cameroon	41.2	33.7	26.1	21.1	Nicaragua	24.7	17.8	16.4	13.6
Central African Republic	50.5	49.6	41.3	53.7	Niger	52.5	42.6	36.5	30.4
Chad	51.4	52.0	48.9	45.4	Nigeria	40.9	34.8	29.2	31.1
Chile	<5	<5	<5	<5	North Korea	40.3	32.9	30.9	34.0
China	15.8	13.0	10.0	7.6	Oman	13.7	14.7	9.8	10.8
Colombia	11.3	10.8	10.0	7.7	Pakistan	38.3	37.0	36.0	32.6
Comoros	38.0	33.6	30.4	30.8	Panama	19.8	17.7	12.6	9.1
Congo, Dem. Rep.	—	—	—	—	Papua New Guinea	30.9	28.2	34.3	29.7
Congo, Rep.	37.8	37.2	32.2	30.4	Paraguay	13.9	12.5	11.4	8.5
Costa Rica	6.1	5.6	5.0	<5	Peru	20.9	18.4	12.5	8.8
Côte d'Ivoire	33.7	34.7	31.0	25.9	Philippines	25.9	21.6	20.6	20.2
Croatia	6.2	<5	<5	<5	Qatar	—	—	—	—
Cuba	5.3	<5	<5	<5	Romania	8.3	6.8	6.1	<5
Djibouti	46.7	44.1	36.5	30.1	Russian Federation	10.1	7.7	7.0	6.1
Dominican Republic	18.4	17.2	13.0	10.3	Rwanda	58.1	44.8	32.9	28.7
Ecuador	20.6	17.6	14.1	11.8	Saudi Arabia	11.5	13.8	9.7	8.5
Egypt	16.4	14.3	16.3	14.8	Senegal	37.3	27.8	24.1	17.2
El Salvador	16.3	13.3	12.8	10.1	Serbia	—	—	6.7	6.5
Equatorial Guinea	—	—	—	—	Sierra Leone	54.4	51.7	40.4	35.7
Eritrea	—	—	—	—	Slovak Republic	7.2	6.8	5.8	5.0
Estonia	6.7	5.4	<5	<5	Somalia	62.5	59.3	54.0	—
Ethiopia	55.9	45.9	37.2	29.1	South Africa	18.1	20.8	16.1	14.5
Fiji	9.8	9.3	8.6	9.0	South Sudan	—	—	—	—
Gabon	21.1	19.0	16.7	15.4	Sri Lanka	22.3	21.2	17.9	17.9
Gambia	27.3	26.2	22.3	22.3	Sudan	—	—	—	34.8
Georgia	14.6	10.5	8.4	8.1	Suriname	16.0	12.5	10.5	10.2
Ghana	29.0	22.2	18.2	15.2	Swaziland	28.9	27.6	26.7	22.5
Guatemala	27.5	23.8	22.0	20.8	Syrian Arab Republic	—	—	—	—
Guinea	43.7	36.8	30.9	28.9	Tajikistan	—	—	—	—
Guinea-Bissau	42.4	40.3	31.0	29.1	Tanzania	42.4	35.8	34.1	29.5
Guyana	17.8	16.9	15.9	12.6	Thailand	18.3	13.3	12.9	10.4
Haiti	42.7	45.2	48.5	35.4	Timor-Leste	—	41.8	42.4	34.2
Honduras	20.6	17.7	14.7	14.4	Togo	39.1	36.4	27.1	24.3
India	38.8	38.8	32.2	31.1	Trinidad & Tobago	11.7	12.2	12.2	8.0
Indonesia	25.5	26.5	24.5	21.9	Tunisia	10.7	8.6	7.6	7.9
Iran	13.5	9.4	8.1	7.3	Turkey	10.3	7.3	5.3	<5
Iraq	26.5	24.9	24.4	22.1	Turkmenistan	22.0	17.4	15.3	12.2
Jamaica	8.4	8.2	8.5	8.6	Uganda	41.2	34.2	31.3	31.2
Jordan	12.2	8.5	8.3	11.2	Ukraine	13.6	5.0	<5	<5
Kazakhstan	11.3	12.4	8.8	5.5	Uruguay	7.7	8.1	5.4	<5
Kenya	36.5	33.5	28.0	23.2	Uzbekistan	23.7	17.9	15.6	12.1
Kuwait	<5	<5	<5	<5	Venezuela	15.2	12.7	8.4	11.4
Kyrgyz Republic	18.8	14.0	12.4	9.3	Viet Nam	28.2	23.8	18.8	16.0
Lao PDR	48.0	35.8	30.3	25.3	Yemen	43.2	41.7	34.5	39.7
Latvia	6.9	5.0	<5	<5	Zambia	52.0	45.8	42.8	37.6
Lebanon	9.1	10.3	8.0	11.7	Zimbabwe	38.7	39.7	36.0	32.9

