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2009

GLOBAL HUNGER INDEX

THE CHALLENGE OF HUNGER:
FOCUS ON FINANCIAL CRISIS AND GENDER INEQUALITY



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THE CHALLENGE OF HUNGER:

FOCUS ON FINANCIAL CRISIS AND GENDER INEQUALITY

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Bonn, Washington D.C., Dublin
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The silent hunger crisis – affecting **one sixth** of all of humanity – poses a serious risk for world peace and security.

Jacques Diouf, Director of FAO, 2009

FOREWORD

The 2009 Global Hunger Index (GHI) report comes in a year in which the world is facing a series of crises – high and volatile food prices combined with financial crunch and economic recession. Unfortunately, these events pose the greatest risks to poor and vulnerable households, with often dire consequences for their food security.

This is the fourth year that the International Food Policy Research Institute (IFPRI) has calculated and analyzed this multi-dimensional measure of global hunger. This series of reports records the state of hunger worldwide and country by country, drawing attention to the countries and regions where action is most needed. In this way, the reports support policy advice and advocacy work on both national and international platforms.

It is important to remember that this report offers a picture of the past, not the present. The calculation of the GHI is limited by the collection of data by various governments and international agencies. The 2009 GHI incorporates data only until 2007 – the most recent available. This GHI report therefore does not fully reflect the impact of recent increases in food and energy prices or the economic downturn.

The report does, however, highlight the countries and regions facing the greatest risk in the current context. Twenty-nine countries have levels of hunger that are alarming or extremely alarming. South Asia and Sub-Saharan Africa continue to suffer from the highest levels of hunger, despite some progress since 1990.

Many countries with high rates of hunger are also especially vulnerable to the consequences of the financial and economic crisis – a situation that puts the food security of poor people in these countries at great risk. High rates of hunger also tend to go hand in hand with gender inequality in areas such as economic participation, education, political empowerment, and health.

After decades of slow progress in combating global hunger, the number of malnourished people is now rising as a result of recent events. It is our hope that this report will not only generate discussion, but also stimulate action to overcome hunger, extreme vulnerability, and gender inequality worldwide.



Dr. Wolfgang Jamann
Secretary General and
Chairperson of Welthungerhilfe



Prof. Joachim von Braun
Director General of the
International Food Policy
Research Institute



Tom Arnold
Chief Executive of
Concern Worldwide

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SUMMARY

The Global Hunger Index (GHI) shows that worldwide progress in reducing hunger remains slow. The 2009 global GHI has fallen by only one quarter from the 1990 GHI. Southeast Asia, the Near East and North Africa, and Latin America and the Caribbean have reduced hunger significantly since 1990, but the GHI remains distressingly high in South Asia, which has made progress since 1990, and in Sub-Saharan Africa, where progress has been marginal.

Some countries achieved noteworthy progress in improving their GHI. Between the 1990 GHI and the 2009 GHI, Kuwait, Tunisia, Fiji, Malaysia, and Turkey had the largest percentage improvements. Angola, Ethiopia, Ghana, Nicaragua, and Vietnam saw the largest absolute improvements in their scores.

Nonetheless, 29 countries have levels of hunger that are alarming or extremely alarming. The countries with the highest 2009 GHI scores are Burundi, Chad, the Democratic Republic of Congo, Eritrea, Ethiopia, and Sierra Leone. In most of the countries with high GHI scores, war and violent conflict have given rise to widespread poverty and food insecurity. Nearly all of the countries in which the GHI rose since 1990 are in Sub-Saharan Africa.

The current food and financial crises, linked in complex ways, will both have implications for food security, financial and economic stability, and political security. The impacts will be greatest on the poor and hungry, and the countries with the highest levels of hunger are also among the most vulnerable to the global downturn.

Although the poor and the hungry are in general hurt the most by the food and financial crises, the exact impacts at the household level differ widely. Policy responses to the food and financial crises must take these different impacts into account. Social protection strategies should be designed to mitigate the current shock for the most vulnerable, lay the foundation for sustainable recovery, and prevent negative impacts in the future. Nutrition interventions, such as school feeding programs and programs for early childhood and maternal nutrition, should be strengthened and expanded to ensure universal coverage.

An important part of the solution to global hunger is reducing gender inequality. This report compares the 2009 GHI with the 2008 Global Gender Gap Index, which is made up of four subindices: economic participation, educational attainment, political empowerment, and health and survival. The evidence shows that higher levels of hunger are associated with lower literacy rates and access to education for women. High rates of hunger are also linked to health and survival inequalities between men and women. Reducing gender disparities in key areas, particularly in education and health, is thus essential to reduce levels of hunger.

01



Progress was made in reducing chronic hunger in the 1980s and the first half of the 1990s. For the past decade hunger has been **on the rise.**

THE CONCEPT OF THE GLOBAL HUNGER INDEX

The Global Hunger Index (GHI) – a tool adapted and further developed by IFPRI for regularly describing the state of global hunger¹ – shows that although hunger varies dramatically by region, overall global progress in reducing hunger remains slow. The 2009 global GHI has fallen by only one quarter from the 1990 GHI. Since 1990 South-east Asia, the Near East and North Africa, and Latin America and the Caribbean have reduced hunger significantly. The GHI remains distressingly high, however, in South Asia, which has made progress since 1990, and in Sub-Saharan Africa, where progress has been marginal.

The GHI incorporates three hunger-related indicators (see following pages 8, 9 for information on how the GHI is calculated). This year's index reflects data from 2002 to 2007 – the most recent available global data on the three GHI components – and thus does not yet take account of the latest changes in hunger. For some countries suffering from severe hunger, such as Afghanistan, Iraq, and Somalia, too little data are available to calculate the GHI.

Most vulnerable affected worst

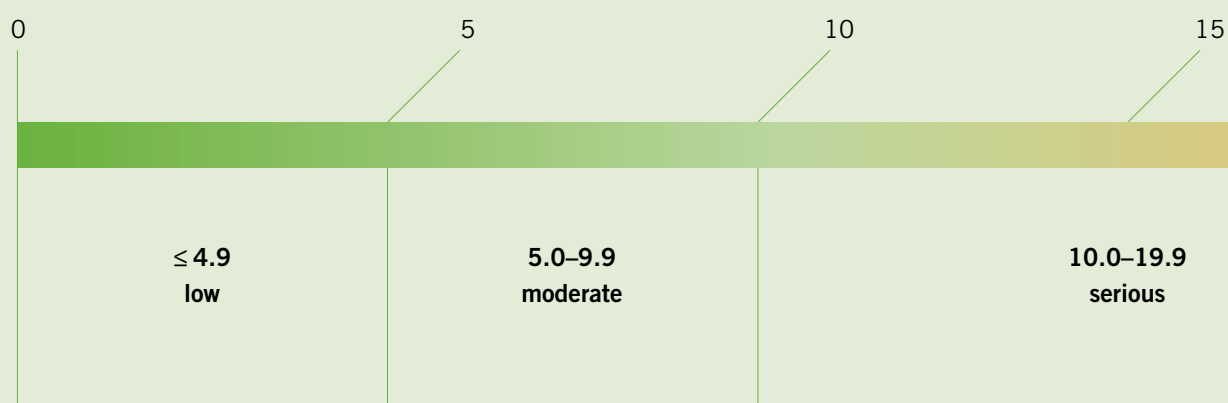
It is clear, however, that the current situation of food crisis, financial crunch, and global recession has further undermined the food security and the livelihoods of the poor. The Food and Agricultural Organization of the United Nations (FAO) projects the number of undernourished people in the developing world to have increased from 848 million to 1,020 million from 2003-05 to 2009, mainly because of the food crisis and the world economic recession (FAO 2008; FAO 2009). Since the food price hike in 2007-08, prices have been falling, but in many countries they remain above their levels of a couple of years ago. Poor people are now exposed to additional stress stemming from the financial crisis as real wages and household incomes decline, jobs are lost, credit is cut, and remittances dwindle. The global recession has also increased uncertainty about the levels of future aid and funds for social protection, which are essential for avoiding hunger and starvation among the most vulnerable.

The potential long-term effects of the food price crisis and recession on poor women and children are of special concern. High and variable food prices and lower incomes may prevent even more poor households from providing pregnant mothers and infants and young children with adequate nutrition. For infants and young children, even temporary undernutrition can have irreversible long-term consequences for their future health, cognitive development, and productivity.

Accelerating progress against hunger and malnutrition requires steps to be taken to mitigate the effects of the food shortage and financial crisis and working to prevent such crises in the future. The GHI can contribute to effective responses by highlighting where people are most vulnerable to hunger.

¹ For background information on the concept, see Wiesmann (2004), and Wiesmann, von Braun, and Feldbrügge (2000).

WHAT IS THE GLOBAL HUNGER INDEX?



The GHI is a multidimensional approach to measuring hunger. It combines three equally weighted indicators:

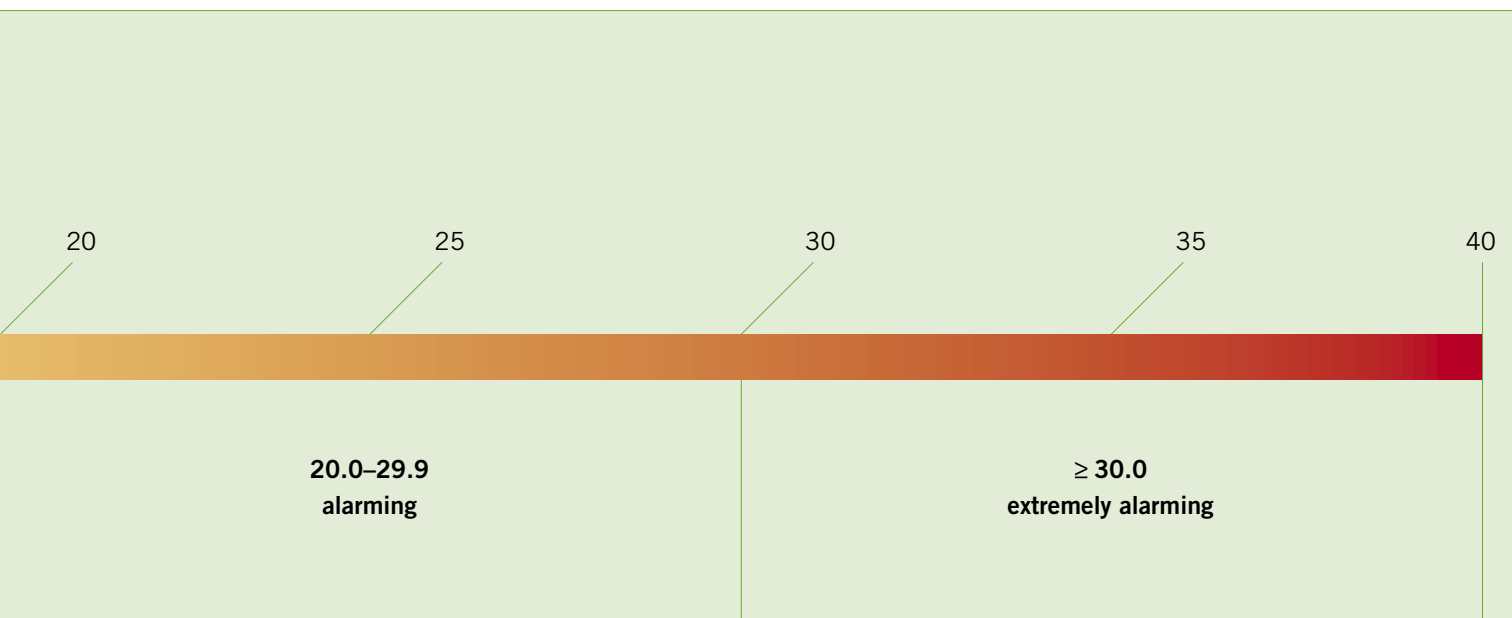
1. the proportion of undernourished as a percentage of the population (reflecting the share of the population with insufficient dietary energy intake);
2. the prevalence of underweight in children under the age of five (indicating the proportion of children suffering from weight loss); and
3. the mortality rate of children under the age of five (partially reflecting the fatal synergy between inadequate dietary intake and unhealthy environments).