— = Data are not available or not presented. Some countries did not exist in their present borders in the given year or reference period.

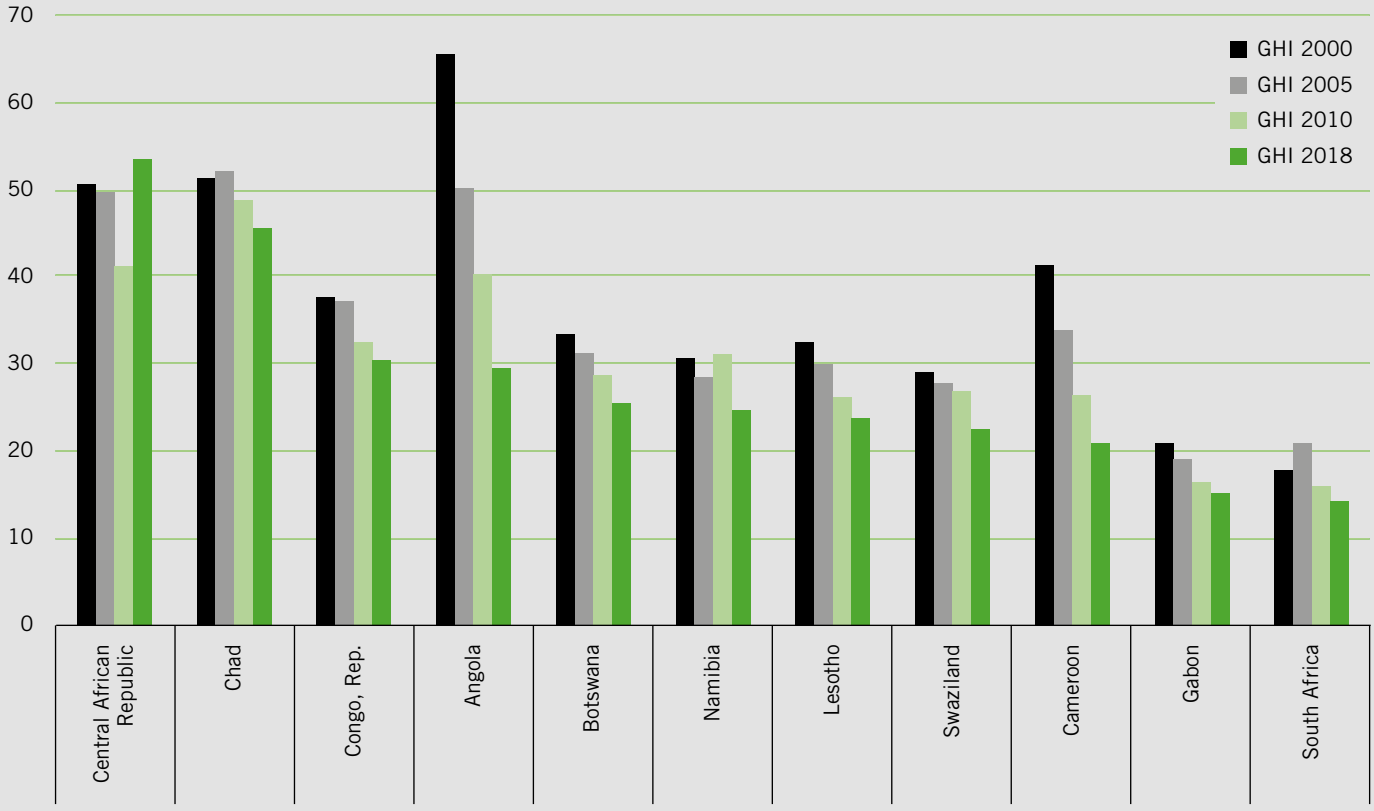
NEAR EAST AND NORTH AFRICA



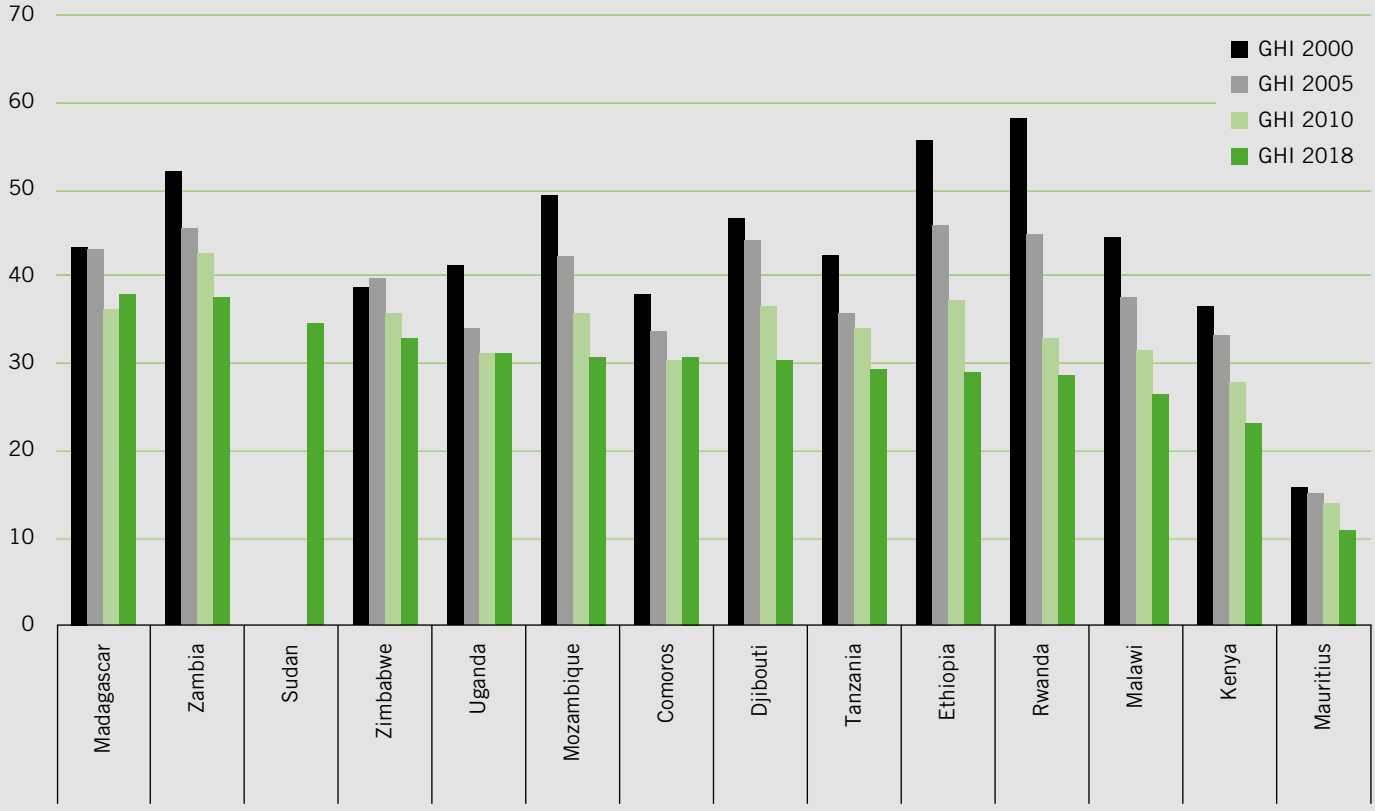
WEST AFRICA



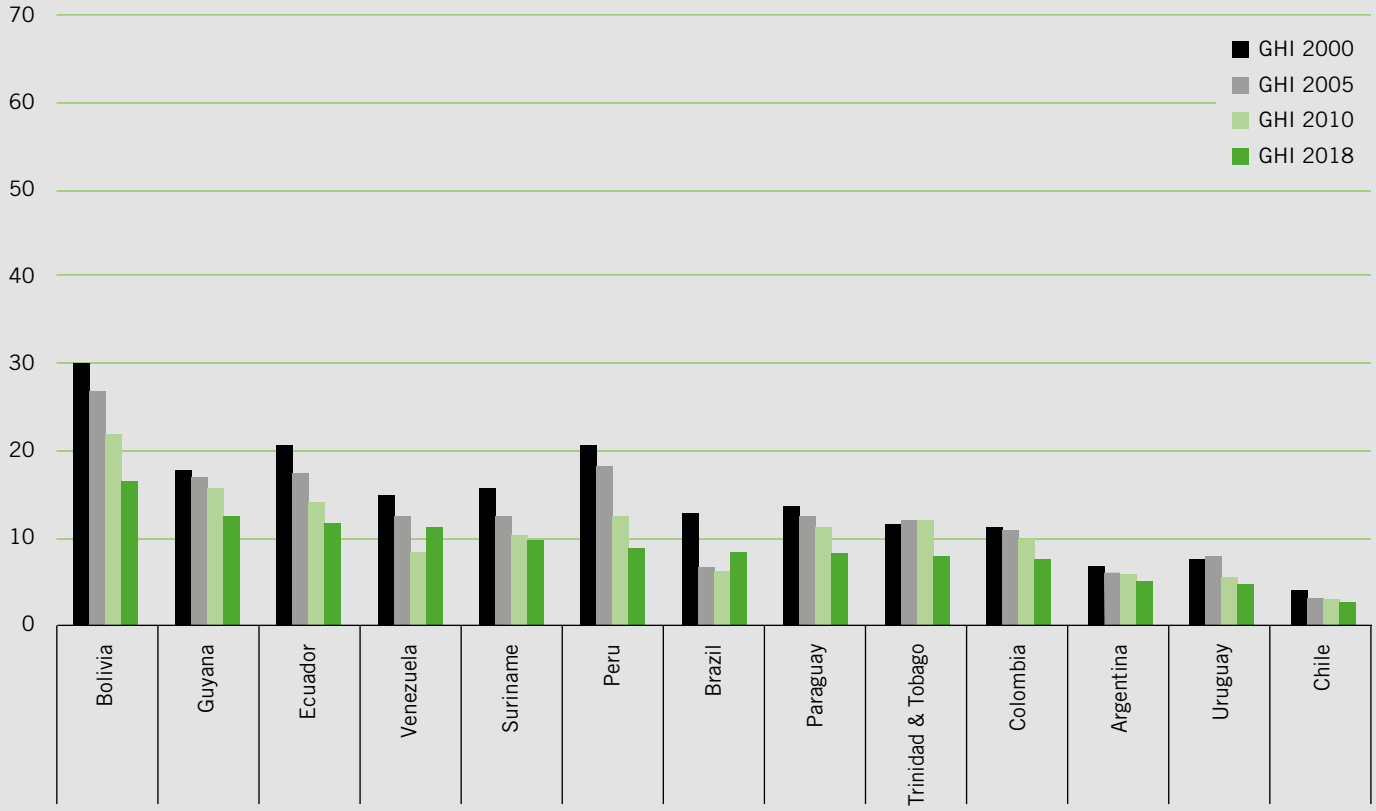
CENTRAL AND SOUTHERN AFRICA



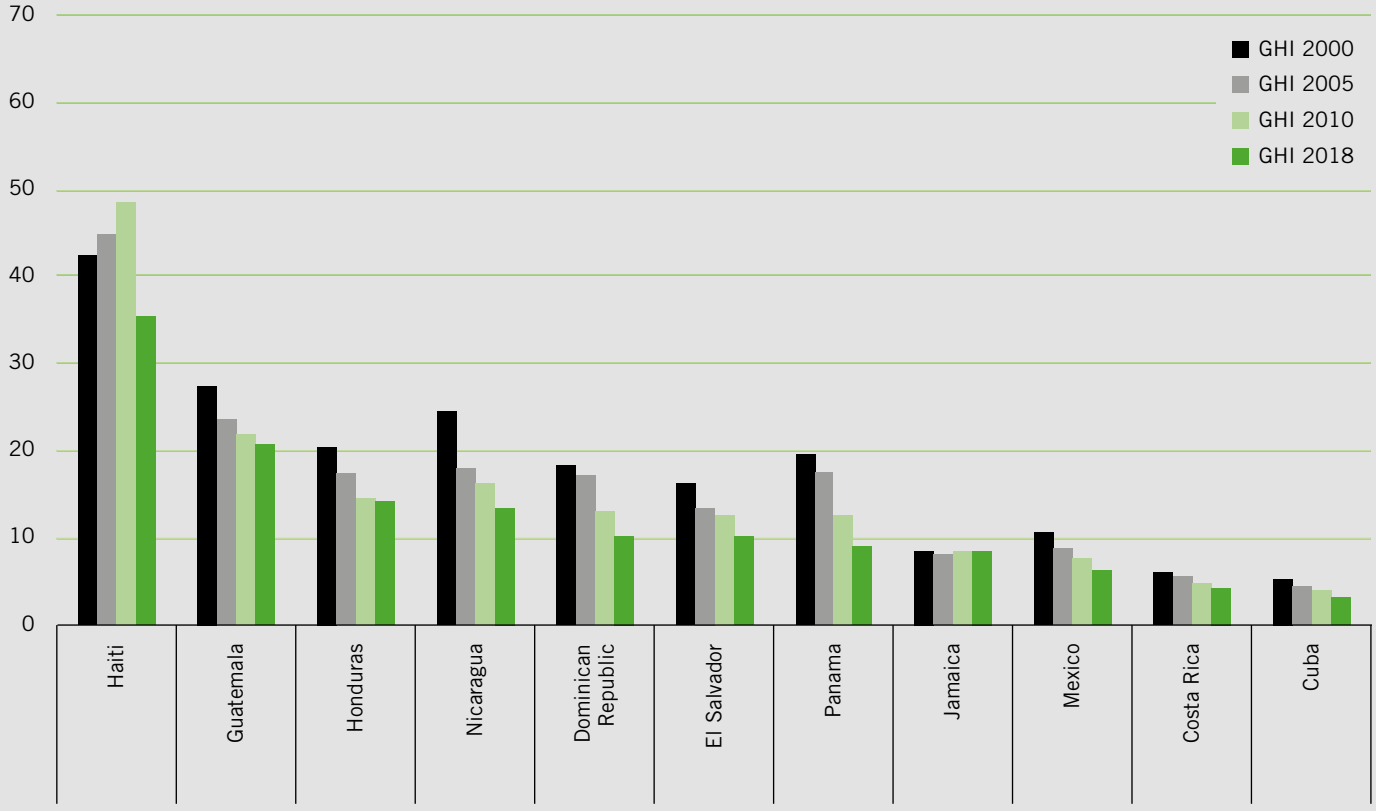
EAST AFRICA



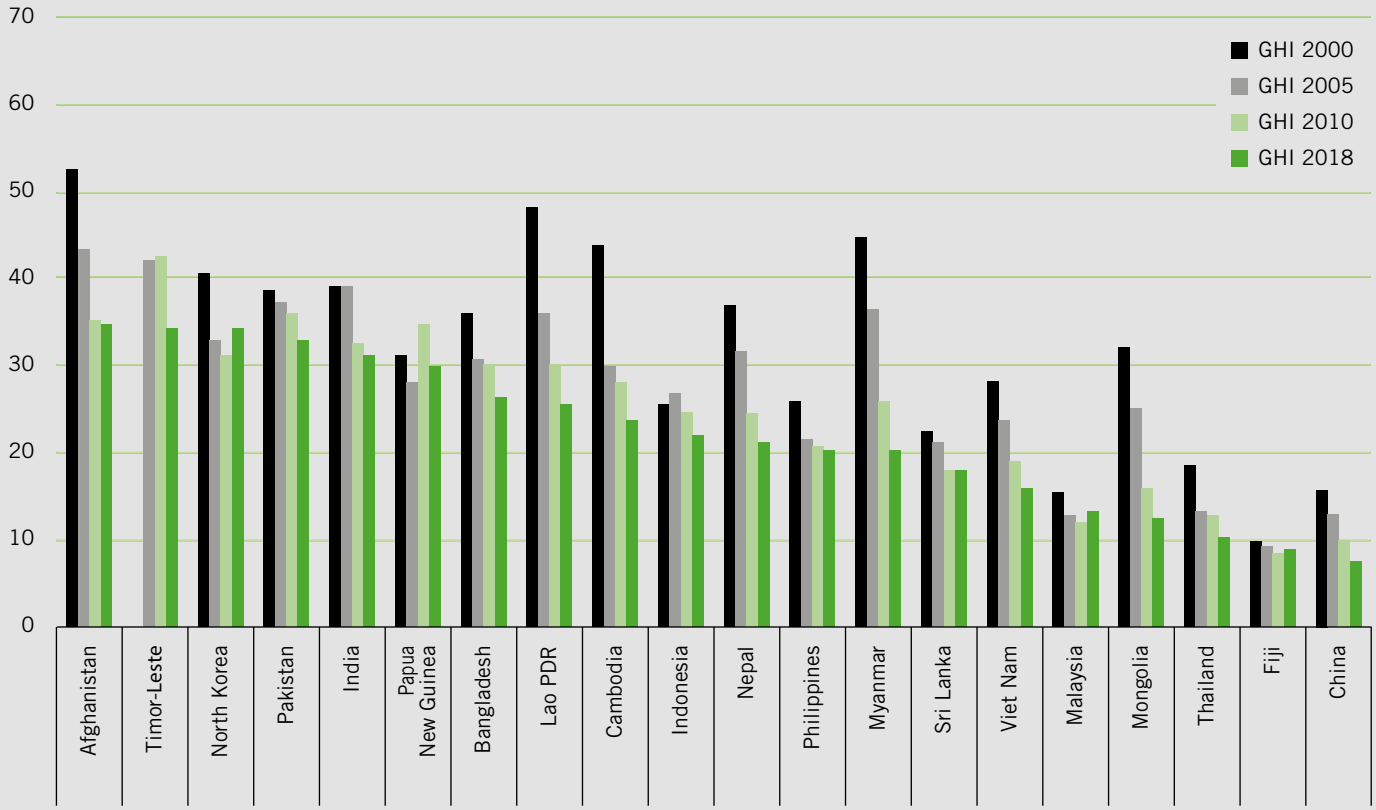
SOUTH AMERICA



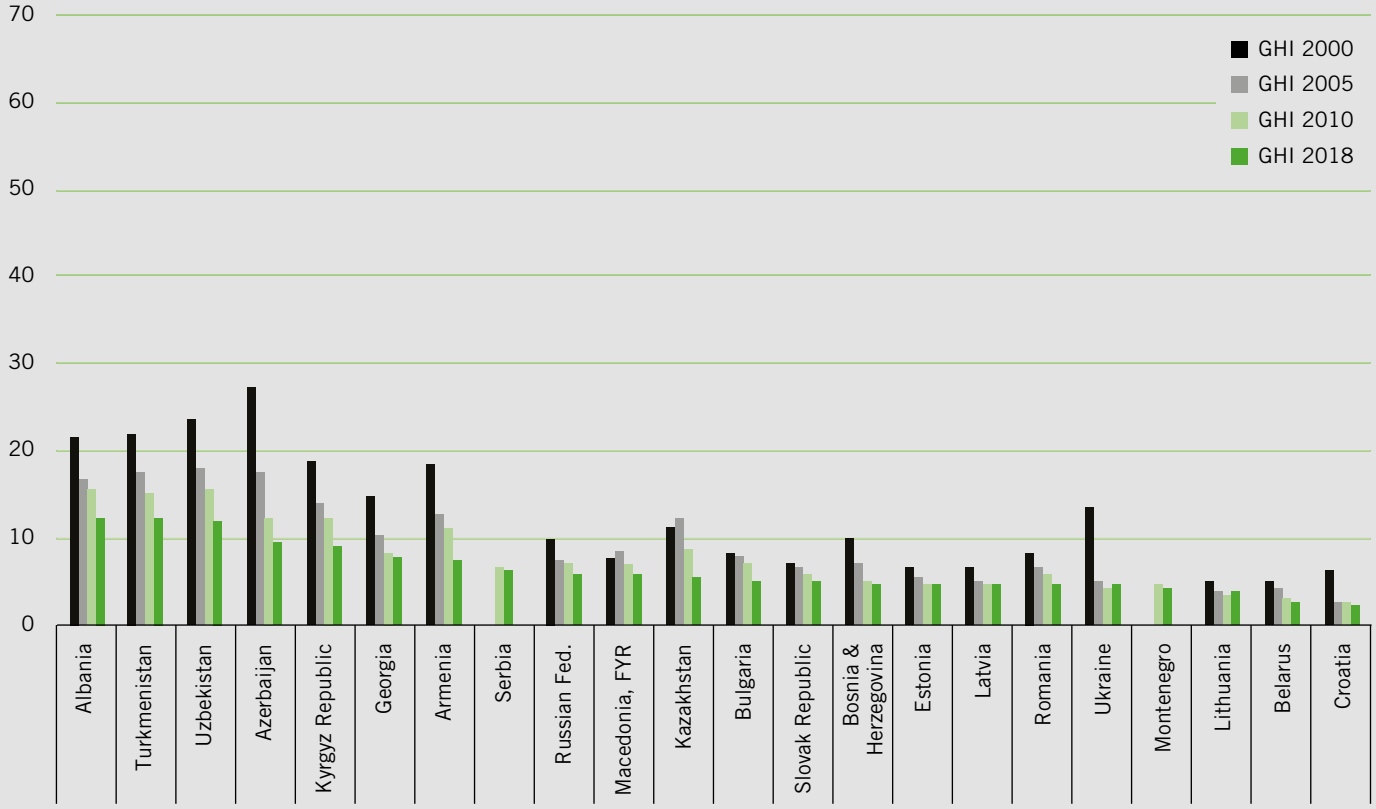
CENTRAL AMERICA AND THE CARIBBEAN



SOUTH, EAST, AND SOUTHEAST ASIA



EASTERN EUROPE AND THE COMMONWEALTH OF INDEPENDENT STATES



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PARTNERS

Who we are

Founded in Ireland in 1968, Concern Worldwide is a non-governmental, international humanitarian organization dedicated to reducing suffering and working toward the ultimate elimination of extreme poverty. We work in 25 of the world's poorest countries, with offices in Ireland, the United Kingdom, the United States of America, and the Republic of Korea, and more than 3,300 committed and talented staff.

What we do

Our mission is to help people living in extreme poverty achieve major improvements that last and spread without ongoing support from Concern Worldwide. To this end, Concern Worldwide will work with the poor themselves, and with local and international partners who share our vision, to create just and peaceful societies where the poor can exercise their fundamental rights. To achieve this mission, we engage in long-term development work, respond to emergency situations, and seek to address the root causes of poverty through our development education and advocacy work.