This multidimensional approach to calculating the GHI offers several advantages. It captures various aspects of hunger in one index number, thereby presenting a quick overview of a complex issue. It takes account of the nutrition situation not only of the population as a whole, but also of a physiologically vulnerable group – children – for whom a lack of nutrients creates a high risk

of illness, poor physical and cognitive growth, and death. In addition, by combining independently measured indicators, it reduces the effects of random measurement errors.

The index ranks countries on a 100-point scale, with 0 being the best score (no hunger) and 100 being the worst, though neither of these extremes is achieved in practice. Values less than 4.9 reflect low hunger, values between five and 9.9 reflect moderate hunger, values between ten and 19.9 indicate a serious problem, values between 20 and 29.9 are alarming, and values of 30 or higher are extremely alarming.

The 2009 GHI and the 1990 GHI presented in this report draw on revised source data and better methods of calculating estimates. The “proportion of undernourished” component in the 2009 GHI is based on the new standards for human energy requirements of the United Nations (UN) and the 2006 revisions of UN population data (for more information, see FAO 2008). The undernourishment component in the 1990 GHI has also been re-



vised to reflect the new UN energy requirements standards and population estimates. The IFPRI methodology for estimating the prevalence of underweight in children has also been improved.² Although these enhancements in the underlying data and estimation methodologies improve the quality of the GHI, they also make the country, regional, and world 2009 GHI values and revised 1990 GHI values not directly comparable to previously calculated GHI values (for more information on previous GHI calculations, see von Grebmer et al. 2008; IFPRI/Welthungerhilfe/Concern Worldwide 2007; and Wiesmann 2006a, b).

Data for the 2009 GHI are from 2002 to 2007. Specifically, the data on the proportion of undernourished are for 2003–05 (FAO 2008); data on child mortality are for 2007 (UNICEF 2009a); and data on child malnutrition are for the latest year in the period 2002–07 for which data are available (WHO 2009; UNICEF 2009b; and MEASURE DHS 2009). Data for the 1990 GHI are for 1988–92. The data on the proportion of undernourished are for

1990–92 (FAO 2008); data on child mortality are for 1990 (UNICEF 2009a); and data on child malnutrition are for 1988–92 (WHO 2009; UNICEF 2009b; and MEASURE DHS 2009). See Appendix A for more detailed background data on the data sources and calculation of the 1990 GHI and 2009 GHI.

The 2009 GHI is calculated for 121 countries for which data on the three components are available and for which measuring hunger is considered most relevant (some higher-income countries are excluded from the GHI calculation because the prevalence of hunger is very low).

² A statistical procedure was applied to the variable for underweight in children in the 2009 GHI to assure that the estimation process would not produce negative values for underweight. In addition, the database for underweight in children used in the models was substantially expanded compared with 2008. More data from earlier years were included by converting underweight estimates only available for the outdated WHO/NCHS reference standards to the new World Health Organization (WHO) reference standards released in 2006.

02

Whereas in Southeast Asia the GHI has decreased by **40 percent**,
in Sub-Saharan Africa the GHI has fallen by only **13 percent** since 1990.



GLOBAL AND REGIONAL TRENDS

As shown in the figure below, the 2009 global GHI shows some improvement over the 1990 GHI, falling from 20.0 to 15.2 or by almost one quarter. The proportion of underweight children declined by 2.6 points, and the under-five mortality rate and the proportion of undernourished also improved. The index for hunger in the world as a whole, however, remains serious.

The picture varies greatly by region and country. The graph below illustrates that the 2009 GHI had fallen by 13 percent in Sub-Saharan Africa compared with the 1990 GHI, by about 25 percent in South Asia, and by more than 32 percent in the Near East and North Africa. Progress in Southeast Asia and Latin America was especially great, with the GHI decreasing by over 40 percent.

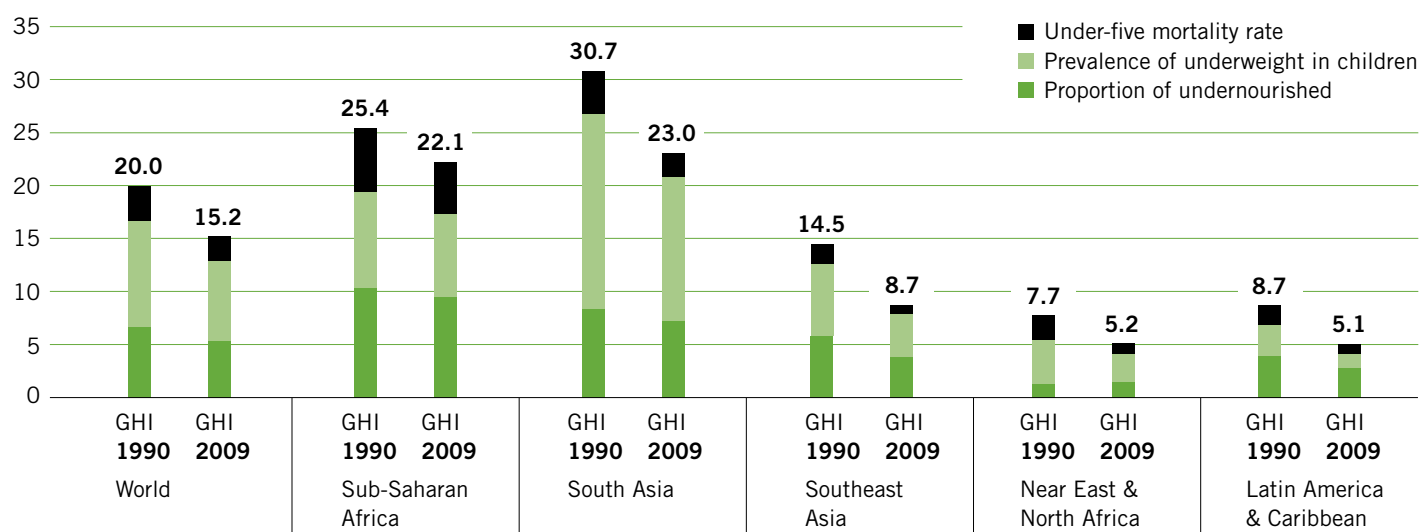
Reasons behind growing food insecurity

The highest regional GHI scores relate to South Asia, at 23.0, and Sub-Saharan Africa, at 22.1, but the causes of food insecurity in the two regions are different. In South Asia, the low nutritional, educational, and social status of women contributes to a high prevalence of underweight in children under five. In contrast, in Sub-Saharan Africa, low government effectiveness, conflict, political instability, and high rates of HIV and AIDS lead to high child mortality and a high proportion of people who cannot meet their calorie requirements.

As indicated on the map on page 12, a handful of countries were able to reduce their GHI scores by half or more from 1990 to 2009. About one third of the countries made modest progress, reducing their GHI scores between 25 and 49.9 percent. No country in Sub-Saharan Africa is among the ten best performers in improving the GHI since 1990 (see figure on following page), but Ghana cut its GHI by more than 50 percent, the only country in the region to do so.¹ Kuwait's seemingly remarkable progress in reducing hunger is mainly due to its unusually high level in 1990, when Iraq invaded the country. The second-best performer, Tunisia, reduced hunger from an already low level in 1990.

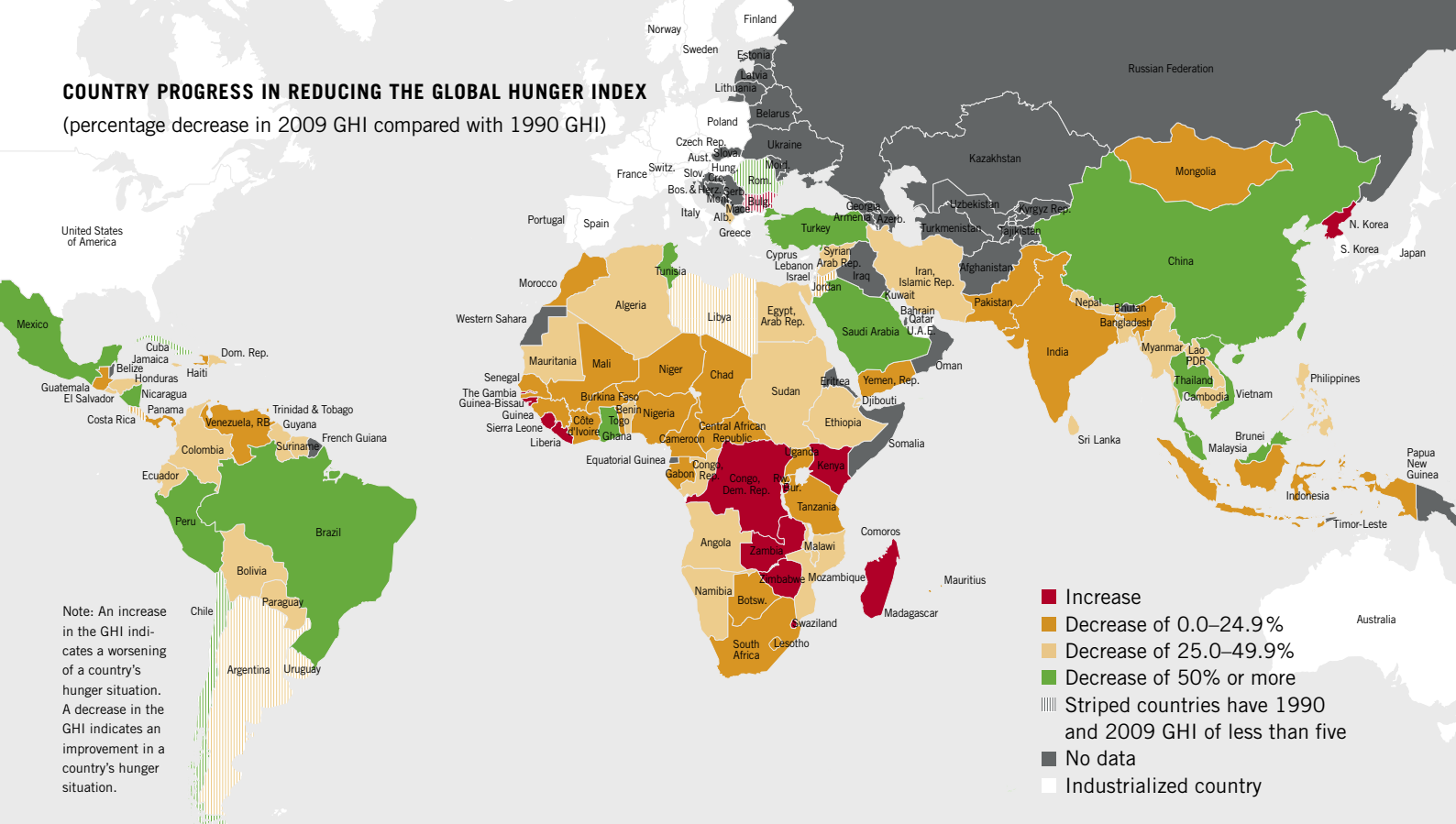
Among the ten countries in which the GHI rose the most (all in Sub-Saharan Africa, except for North Korea), the Democratic Republic of Congo is a clear outlier, with the GHI deteriorating by more than 50 percent (see figure on following page). Conflict and political instability in Burundi, Comoros, the Democratic Republic of Congo, Guinea-Bissau, Liberia, and Sierra Leone have increased hunger. In Swaziland, the high prevalence of HIV and AIDS, coupled with high inequality, has severely undermined food security despite higher national incomes. Negative trends in economic growth and food production in North Korea have increased rates of undernourishment and underweight in children. In Zimbabwe, once regarded as the breadbasket of Africa, the economic collapse has increased the proportion of underweight children.

CONTRIBUTION OF COMPONENTS TO 1990 GHI (BASED ON DATA FROM 1988–92) AND 2009 GHI (BASED ON DATA FROM 2002–07)



Note: For the 1990 GHI, data on the proportion of undernourished are for 1990–92; data on the prevalence of underweight in children under five are for 1988–92; and data on child mortality are for 1990. For the 2009 GHI, data on the proportion of undernourished are for 2003–05, data on child mortality are for 2007, and data on the prevalence of underweight in children under five are for the latest year in the period 2002–07 for which data are available.

COUNTRY PROGRESS IN REDUCING THE GLOBAL HUNGER INDEX (percentage decrease in 2009 GHI compared with 1990 GHI)



Some countries achieved noteworthy absolute progress in improving their GHI. Between the 1990 GHI and the 2009 GHI, Angola, Ethiopia, Ghana, Nicaragua, and Vietnam saw the largest improvements – by more than 12 points – in their scores. Among the five best absolute performers, the reduction in the undernourished population was the most significant driving factor, with the exception of Vietnam, where the reduction in underweight children played an even greater role. In the Democratic Republic of Congo, however, the GHI rose by 13.6 points, mainly because of a rise in the proportion of the population that is undernourished.

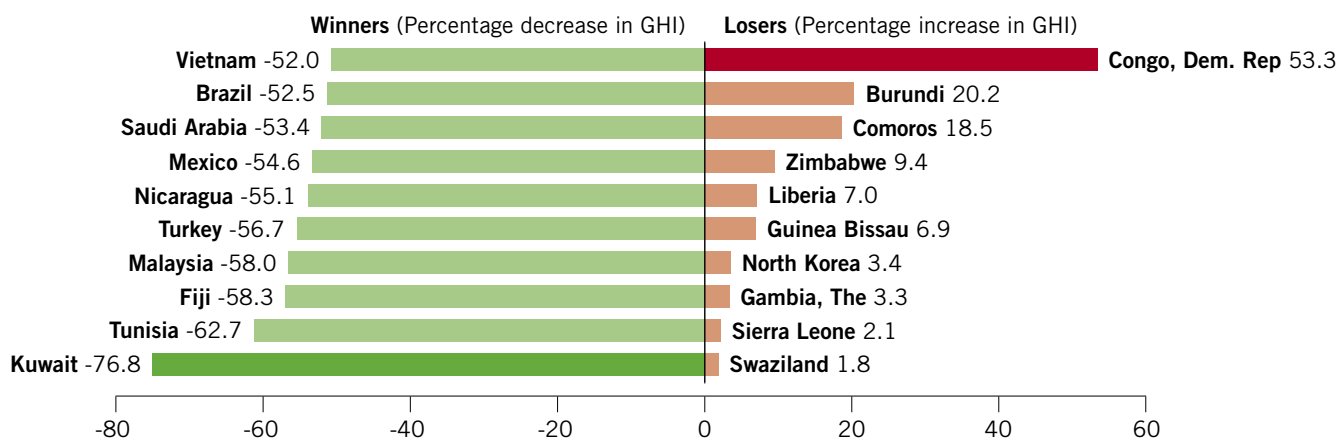
As shown in the table on page 13, the countries with the highest 2009 GHI scores – Burundi, Chad, the Democratic Republic of Congo, Eritrea, Ethiopia, and Sierra Leone – are in Sub-Saharan Africa.

In most of the countries with high GHI scores, war and violent conflict have given rise to widespread poverty and food insecurity.

In terms of the index components, the Democratic Republic of Congo and Eritrea currently have the highest proportion of undernourished people – 76 and 68 percent of the population respectively. Bangladesh, India, Timor-Leste, and Yemen have the highest prevalence of underweight in children under five – more than 40 percent in all four countries. Sierra Leone has the highest under-five mortality rate – 26.2 percent.

¹ Differences between the GHI winners and losers reported in the 2009 GHI report and the ones reported in the 2008 GHI report are to a large extent due to revisions in the FAO data for undernourishment and improvements in the methodology for estimating the proportion of children underweight.

GHI WINNERS AND LOSERS FROM 1990 GHI TO 2009 GHI



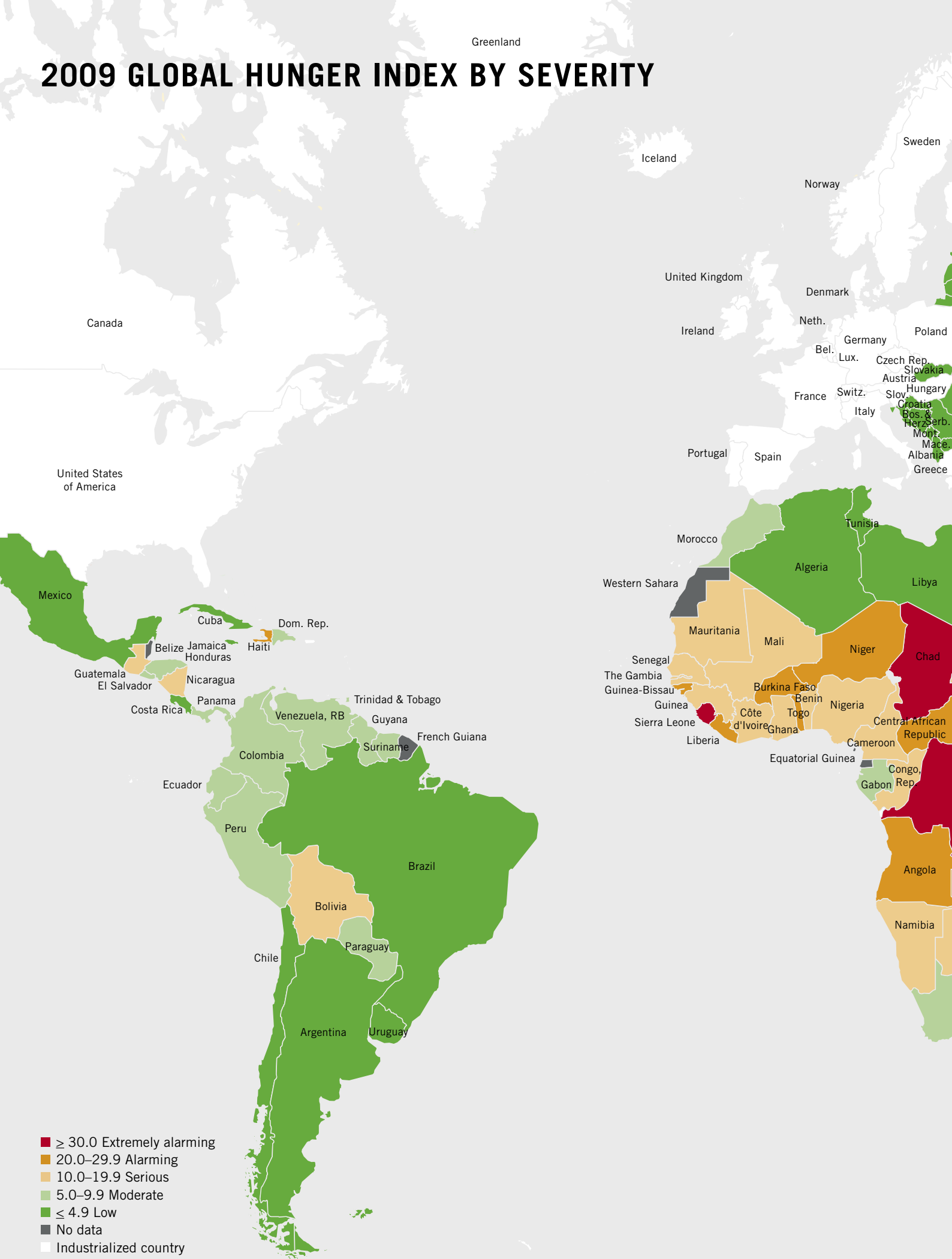
Note: Countries with both 1990 GHI less than five and 2009 GHI less than five are excluded.

THE GLOBAL HUNGER INDEX BY COUNTRY, 1990 GHI AND 2009 GHI

| Rank | Country | 1990 | 2009 | Rank | Country | 1990 | 2009 | | |
|------|----------------------|------|------|---------------------|--------------------------|-------------|-----------------------------|-------------|-------------|
| 1 | Syrian Arab Republic | 7.4 | 5.2 | 56 | Kenya | 20.0 | 20.2 | | |
| 2 | Trinidad and Tobago | 7.1 | 5.4 | 57 | Burkina Faso | 21.8 | 20.4 | | |
| 3 | Paraguay | 7.6 | 5.6 | 58 | Pakistan | 24.7 | 21.0 | | |
| 3 | Suriname | 9.6 | 5.6 | 58 | Zimbabwe | 19.2 | 21.0 | | |
| 5 | China | 11.6 | 5.7 | 60 | Tanzania | 22.9 | 21.1 | | |
| 5 | Colombia | 9.1 | 5.7 | 61 | Cambodia | 31.7 | 21.2 | | |
| 7 | Morocco | 7.3 | 5.8 | 62 | Djibouti | 32.6 | 22.9 | | |
| 8 | Georgia | - | 6.1 | 63 | Guinea-Bissau | 21.6 | 23.1 | | |
| 8 | Venezuela, RB | 6.6 | 6.1 | 63 | Togo | 27.8 | 23.1 | | |
| 10 | El Salvador | 8.7 | 6.2 | 65 | India | 31.7 | 23.9 | | |
| 11 | Turkmenistan | - | 6.3 | 66 | Liberia | 23.0 | 24.6 | | |
| 12 | Mauritius | 7.4 | 6.7 | 67 | Bangladesh | 35.9 | 24.7 | | |
| 13 | Gabon | 7.7 | 6.9 | 68 | Angola | 41.5 | 25.3 | | |
| 14 | South Africa | 7.2 | 7.0 | 68 | Mozambique | 35.9 | 25.3 | | |
| 15 | Guyana | 14.4 | 7.3 | 70 | Rwanda | 29.6 | 25.4 | | |
| 15 | Peru | 14.9 | 7.3 | 70 | Timor-Leste | - | 25.4 | | |
| 17 | Uzbekistan | - | 7.5 | 72 | Zambia | 25.3 | 25.7 | | |
| 18 | Honduras | 13.5 | 7.7 | 73 | Comoros | 22.7 | 26.9 | | |
| 19 | Ecuador | 13.1 | 7.8 | 74 | Yemen, Rep. | 30.7 | 27.0 | | |
| 20 | Azerbaijan | - | 7.9 | 75 | Central African Republic | 30.0 | 28.1 | | |
| 20 | Panama | 10.1 | 7.9 | 76 | Haiti | 33.6 | 28.2 | | |
| 22 | Thailand | 16.4 | 8.2 | 77 | Madagascar | 28.1 | 28.3 | | |
| 23 | Armenia | - | 9.2 | 78 | Niger | 36.5 | 28.8 | | |
| 24 | Dominican Republic | 14.0 | 9.3 | 79 | Ethiopia | 43.5 | 30.8 | | |
| 25 | Nicaragua | 23.4 | 10.5 | 80 | Chad | 37.7 | 31.3 | | |
| 26 | Swaziland | 10.9 | 11.1 | 81 | Sierra Leone | 33.1 | 33.8 | | |
| 27 | Bolivia | 15.4 | 11.3 | 82 | Eritrea | - | 36.5 | | |
| 28 | Ghana | 23.5 | 11.5 | 83 | Burundi | 32.2 | 38.7 | | |
| 29 | Vietnam | 24.8 | 11.9 | 84 | Congo, Dem. Rep. | 25.5 | 39.1 | | |
| 30 | Lesotho | 13.0 | 12.0 | | | | | | |
| 31 | Botswana | 14.5 | 12.1 | | | | | | |
| 32 | Guatemala | 15.3 | 12.5 | | | | | | |
| 33 | Mongolia | 16.9 | 12.9 | Country | 1990 | 2009 | Country | 1990 | 2009 |
| 34 | Philippines | 19.0 | 13.2 | Albania | 8.7 | <5 | Kyrgyz Republic | - | <5 |
| 35 | Sri Lanka | 21.1 | 13.7 | Algeria | 6.3 | <5 | Latvia | - | <5 |
| 36 | Namibia | 19.7 | 14.4 | Argentina | <5 | <5 | Lebanon | <5 | <5 |
| 37 | Côte d'Ivoire | 16.0 | 14.5 | Belarus* | - | <5 | Libya* | <5 | <5 |
| 38 | Indonesia | 19.7 | 14.8 | Bosnia & Herz. | - | <5 | Lithuania | - | <5 |
| 38 | Uganda | 18.7 | 14.8 | Brazil | 7.3 | <5 | Macedonia, FYR | - | <5 |
| 40 | Mauritania | 22.1 | 15.0 | Bulgaria | <5 | <5 | Malaysia | 8.8 | <5 |
| 41 | Congo, Rep. | 21.0 | 15.4 | Chile | <5 | <5 | Mexico | 8.0 | <5 |
| 42 | Benin | 23.9 | 17.2 | Costa Rica | <5 | <5 | Moldova | - | <5 |
| 43 | Senegal | 20.8 | 17.3 | Croatia | - | <5 | Romania | <5 | <5 |
| 44 | Cameroon | 22.0 | 17.9 | Cuba | <5 | <5 | Russian Federation | - | <5 |
| 45 | Guinea | 22.6 | 18.2 | Egypt, Arab Rep. | 7.1 | <5 | Saudi Arabia | 6.3 | <5 |
| 46 | Nigeria | 24.4 | 18.4 | Estonia | - | <5 | Serbia & Mont. ¹ | - | <5 |
| 46 | North Korea* | 17.8 | 18.4 | Fiji | 6.0 | <5 | Slovak Republic | - | <5 |
| 48 | Malawi | 30.1 | 18.5 | Iran, Islamic Rep.* | 8.8 | <5 | Tunisia | 5.1 | <5 |
| 48 | Tajikistan | - | 18.5 | Jamaica | 6.5 | <5 | Turkey | 6.0 | <5 |
| 50 | The Gambia | 18.3 | 18.9 | Jordan | <5 | <5 | Ukraine | - | <5 |
| 51 | Lao PDR | 29.2 | 19.0 | Kazakhstan | - | <5 | Uruguay | <5 | <5 |
| 52 | Mali | 24.2 | 19.5 | Kuwait | 9.5 | <5 | | | |
| 53 | Myanmar* | 29.8 | 19.6 | | | | | | |
| 53 | Sudan* | 26.3 | 19.6 | | | | | | |
| 55 | Nepal | 27.6 | 19.8 | | | | | | |