Our vision

A world where no one lives in poverty, fear, or oppression; where all have access to a decent standard of living and the opportunities and choices essential to a long, healthy, and creative life; and where everyone is treated with dignity and respect.

Who we are

Welthungerhilfe is one of the largest nongovernmental aid agencies in Germany. It was founded in 1962 under the umbrella of the Food and Agriculture Organization of the United Nations (FAO). At that time, it was the German section of the Freedom from Hunger Campaign, one of the first global initiatives to fight hunger.

What we do

We fight hunger and poverty. Our goal is to make ourselves redundant. We provide integrated aid, from rapid disaster aid to long-term development cooperation projects. We supported people in 38 countries through 410 overseas projects in 2017.

How we work

Help to self-help is our basic principle; it allows us to strengthen structures from the bottom up together with local partner organizations and ensures the long-term success of project work. In addition, we inform the public and take an advisory role with regard to national and international policy. This is how we fight to change the conditions that lead to hunger and poverty.

Our vision

A world in which all people can exercise their right to lead a self-determined life with dignity and justice, free from hunger and poverty.

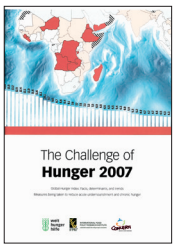
Special acknowledgment of the International Food Policy Research Institute

The Global Hunger Index was created in 2006 by researchers from the International Food Policy Research Institute (IFPRI), which in the years since has provided crucial intellectual and financial support for the development and maintenance of the index. In 2015, IFPRI initiated an improvement in the methodology for calculating the GHI. With this strong foundation in place, IFPRI is stepping aside from its involvement in the GHI, which now goes forward as a joint project of Welthungerhilfe and Concern. We have ensured that the calculation of the index is continued with the same high academic standard that IFPRI has set. We are grateful for IFPRI's initial support and scholarly research, which helped launch and establish the Global Hunger Index as a pragmatic tool that is globally recognized and valued as a way to measure progress in the essential fight against hunger.

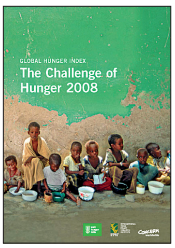
13 YEARS OF TRACKING WORLD HUNGER

Since 2006, the Global Hunger Index has been reporting on the state of hunger globally, by region, and by country.

Case Studies in the Post-Conflict Countries of Afghanistan and Sierra Leone



Measures Being Taken to Reduce Acute Undernourishment and Chronic Hunger

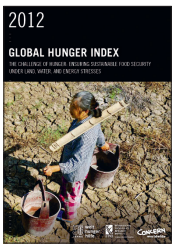


The Vicious Circle of Hunger and Poverty

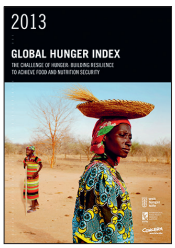
Financial Crisis and Gender Inequality

The Crisis of Child Undernutrition

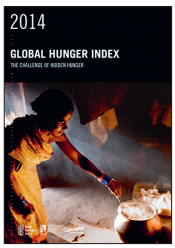
Taming Price Spikes and Excessive Food Price Volatility



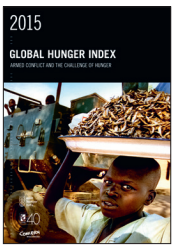
Ensuring Sustainable Food Security Under Land, Water, and Energy Stresses



Building Resilience to Achieve Food and Nutrition Security



The Challenge of Hidden Hunger



Armed Conflict and the Challenge of Hunger

Getting to Zero Hunger

The Inequalities of Hunger

Forced Migration and Hunger

For more information about the 2018 Global Hunger Index, a synopsis, a poster, GHI country profiles, translations of the full report, and access to past editions of the GHI, visit www.globalhungerindex.org.

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Disclaimer:
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