Note: Countries with a 2009 GHI of less than five are not included in the ranking. Differences in the group of countries with a GHI less than five are minimal. Countries that have identical GHI scores are given the same ranking (for example, Paraguay and Suriname are both ranked at #3).
¹ Serbia and Montenegro are two independent states since 2006, but have been grouped in the GHI, due to the available data. * indicates that the underlying data are unreliable.

2009 GLOBAL HUNGER INDEX BY SEVERITY



- ≥ 30.0 Extremely alarming
- 20.0–29.9 Alarming
- 10.0–19.9 Serious
- 5.0–9.9 Moderate
- ≤ 4.9 Low
- No data
- Industrialized country



The recession-inspired spike in hunger is a symptom of a much deeper problem: the **marginalization and disempowerment** of the poorest.

FINANCIAL CRISIS ADDING TO THE VULNERABILITIES OF THE HUNGRY

The world is currently experiencing both a food and a financial crisis, which are linked in complex ways through their implications for food security, financial and economic stability, and political security. Because developing countries are more integrated within world markets through trade, investment flows, and remittances than in the past, the latest food and financial crises have stronger effects on those countries than during previous crises. The impact is also stronger on the poor and hungry, many of whom are now more closely linked to the wider economy. The International Food Policy Research Institute (IFPRI) estimates that recession and reduced investment in agriculture could push 16 million more children into malnutrition in 2020 compared with continued high economic growth and maintained investments (von Braun 2008). Given that children's undernutrition affects their physical and cognitive development and has implications for their earnings as adults (Hoddinott et al. 2008), the crises will have long-lasting negative implications for people's livelihoods and economic prospects long after prices come down and the financial crisis is resolved.

The financial crisis and the resulting global recession pose direct threats to developing countries and transition economies in several ways:

- Falling world trade volumes and changes in terms of trade. The decline in global demand for goods and services has severely hurt food exporters around the world. The decline in exports has also reduced government revenues, which often depend heavily on export revenues in developing countries. Commodity exporters have experienced an additional blow because of falling terms of trade (falls in the price of exports relative to the price of imports), which limit their ability to import.
- Falling foreign direct investment and portfolio investment. Downturns in investments from abroad limit the already scarce capital and technology in developing countries. Large projects are put on hold or brought to a halt, unemployment surges, and jobs are lost among people in poor households.
- Falling remittances. A decline in remittances directly reduces household income in developing countries, lowers human capital investments, and impedes households' ability to cope with food price hikes and recession.
- Increasing gap between needs and foreign aid. Although some donor governments have increased their aid volumes, this will not be enough to meet rising needs for protecting the most vulnerable in time of crisis. Where foreign aid budgets are cut, even greater pressures are placed on the capacities of health and education systems as well as the provision of social protection.

These channels have different intensities and degrees of importance for different countries. For example, declining terms of trade hurt commodity exporters harsher, and the drop in remittances affects Latin American countries more severely. Second-round effects of the global financial crisis and recession (such as transmission of the financial crisis to other sectors of the economy and drops in government revenue) exacerbate the negative impacts on the poor and hungry.

The International Monetary Fund assessed the macroeconomic vulnerability of low-income countries to the global downturn using four areas of vulnerability: trade, foreign direct investment, aid, and remittances (IMF 2009). Countries were assigned a rank of high, medium, or low overall vulnerability, depending on how much they would be affected by the financial shock and recession.¹

Global recession aggravates situation of the poor and hungry

The countries with the highest levels of hunger are also among the most vulnerable to the global downturn (see table on page 18). For two countries with extremely alarming levels of hunger – Burundi and the Democratic Republic of Congo – vulnerability to the global downturn is also very high. Diminished aid flows are the greatest source of vulnerability for Burundi, whereas shrinking oil revenues pose the biggest threat to the Democratic Republic of Congo. The majority of countries with a GHI between 20 and 30 also show high or medium vulnerability to the downturn. This analysis also points to those countries that need measures to prevent exacerbation of hunger in the future. Transition economies with a low 2009 GHI (that is, a relatively favorable hunger situation) – Albania, Croatia, Kyrgyz Republic, and Moldova – are highly vulnerable to the financial crisis and recession and need to take steps to prevent an increase in hunger.

2009 GHI BY SEVERITY AND OVERALL VULNERABILITY TO THE GLOBAL DOWNTURN

| | ≤ 4.9 (low) | 5.0 to 9.9 (moderate) | 10.0 to 19.9 (serious) | 20.0 to 29.9 (alarming) | ≥ 30.0 (extremely alarming) |
|----------------------|-----------------|--------------------------|---------------------------|----------------------------|--------------------------------|
| High Vulnerability | Albania | Armenia | Ghana | Angola | Burundi |
| | Croatia | Honduras | Lao PDR | Central African Rep. | Congo, Dem. Rep. |
| | Kyrgyz Republic | | Lesotho | Djibouti | |
| | Moldova | | Mauritania | Haiti | |
| | | | Mongolia | Liberia | |
| | | | Nigeria | Zambia | |
| | | | Sudan | | |
| | | | Tajikistan | | |
| Medium Vulnerability | | Azerbaijan | Benin | Bangladesh | Chad |
| | | Georgia | Cameroon | Burkina Faso | Eritrea |
| | | Guyana | Congo, Rep. | Cambodia | Ethiopia |
| | | | Guinea | Comoros | Sierra Leone |
| | | | Malawi | India | |
| | | | Nicaragua | Madagascar | |
| | | | Sri Lanka | Mozambique | |
| | | | | Niger | |
| | | | | Pakistan | |
| | | | | Rwanda | |
| | | | | Tanzania | |
| Low Vulnerability | | Uzbekistan | Bolivia | Guinea-Bissau | |
| | | | Gambia, The | Kenya | |
| | | | Mali | Yemen, Rep. | |
| | | | Myanmar | | |
| | | | Nepal | | |
| | | | Senegal | | |
| | | Uganda | | | |

Source: Vulnerability data are from IMF (2009).

Note: For the 2009 GHI, data on the proportion of undernourished are for 2003–05, data on child mortality are for 2007, and data on child malnutrition are for the latest year in 2002–07 for which data are available. Table includes only countries for which both 2009 GHI and IMF vulnerability data are available.

At the microeconomic level, the financial crisis has decreased demand for food and pushed food prices lower. Global food prices are still high, however, compared with levels at the turn of the millennium and remain particularly high in developing countries. The financial crunch and recession have presented additional threats to the livelihoods of the poor and hungry. Wages of unskilled workers have been cut, jobs have been lost altogether, and remittances have diminished. Many small farmers who took advantage of rising agricultural prices to invest

in agricultural technologies find themselves unable to pay off their debts. Resources for the most vulnerable, such as aid from donors and social protection funds from governments, are squeezed as well.

While the poor and the hungry are in general hurt the most by the food and financial crises, the exact impacts at the household level differ widely. The nature and the size of effects depend on household characteristics such as whether the household is a net food producer or consumer, the share of food in its budget, its access to

services and assets, and its vulnerability to nonprice factors (Benson et al. 2008). The direct effects of financial turmoil and the fall in export revenue and remittances are likely to be felt most by the urban poor and those employed in low-skilled manufacturing industries. Yet the rural poor are also severely affected indirectly because of the close rural–urban and farm–nonfarm linkages in many developing countries (Heady 2009). Within households, the food and financial crises also affect household members to different degrees. Crises tend to affect women more deeply and for longer because women more often lack the income and assets that could help them cope with the crisis (Quisumbing et al. 2008).

Conclusion

Policy responses to the food and financial crises must recognize that impacts differ across and within countries. Social protection strategies should be designed to mitigate the current shock for the most vulnerable, lay the foundation for sustainable recovery, and at the same time prevent negative impacts in the future. Nutrition interventions, such as school feeding and programs for improved early childhood nutrition and improved nutrition for pregnant and lactating mothers, should be strengthened and expanded to ensure universal coverage.

¹ Countries with high overall vulnerability are projected to experience a decline in real gross domestic product (GDP) of 2.5 percent or more and a decline in reserves of 0.5 months of imports or more. Medium overall vulnerability corresponds to a 0.5–2.5 percent drop in real GDP and a drop in reserves of less than 0.5 months of imports. Low overall vulnerability corresponds to less than a 0.5 percent drop in real GDP.

Countries with high overall vulnerability had reserve coverage of less than three months of imports in 2008 and could lose more than an extra 0.5 months in the shock scenario. Countries with medium overall vulnerability either currently have more than three months of export coverage and are projected to lose more than 0.5 months in the shock, or currently have less than three months of coverage and are projected to lose less than 0.5 months with the shock. Countries with low overall vulnerability currently have more than three months of import coverage and are projected to lose less than 0.5 in the shock scenario.



Fara

Southern Madagascar

“We are living on the edge.”

“We do not understand what is going on in Tana*. The politicians there do not care what happens to the coastal populations.”

“Many food items have become so expensive that we only consume tiny amounts of it, even fish. We eat very simple things, rice and more often cassava.”

* Antananarivo, the capital



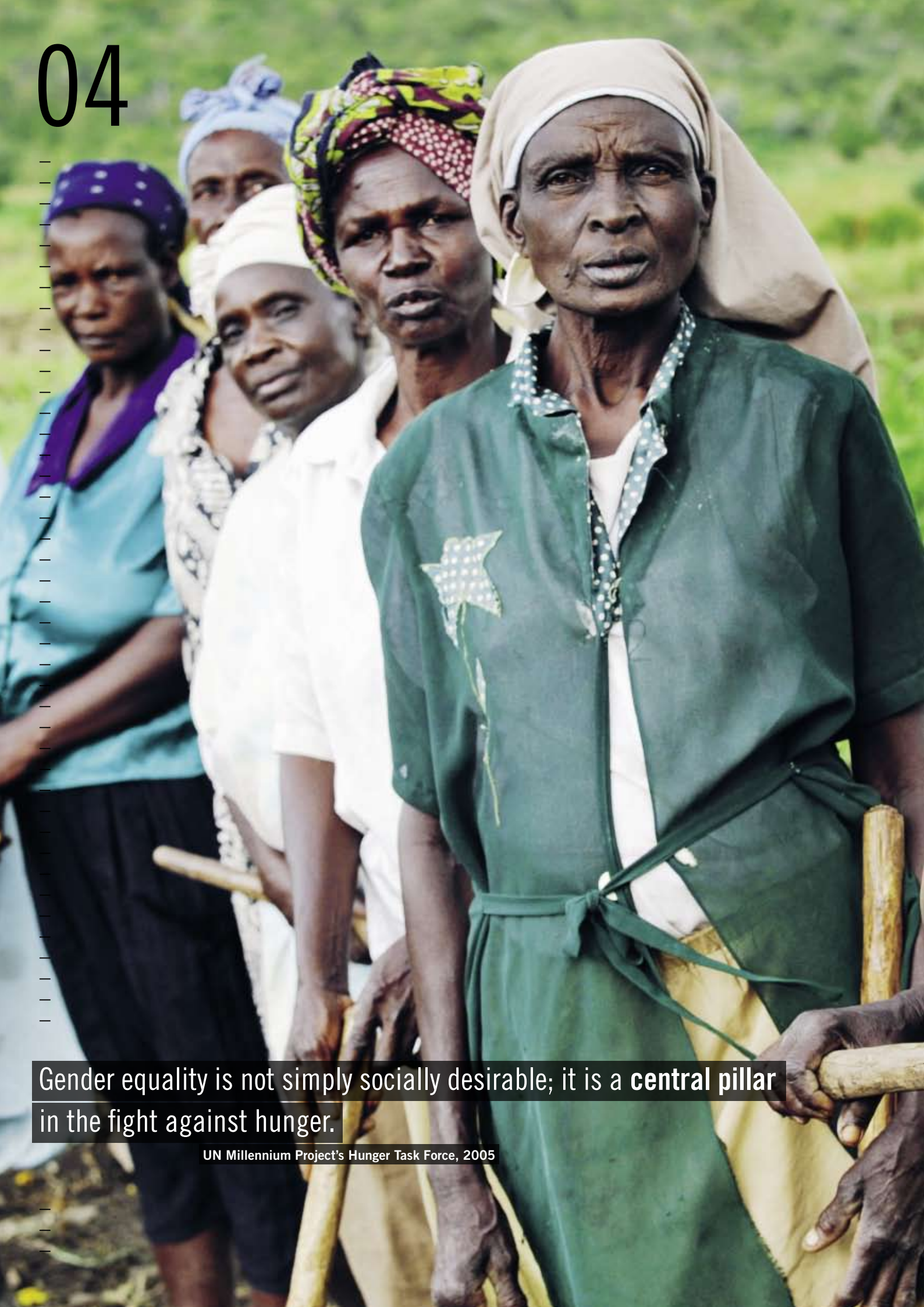
Hojieva Jumagul

Kuhistoni Mastcho district,
Republic of Tajikistan

“I have a son, who lives in Russia as a migrant. He has helped me during the past 2 years. He regularly sent money, with which we repaired our house, bought a satellite dish and provided for the wedding of my daughter. He has not sent anything for 6 months, saying that he doesn’t have a job there.”

“Neighbours say that many people are afraid to go to Russia now. They are afraid that they will not be able to find jobs.”

04



Gender equality is not simply socially desirable; it is a **central pillar** in the fight against hunger.

UN Millennium Project's Hunger Task Force, 2005

GENDER INEQUALITY AND HUNGER

Reducing global hunger is a matter of great urgency and one that requires a concerted mobilization of resources. Yet one significant factor that has the potential to make a lasting contribution to reducing hunger is not being sufficiently addressed. This is the issue of gender inequality.

A large body of evidence based on household-level data shows that reducing gender inequality is an important part of the solution to global hunger. An IFPRI study explored the relationship between women's status – defined as women's power relative to men's power in their households and communities – and children's nutrition in 39 countries in three developing regions: South Asia, Sub-Saharan Africa, and Lat-

in America and the Caribbean (Smith et al. 2003). The study found that women's status significantly affects child nutrition because women with higher status have better nutritional status themselves, are better cared for, and provide higher-quality care for their children. Equalizing men's and women's status in South Asia and Sub-Saharan Africa would reduce the number of malnourished children by 13.4 million and 1.7 million respectively. Other IFPRI studies in Egypt and Mozambique (Datt and Jolliffe 1998; Datt, Simler, and Mukherjee 1999) estimate that ensuring that mothers finish primary school reduces the proportion of the population below the poverty line by 33.7 percent and 23.2 percent respectively. In both of these country stud-

WHAT DOES THE GLOBAL GENDER GAP INDEX MEASURE?

The Global Gender Gap Index was created to increase awareness of the challenges that result from gender disparities on country and regional levels and to contribute to effective measures to reduce these gaps. Introduced by the World Economic Forum in 2006, this index is generated annually. It captures the magnitude and scope of gender disparities around the world and tracks progress and changes over time (Hausmann, Tyson, and Zahidi 2008). The index is a composite of four equally weighted subindices, capturing four important dimensions of well-being:

1. Economic participation and opportunity subindex. The gap between women and men's economic participation and opportunity arises from gaps in participation, remuneration, and advancement. These gaps are represented by five indicators: (one) differences in labor force participation rates, (two) the ratio of estimated female-to-male earned income, (three) wage equality for similar work (converted to female-to-male ratio), (four) the ratio of women to men among legislators, senior officials, and managers, and (five) the ratio of women to men among technical and professional workers.

2. Educational attainment subindex. The educational attainment subindex measures gender disparities in education and literacy rates. The gap between women and men's current access to education is calculated through ratios of women to men in primary-, secondary- and tertiary-level education. The ratio of the female literacy rate to the male literacy rate is included to illustrate a longer-term view of each country's capacity to educate women and men in equal numbers.

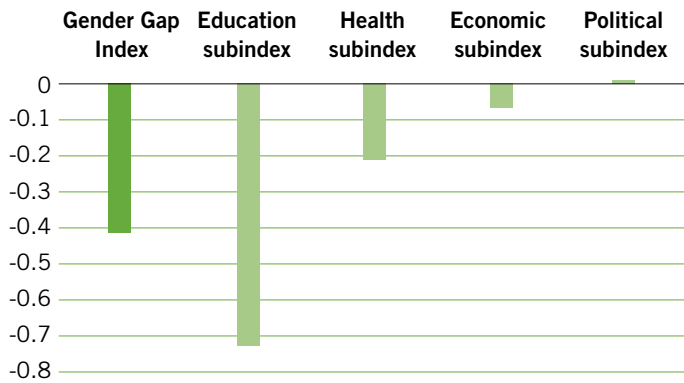
3. Political empowerment subindex. The political empowerment subindex measures the gap between men and women in political decisionmaking at the highest levels. This measure is captured through the ratio of women to men in minister-level positions, in parliamentary positions, and in terms of years in executive office (prime minister or president) over the past 50 years. The political empowerment subindex does not capture gender differences in participation at local levels of government owing to insufficient availability of data.

4. Health and survival subindex. The health and survival subindex provides an over-

view of the differences between women and men's health through the gap between women and men's healthy life expectancy and the sex ratio at birth. The healthy life expectancy measure estimates the number of years that women and men can expect to live in good health, taking into account years lost due to violence, disease, malnutrition, or other relevant variables. The second variable, sex ratio at birth, specifically aims to capture the phenomenon of "missing women" that prevails in countries with strong son preference.

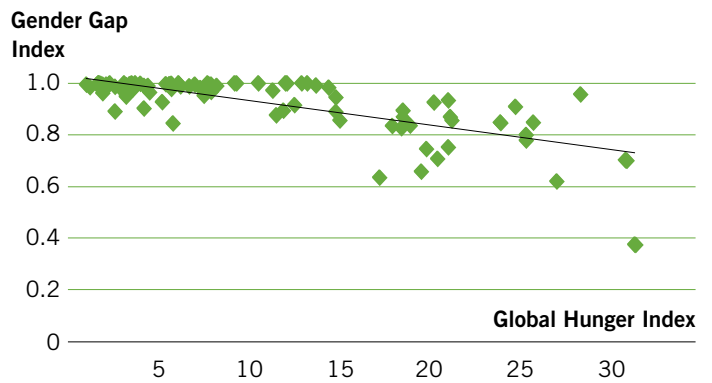
Because one might expect richer countries with more resources and opportunities to perform better in terms of gender equality, the Gender Gap Index measures gender-based gaps in outcomes, instead of resources or input variables. For the Gender Gap Index and each of the four subindices, the highest possible score is one, representing perfect equality, and lowest possible score is 0, representing total inequality. A total of 14 variables are included across the four subindices, and a Gender Gap Index was generated for all countries that had data available for at least 12 of these indicators.

STRENGTH OF RELATIONSHIP (CORRELATION) BETWEEN 2009 GHI AND THE SUBINDICES OF THE 2008 GENDER GAP INDEX, 90 COUNTRIES



Note: In the Global Hunger Index, higher scores mean higher levels of hunger, whereas for the Gender Gap Index and its subindices, the highest possible score is 1, representing perfect equality, and the lowest possible score is 0, representing total inequality. A negative relationship means that higher gender inequality is associated with higher levels of hunger.

2009 GHI AND THE EDUCATION SUBINDEX OF THE 2008 GENDER GAP INDEX, 90 COUNTRIES



Note: For the GHI, values less than 4.9 reflect low hunger, values between five and 9.9 reflect moderate hunger, values between ten and 19.9 indicate a serious problem, values between 20 and 29.9 are alarming, and values of 30 or higher are extremely alarming. For the Gender Gap Index, a score of one represents perfect equality, whereas a score of 0 represents total inequality.

ies, female education had a much larger impact on poverty than other factors, including male education. Other studies suggest that reducing gender gaps in schooling and in the control of agricultural resources by men and women in Sub-Saharan Africa has the potential to increase agricultural productivity by ten to 20 percent (Udry et al. 1995; Quisumbing 1996).

Comparing the GHI with a recently developed index of gender inequality, the Global Gender Gap Index (see box on previous page), provides additional evidence that addressing gender inequalities is key to reducing hunger. Given the complex relationship between global hunger and gender inequalities, unpacking the components of the Global Gender Gap Index should help policymakers and stakeholders to better understand and address the two intertwined challenges simultaneously.

Comparing the Global Hunger Index and the Global Gender Gap Index

GLOBAL COMPARISONS. Appendices B and C show the values of the 2009 Global Hunger Index and the 2008 Global Gender Gap Index (henceforth Gender Gap Index) for the 90 countries for which data are available on both. For the sake of comparison, the analysis incorporates only countries included in both indexes.¹ The strength of the relationship between the 2009 GHI and the Gender Gap Index, and its four subindices, is presented in the left figure above.²

The relationship between the GHI and the education subindex of the Gender Gap Index is the largest and strongest, suggesting that higher levels of hunger are associated with lower literacy rates and access to education for women. Indeed, the negative relationship between the 2009 GHI and the education subindex of the Gender Gap Index, for all 90 countries, is quite clear as shown in the right figure above.

SOUTH ASIA

➤ The positive end of the South Asian spectrum: Sri Lanka

In both the 2009 GHI and the 2008 Gender Gap Index, Sri Lanka fares significantly better than other South Asian countries. Although Sri Lanka's GDP is at a developing-country level, the country's social indicators are comparable to those of the developed world (Ramachandran 2006). Success may be attributed to specific feeding programs, an early emphasis on universal education, or perhaps overall gender

equity in the country. In addition, the country's reproductive health care is considered the best in the region (World Bank 2009b). According to the 2008 Gender Gap Index, Sri Lanka ranks third in its efforts to close the gender gap.

➤ The negative end of the South Asian spectrum: Pakistan

Out of 90 countries, Pakistan ranks 87th on the 2008 Gender Gap Index and 83rd for the education subindex – demonstrat-

ing among the highest levels of gender inequality in the region. Only 22 percent of girls, compared with 47 percent of boys, complete primary schooling (World Bank 2009a). Given the demonstrated importance of access to education for rates of hunger, Pakistan's staggering inequalities between men and women may be closely related to the country's high rates of hunger and malnutrition.

The association of the health and survival component of the Gender Gap Index with the GHI is also significant, although it is only a quarter of the magnitude of the association with education. This result suggests that high rates of hunger are also linked to health and survival inequalities between men and women. The remaining Gender Gap variables – economic participation and opportunity and political empowerment – have weaker associations with the GHI. Rates of hunger increase only slightly with widening disparities in economic participation and opportunity, possibly because the economic indicators incorporated into the Gender Gap Index may not capture all relevant aspects of women's control over economic resources. Informal economic activity and differences in asset ownership, for example, may not be captured. Similarly, indicators of political participation at the local level and the absence of women's voice at local levels of government are not represented in the Gender Gap Index and may be more relevant to levels of hunger than the representation of women at higher levels within the political system.

The relationship between hunger and gender inequality may also be more nuanced at the local level; neither the GHI nor the Gender Gap Index incorporates differences that may exist between urban and rural areas, different socioeconomic strata, minority or indigenous groups, religion, caste, or other variables that may vary within and across countries and regions. Despite these qualifications, the strong relationship between hunger and gender inequality globally and within regions suggests that eradicating gender inequality must be an important component of any effort to reduce global hunger.

SOUTH ASIA. South Asian countries have some of the highest levels of hunger and gender inequality worldwide. Of the five South Asian countries included in the analysis, three ranked in the bottom quartile for three of the four 2008 Gender Gap Index subindices – economic participation, educational attainment, and health and survival – reflecting low levels of gender equality. Similarly, all but one of the South Asian countries ranked in the top quartile for hunger, showing that high levels of hunger and gender inequality go hand in hand. Sri Lanka appears to be the regional exception to the rule, with a much lower 2009 GHI and a much higher 2008 Gender Gap Index than in other countries in the region.

Gender inequality in education is clearly a concern. Among the countries in South Asia, Bangladesh and Sri Lanka are the only ones that have succeeded in achieving the Millennium Development Goal (MDG) target of gender parity in primary and secondary education enrollment rates (World Bank 2007). Gender inequalities in literacy are also widely prevalent in the region. Thus, as gender gaps in educational attainment increase across countries in the region, the 2009 GHI scores tend to increase. This regional finding supports the global relationship between gender inequalities related to access to and opportunities for education and the prevalence of hunger and malnutrition.

SUB-SAHARAN AFRICA

➤ The positive end of the Sub-Saharan Africa spectrum: Botswana

Once among the poorest of the world's least-developed countries, Botswana became a success story as a result of an economic boom, strong policies, and the provision of basic services to its population (UN and Government of Botswana 2004). The expansion of education to both boys and girls, for example, has been among the country's top priorities since the early 1970s (Mehrotra and Jolly 1997). As a result, Botswana achieved two key Millennium Development Goals, providing universal access to ten years of basic education and reducing gender disparity in all education (UN and

Government of Botswana 2004). Botswana has also been committed to improving the nutritional well-being of its people, as reflected in the country's relatively low GHI compared with many of its neighbors. Botswana nonetheless faces challenges, particularly given the dire impact of HIV/AIDS on the health of its population. Still, the country's longstanding dedication to universal education for both boys and girls serves as a model for other countries in the region.

➡ The negative end of the Sub-Saharan Africa spectrum: Chad

According to the 2009 GHI and the 2008 Gender Gap Index, Chad is the country

with the fifth highest levels of hunger worldwide and is in second place in terms of gender inequality. Educational inequalities, in particular, are pervasive. Chad has a literacy rate of only 13 percent among women compared with 41 percent among men. Primary education enrollment is only 50 percent among women, compared with 72 percent among males. Women's low status in Chad, and its impact on hunger levels, may be linked to high fertility rates, extremely low contraceptive use, and the fact that one in 11 women face a lifetime risk of maternal death (Population Reference Bureau 2009).

According to the health and survival subindex of the Gender Gap Index, four of the five South Asian countries in this analysis rank very low (between 80th and 88th out of 90 countries). Again, Sri Lanka is the exception to the rule, ranking 24th out of the 90 countries. Although the health and survival variable in the Gender Gap Index accounts only for gender differentials in life expectancy and sex ratios at birth, these disparities speak to larger challenges related to poor health status among women. The rates of maternal mortality in South Asia, for example, are among the highest in the world, second only to Sub-Saharan Africa (UNICEF 2009c). There are 500 maternal deaths per 100,000 live births. Maternal mortality is closely linked with malnutrition, because women whose growth has been stunted by chronic malnutrition are more vulnerable to obstructed labor and women who are anemic are predisposed to hemorrhage and sepsis during delivery. Women's nutrition can also directly affect the health and nutrition of their children. Poor prenatal maternal nutrition leads to low birth weight, and micronutrient malnutrition has serious effects on both prenatal and postnatal health (IFPRI 2002). These reasons help to explain the relationship between wide gender disparities in health and survival and high rates of hunger and malnutrition.

South Asia's performance on the variables assessed in the Gender Gap Index demonstrates women's overall low status in South Asia. The correlation analysis between the 2009 GHI and the 2008 Gender Gap Index suggests that women's status and the long- and short-term nutritional status of children are linked. As gender gaps in economic participation and opportunity, educational attainment, and political empowerment widen from country to country, the GHI scores also tend to increase.

SUB-SAHARAN AFRICA. As in South Asia, hunger levels tend to increase as the gender gap rises across countries in Sub-Saharan Africa. Of the 24 Sub-Saharan African countries included in the comparison of the 2009 GHI and the 2008 Gender Gap Index, two-thirds (16 countries) are in the top quartile for the GHI. In other words, a majority of countries in the region suffer among the highest levels of hunger worldwide. More than half of these countries (nine countries) are also shown to have among the highest gender gaps, with rankings in the bottom quartile for the 2008 Gender Gap Index score.

NEAR EAST AND NORTH AFRICA

➤ The positive end of the Near Eastern and North African spectrum: Kuwait

Kuwait has demonstrated greater progress than other countries in the region in improving the status of women and ensuring gender equality. This progress is reflected in its first-place rank in the 2008 Gender Gap Index, for it has successfully closed much of the gender gap in education and economic participation and opportunity. Compared with other countries in the region, women in Kuwait have high rates of participation in the labor force, enjoy sig-

nificant protections against discrimination, and can readily gain access to educational opportunities (UNDP-POGAR 2009). Women constitute two-thirds of university-level students, a situation that increases their status and better equips them to exploit economic opportunities.

➤ The negative end of the Near Eastern and North African spectrum: Yemen

In a region characterized by relatively low hunger, Yemen is an outlier with an alarming 2009 GHI score. Not surprisingly,

Yemen's performance on the 2008 Gender Gap Index is abysmal. Yemen has ranked last on the Gender Gap Index for the past three years and is the only country in the world to have closed less than 50 percent of its gender gap. High rates of illiteracy, limited access to reproductive health services and family planning, and the enormous gender disparities in education and literacy have a detrimental impact on both hunger and gender disparities.

Among the four variables included in the Gender Gap Index, the education subindex has the most significant correlation to the GHI in the region. Less than one-quarter of the countries in the region met the MDG target of gender parity in primary and secondary enrollment rates in 2005. As educational disparities between men and women increase in the region, hunger levels tend to increase as well. More than 62 percent, or 15 countries in the region, rank in the bottom quartile for the Gender Gap Index education subindex, and all but three of these also ranked in the top quartile for the GHI, demonstrating parallels between the educational gap between men and women and high levels of hunger.

NEAR EAST AND NORTH AFRICA. General trends in the Near East and North Africa are similar to those observed in Sub-Saharan Africa and South Asia. Although the countries included in this region have among the lowest levels of hunger compared with the other countries assessed, the negative correlation between the 2009 GHI and the 2008 Gender Gap Index still holds – hunger levels are higher in countries with wider gender gaps. In fact, all but one of the countries in the region ranks in the bottom quartile for the 2008 Gender Gap Index. These data corroborate the association between increasing hunger and increasing gender disparities, even in a region that overall experiences lower levels of hunger.

As in Sub-Saharan Africa and South Asia, the strongest correlation between the 2009 GHI and the 2008 Gender Gap Index is observed for the education subindex. The GHI for countries in the Near East and North Africa tends to increase as gender gaps in educational attainment increase. Across the region, Morocco and Yemen have the highest 2009 GHI scores and the lowest scores on the education subindex of the 2008 Gender Gap Index.

Ujjwala Shatra

West Bengal, India



“...this rise in income has not translated into improved standards of living due to increased food prices.”

“Last year, rice cost Rs 10 per kilogram and now it is Rs 15 for the same quality. Now we eat no fish as it is too expensive to afford. We have reduced consumption of our food products and our consumption pattern has changed.”

“Food price rises have resulted in increased migration. If men migrate, women are overburdened with work. Women too have migrated to cities, sometimes leaving their children behind with their parents or in-laws. Family life of such women and men has been disrupted.”

“Big families break into nuclear families because of food price rises. People don't want to take care of their parents and there are more clashes over share in family property.”

Policy implications: increasing gender equality and decreasing hunger

The strong relationship between gender inequality and hunger suggests that reducing gender disparities in key areas, particularly in education and health, is essential to reduce levels of hunger. Addressing each of the subindices of the Gender Gap Index according to the strength of their association with the GHI, this section proposes strategies that can contribute to reducing gender inequalities and to eliminating hunger.

CONTINUE REDUCING GENDER DISPARITIES IN EDUCATION. Countries have continued to explore new mechanisms to reduce gender disparities in education by (one) reducing the price of schooling and increasing physical access to services; (two) improving the design of education delivery; and (three) investing in time-saving infrastructure (King and Alderman 2001). Parents' decision to invest in girls' education is more sensitive to the price of education than their decision to invest in boys' education. Thus, reducing the costs parents pay to send their daughters to school is one way to reduce the gender gap in schooling. Mexico's national program Oportunidades (previously called PROGRESA), in which cash transfers are conditioned upon school attendance and health visits, has successfully increased girls' enrollment and is being replicated and adapted worldwide (Skoufias 2005). Bangladesh's food- and cash-for-education programs, as well as stipend programs, have helped increase girls' enrollment rates and close the gender gap in primary schooling (Ahmed and del Ninno 2002). In Malawi, conditional cash transfers are being piloted as a way to keep girls in school and delay the onset of risky sexual behavior that could expose them to HIV and AIDS (Ozler 2007).

Improving education delivery also means improving the quality, gender balance, and attitudes of teachers. In Kenya, studies based on household survey data show that the attitudes and quality of teachers affect the demand for girls' schooling more than that for boys (Mensch and Lloyd 1998). Changing attitudes among parents, teachers, and principals will require long-term efforts. To this end, training staff and reviewing and revising school curricula play important roles in ensuring that gender stereotypes are not perpetuated in the classroom. Schools also need to be safe places for children, especially girls, to learn. It is important to work at a policy level, and with teachers and parents, to ensure that both the school and the route to school are free from violence in all its forms to ensure that girls can enroll in and complete a course of high-quality education while attaining the best possible grades.

Investments that reduce distance to school can help female enrollment rates in part by reducing the opportunity cost of schooling for girls. Similarly, increasing access to local health care facilities reduces the time women and girls need to spend on in-home care for sick family members. Equally important are investments in basic water and energy infrastructure. In most settings, collecting water and fuelwood is largely the responsibility of women and girls. In Ghana, Tanzania, and Zambia, two-thirds of those undertaking these tasks are women – indeed mostly girls. They spend between five and 28 percent of household time in water and fuel collection (World Bank 2001). Investments in time-saving infrastructure benefit all household members and girls in particular.

Low-cost child care can help both mothers and daughters. In Kenya, a ten percent reduction in the price of out-of-home child care increased the demand for such care and increased mothers' participation in the labor force. Low-cost child care can also increase girls' school attendance: in rural and urban Kenya, a ten percent decrease in the price of out-of-home care would be expected to result in a 5.1 percent increase in the enrollment rates of eight- to 16-year-old girls (after controlling for other factors) while having no effect on the enrollment rate of boys (Lokshin, Glinskaya, and Garcia 2000).

INVEST IN WOMEN'S HEALTH AND NUTRITION. Another strategy is to invest in women's health and nutrition throughout their life cycle and to empower women to seek better care for themselves and their children. Women's health and nutritional status is important for both the quality of their lives and the survival and healthy development of their children (Gillespie 2001). Because women's health and nutrition is a life cycle issue, interventions must attend to female malnutrition from adolescence, through pregnancy and lactation, to promotion of growth of the newborn child, and then during preschool years, school age, and adolescence. Direct actions to improve women's health and nutrition complement the struggle to achieve long-term goals of gender equity and women's empowerment. Direct nutrition action needs to focus on both macro- and micronutrients, particularly iron; on energy intake and energy expenditure; on disease prevention; and, above all, on strengthening the capacity and practice of caring for women and adolescent girls. Efforts are needed to space births to prevent maternal nutritional depletion, which is now widespread. Mothers need a recuperative interval of at least six months following cessation of breastfeeding. Accessible good-quality pre- and post-natal services run by supportive workers are vital to early registration of pregnant women, counseling on nutrition and reproductive health, and access to contraception. Adolescent pregnancies need priority attention.



Purnima Mal

West Bengal, India

“Income has increased because of better wages, but prices have risen a lot over the last few months. I have reduced my own intake of oil, spices, and vegetables.”

“I have cut my own diet, but not of the childrens'. There is certainly no discrimination between girls and boys.”



Jalolova Yoqutoy

Panjakent district, Tajikistan

“Due to lack of money we only cook once a day and the rest of the time we just have tea with bread. We have not had rice and meat for a long time. We reduced using sugar, oil, and macaroni, and never buy fruit at all.”

“When my husband was going to Russia we borrowed some money from one of our acquaintances with interest payments. Debts are increasing but I am not able to pay them off. I am waiting for when the crisis is over and my husband sends me money. I don't have any other choice.”

Odinaeva Khosiyat

Ayni district, Tajikistan



“The salary of my husband has increased, but the prices of products have risen twofold. As a result, we have begun to borrow money. The quantity of cattle has decreased as we have started to sell it to purchase flour and oil.”

“The meal for the women in the family has decreased. It became difficult to study in high school for my daughter. I therefore decided to transfer my daughter from internal to correspondence courses.”

“Reduction of labour migration has reduced the income of families. Many labour migrants have returned from Russia without any salaries or money.”

In South Asia, especially, where the link between the low status of women and high rates of child malnutrition is strongest, interventions must aim to improve women’s status and to build support for women’s empowerment among communities. In areas where women’s status is known to be low and efforts to increase it are met with resistance, such as an increased incidence of domestic violence, strategies to promote children’s nutritional status can include actions to increase support from husbands, and from the community in general, for women’s roles in ensuring child nutrition.

REDUCE GENDER GAPS IN ECONOMIC PARTICIPATION AND OPPORTUNITY.

It is important to reduce barriers to market access for women and increase their control of productive assets. In most of the developing world, women have fewer resources and face higher barriers to participation in economically productive spheres than men. General policies to improve income-earning abilities and opportunities for women include reforming property rights systems to be more equitable toward women; eliminating barriers to women’s labor market participation; removing constraints to participation in credit and other markets; and developing technologies that increase the returns to female labor, whether through increased demand or increased labor productivity (Quisumbing 2008; Smith et al. 2003). In countries where gender gaps are long entrenched, policies to reduce gender gaps will entail not only policy reform to eliminate gender discrimination but also interventions that enable women to catch up to men.

Examples of reforms that have strengthened women’s property rights range from land registration and changes in inheritance law to giving landless women control over small plots of land. Ethiopia’s low-cost, rapid, and transparent land registration scheme required land administration committees at the lowest level to have at least one female member. Land certifications, issued after public registration for transparency, included maps and pictures of husband and wife, important in a society with low levels of literacy (Deininger et al. 2007). In Ghana, the inheritance law was reformed to enable a man’s wife and children to inherit if he died without leaving a will (Quisumbing et al. 2001). In India, where women traditionally have little access to land, non-governmental organizations (NGOs) have begun experimenting with giving landless farmers and women’s groups small plots to cultivate, together with technical assistance in agricultural practices (RDI n.d.).

Perhaps the best-known example of interventions that directly aim to increase women's access to markets is the microfinance movement in Bangladesh. A number of NGOs in Bangladesh have attempted to improve women's status, and the well-being of children in their households, by directing credit to women. Microfinance programs have now been launched worldwide.

REFORM OF LEGAL SYSTEMS. Legal systems should be reformed to eliminate gender discrimination and increase political participation. Policy reform to eradicate gender discrimination promotes gender equality by creating a level playing field for women and men. The strengthening of democratic institutions through legislation, the rewriting of constitutions so that they explicitly disavow discrimination, and the reform and enforcement of an anti-discriminatory rule of law are important steps toward achieving this goal. Improving women's political voice and participation, particularly at local levels, is vital to any fundamental shift in women's status. Creating a level playing field is not enough, however, when women are extremely disadvantaged because of lower educational attainment, poorer health, less representation at both national and local levels, lower levels of economic participation, and other manifestations of the power imbalance, including gender-based violence. Thus efforts to remove discrimination need to be accompanied by specific interventions to target resources to women, to build their skills and confidence to participate in the public sphere, and to enable them to take advantage of new opportunities that may be created. Involving more women in development processes will require special outreach and training for poorer and less-educated women and for those who hesitate to voice their needs in front of men for cultural reasons.

Conclusion

The evidence clearly shows that gender inequality goes hand in hand with hunger in many countries. Fortunately, this evidence also points to a clear avenue for reducing hunger by improving women's educational attainment, economic participation, health status, and political empowerment. Many successful interventions in these areas have already been initiated. Many more innovations will be needed, however, to unleash women's potential to make significant contributions to the food security and well-being of their families.

¹ The most up-to-date data available were used for the comparison, thereby correlating the 2009 GHI with the 2008 Gender Gap Index. It is important to note that the year that each of the two indices was generated does not reflect the year for all data incorporated into each index; however, the most up-to-date data were used across all indicators in both cases.

² Strength of association between 2009 GHI and the 2008 Gender Gap Index is measured by pairwise correlation coefficients calculated for the 2009 GHI and the 2008 Gender Gap Index, as well as between the 2009 GHI and the subindices of the 2008 Gender Gap Index. Because the GHI uses a scale of 0 to 100, with a higher score indicating higher levels of hunger, whereas the Gender Gap Index uses a scale of 0 to 1, with a higher score indicating higher levels of gender equality, a negative correlation between the GHI and Gender Gap Index suggests that global hunger was associated with higher gender inequality. Conversely, a positive correlation between the GHI and Gender Gap Index would suggest that global hunger was associated with lower gender inequality. The left figure on page 22 shows the value of the correlation coefficients between the GHI and the Gender Gap Index. These range between 1 and -1, with numbers closer to zero showing lower strength of association, numbers closer to 1 showing a positive association, and numbers closer to -1 showing a negative association. The overall pairwise correlation coefficient between the GHI and the Gender Gap Index is -0.42, which is significant at 1 percent.



Unleashing women's potential makes a **significant contribution** to the food security and well-being of their families.

WOMEN'S ROLE IN TACKLING HUNGER

by Concern Worldwide and Welthungerhilfe

The analysis presented in this report emphasises the fundamental role that gender equality plays in the reduction and ultimate elimination of hunger. For Concern Worldwide, Welthungerhilfe, and their respective partners in developing countries, gender mainstreaming is an integral component of all projects and programmes. It is a cross-cutting issue which relates to all decision-making processes and affects all fields of activity at all levels. The objective of a gender approach is to ensure socially, economically, and environmentally sustainable development processes through the empowerment of women, the elimination of gender-specific discrimination, and the implementation of programmes which are responsive to the needs and aspirations of women. The following contributions illustrate how the changing roles of women – and notably their increased economic activity – impact decision making and food security at household level.

Linking women's economic empowerment and tackling hunger

The complexities of work and care in Korogocho slum, Nairobi, Kenya

By Lilly Schofield, Danny Harvey, Gudrun Stallkamp, Jasinta Achen, Mueni Mutunga, Nicky Dent and Lynnnda Kiess (Concern Worldwide)

The urban slum context and malnutrition

The urban slums in Kenya are among the largest and most populated in Africa. People living there face multiple challenges: poor housing; poor water, inadequate sanitation; little communication infrastructure; crime, violence, and insecurity; high unemployment and inadequate coverage of health, education, and social services.^{1,2} The vulnerability of urban poor families to shocks, such as the 2008 post election violence, is high, and families often lack the traditional social safety nets commonly available in rural areas. Korogocho, a working area of Concern Worldwide Kenya since 2002, is a large slum in Nairobi East District. Approximately 150,000 people live in an area of 1.5 km², making it one of the most densely populated slums in the city.³

A recent survey in Korogocho and other slums in Nairobi North and East⁴ revealed that 3.5% of young children suffer from acute and 37.9% from chronic malnutrition.⁵ In addition to inadequate access to affordable foods, a poor health environment, and low coverage of health services, the survey showed poor childcare practices were an underlying cause of malnutrition in this area. For example, on the day preceding the survey, less than half of the children aged 0-5 months were exclusively breastfed and only 38.6% of children aged six-23 months received an adequate diet in terms of frequency and diversity.

Women in employment and the need for substitute care

Despite the many challenges, Nairobi's slums also present women with opportunities to start small enterprises or obtain employment; furthermore, various factors, including peer pressure, a will for financial independence, or poverty may drive them into these non-traditional roles. Working women are more likely to be away from home for long periods and may therefore not be able to access services, participate in interventions to reduce childhood malnutrition or take part in surveys. Thus, it is important to consider their employment status.

As women increasingly earn their own income, the power balance regarding decision-making may shift. In general, when women become economically empowered, their influence over resource allocation is likely to increase. They tend to favor the immediate well-being of the family, especially children, which should have a positive effect on child health and nutrition outcomes.⁶ However, working outside the home may reduce mothers' time with their children and the gains from an increased income and control over spending may be offset by a decline in the quality of child care because in their absence, mothers must rely on a substitute caregiver to ensure their children receive the care they need.

This study was conducted to explore the opportunities and constraints faced by working and stay-at-home mothers in ensuring the best possible child care.

Study methods

This qualitative study in Korogocho was conducted in June/July 2009. Focus group discussions and in-depth interviews were conducted in order to better understand mothers' choices of substitute care for their children and the impact of working outside the home on maternal roles and responsibilities for young child care. All respondents were drawn from Korogocho and identified through local Community Health Workers who were briefed on the objectives and selection criteria for respondents. Enumerators were experienced in data collection and underwent a three-day training that included gender aspects.

Informally employed mother

Korogocho

“You can buy that extra nutritious food for the child, e.g. fruit, which the husband never buys...”

Formally working mother

Ngomongo, Korogocho

“...I must have my own money to raise my child effectively. I want to do it from my own purse and not rely on my parents...”

Informally employed mother

Ngomongo, Korogocho

“...I would like to leave my child in proper day-care with good facilities [...] but am not able to because the facility is not available to us in the slums...”

Informally employed mother

Gomongo village

“...I would prefer to be with my child at my kibanda (market stall) than leave him at home because I know he will be properly fed...”

Focus groups consisted of five-13 respondents. The discussions were conducted with mothers of children under the age of five, falling into the following categories (number of focus groups): A. mothers in formal or salaried employment (six), B. mothers in informal employment (nine), and C. stay-at-home mothers (six). One focus group discussion each was conducted with husbands of working and non-working mothers. Individual in-depth interviews were conducted with mothers (11 formally, eight informally employed, 15 stay-at-home mothers), day-care workers (17) and other local substitute caregivers (12). Furthermore, direct observations were made of day-care conditions, including when possible observation of a meal time at the day-care facility.

Results

The study revealed that the pathway between the employment situation and nutrition-related outcomes via child care (primary, substitute, mixture of both) is extremely complex in this urban poor context, often depending on the families' specific circumstances.

1. Economic empowerment and increased influence in decision-making

The study indicated that having access to her own income changed a mother's influence within her home on how money is spent. Many of the informally employed and almost all of the formally employed mothers decided themselves how to spend their own income.

Working mothers, in both formal and informal employment, expressed a sense of pride in their independence and the ability to provide for their children.

A few mothers stated that their influence in decisions increased as their income increased. Despite this progress, several working mothers said that they were unaware of their husband's income or employment and that he would spend it all himself. Comparatively, in households where the mother stays at home, husbands commonly make the decision on spending.

2. How mothers manage child care

Both stay-at-home and working mothers utilized multiple sources of substitute care for their young children. Working mothers, however, relied more heavily on substitute care over longer periods of time. The options available to mothers in Korogocho included day-care (both formal and informal), neighbors, relatives/older siblings of the child, and leaving children alone in the house or neighborhood. A minority of mothers, more so those informally employed, were able to take the child with them to work. In the in-depth interviews, almost all formally working mothers mentioned that they paid their substitute caregiver, though very few of the informally working mothers and none of those staying at home did so.



Hellen Auko with her youngest children and husband Enoch Omurunga in a Nairobi slum.

This study suggests that nutrition and health knowledge of working and stay-at-home mothers did not differ substantially, although the sources of information varied. The ability to translate this knowledge into practice, however, was influenced by time, access to income and the level of decision-making power. Lack of money was a specific barrier for mothers to act on their health/nutrition knowledge. Mothers with greater access to and control over money could more easily overcome this barrier.

Two key factors were found to influence substitute care: first, a majority of mothers said they were only able to give instructions about how to care for their child if they paid the substitute caregiver. Remuneration of substitute caregivers, if mothers were financially able to do so, was felt to both increase motivation and responsibility of substitute caregivers. Secondly, a mother's personal relationship with a substitute carer, especially neighbors and relatives, was considered to improve child care quality, particularly when the mother could not pay for the care. While this form of social capital was important, mothers who were away working faced difficulties maintaining good rapport because they had less time to interact within their community.

3. Linkages to well-being and child nutrition

The quality of care given to young children has long been recognized as a key determinant of child health and nutritional status.⁷ Mothers' reports and direct observation of day-care centers confirmed that the quality of substitute care available in Korogocho was largely poor. Day-care centers were generally overcrowded and without adequate sanita-

tion or safe play-areas for children. Many day-care workers oversaw more than ten children under two years of age single-handedly, reducing time for individual attention, including active and responsive feeding. Most centers and other substitute carers relied on mothers to bring food for the children; otherwise they would not eat until the mother returned. While mothers themselves recognized that these sub-standard substitute care options compromised their child's well-being, without alternatives, they were forced to continue to rely on them.

Conclusions

The study indicates that by earning their own income, working mothers in Korogocho increased their influence in decisions about purchasing food, health care, and other essential needs for their children. However, the increase in resources could not be translated easily into better nutrition and health because substitute care options available to working mothers in Korogocho were suboptimal. Mothers staying at home, however, could provide care, but were limited in their ability to purchase food, health care, and other essential needs.

Implications for programs and policy

The positive benefits of mothers' labor force participation and control over their own income on improving child health and nutrition are well documented.^{8,9} This study reinforces these findings. First, a mother's ability to earn an income was found to increase her ability to control how income was spent in the household. That control extended to income contributed by other household members. It also strengthened her own sense of independence and her ability to provide for her children. However, these very positive gains were offset by the fact that working required mothers to leave their young children in sub-standard caring environments. Therefore, access to affordable, quality, substitute care needs to be addressed so that the positive benefits of mothers who work can be fully realized.

Second, given that social capital is an important asset for all women, interventions aimed at supporting mothers – either through economic empowerment or in their role as caregivers – need to include ways to increase mutual support and social networks. Strengthening group saving and credit schemes or building in a child care aspect, for example, has the potential to both increase economic opportunities and contribute to the provision of quality substitute care.

Third, the research reinforced the need for programs to consider the implications of interventions targeted to mothers on their various roles in the community and household. Programs seeking to increase women's economic empowerment need to consider the implications on mothers' ability and time to provide quality care to their children.

Further research is required to fully understand the complex gender relations in the slums and their impact on child care and nutrition as well as to place this aspect of care into the wider context of poverty, food insecurity, and poor hygiene and sanitation that contribute to childhood malnutrition in the slums.

Acknowledgements

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¹ Mitullah, W. 2003. Urban slums reports: the case of Nairobi, Kenya. Understanding slums: case studies for the Global Report on Human Settlements 2003. United Nations Centre for Human Settlement.

² African Population and Health Research Center (APHRC). 2002. Health and livelihood needs of residents of informal settlements in Nairobi City. Nairobi. APHRC.

³ Population extrapolated from Pamoja Trust. Korogocho informal settlements enumeration report. July, 2001. Nairobi. Pamoja Trust.

⁴ Schofield, L. 2009. Report of baseline urban nutrition assessment in the slums of Nairobi, East and North Districts, Nairobi, Kenya. February 2009. Concern Worldwide Kenya.

⁵ Based on WHO 2006 growth standards.

⁶ Kurz, K.M., and Johnson-Welch, C. 2000. Enhancing nutrition results: the case for a women's resources approach. ICRW/ OMNI Research Program. Washington, D.C.. ICRW.

⁷ UNICEF. 1998. The state of the world's children 1998. Oxford. Oxford University Press.

⁸ Smith, L., Ramakrishnan U., Ndiaye A., Haddad L., Martorell, R. 2003. The importance of women's status for child nutrition in developing countries. IFPRI Research Report 131. Washington, D.C.. IFPRI.

⁹ Kurz, K.M., and Johnson-Welch, C. 2000. Enhancing nutrition results: the case for a women's resources approach. ICRW/OMNI Research Program. Washington, D.C.. ICRW.

“We have changed our mindset”

Hunger and gender equality from the perspective of Indian women

By Welthungerhilfe

In many countries, hunger is linked to the unequal treatment of the sexes. The example of Sarwan, a village in India where the aid organisation Welthungerhilfe has been active since 2005, illustrates this assertion vividly. Sarwan is one of 15 Millenniumsdörfer supported by Welthungerhilfe whose population is striving to achieve one or several Millennium Development Goals by the year 2010 (see box MDGs).

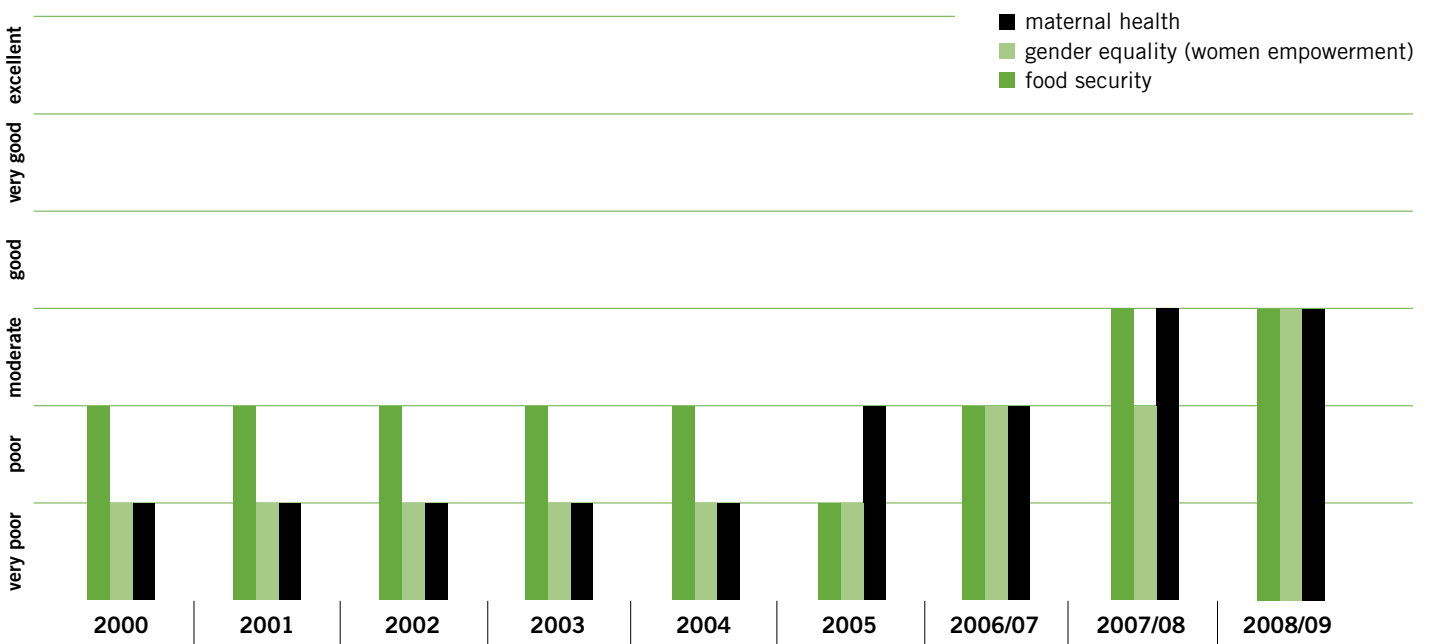
The villagers themselves decide which goals are to be prioritised in their villages. Developments on the ground are observed by means of household surveys and are discussed in workshops with selected representatives of various groups in the village on an annual basis. This monitoring of Millennium Development Goals scrutinises progress and problems in two ways: by collecting data, for example changes in household incomes or girls’ school enrolment rates, and by the village communities assessing their development steps to date on a scale from “excellent” to “very poor” (see figure: Villagers’ perspec-

MILLENNIUM DEVELOPMENT GOALS (MDGS)

- Goal 1** Eradicate extreme poverty and hunger
- Goal 2** Achieve universal primary education
- Goal 3** Promote gender equality and empower women
- Goal 4** Reduce child mortality
- Goal 5** Improve maternal health
- Goal 6** Combat HIV/AIDS, malaria, and other diseases
- Goal 7** Ensure environmental sustainability
- Goal 8** Develop a global partnership for development

tive on achievement of development goals). In this way, the people concerned remind themselves time and again how and why their living conditions are changing. This form of consciousness-raising not only enables village communities to adapt priorities to current needs, but also makes it possible to improve project measures, an approach fully in line with the goal of helping people help themselves.

VILLAGERS’ PERSPECTIVE ON ACHIEVEMENT OF DEVELOPMENT GOALS



Note: Development Goals relating to MDG-Monitoring: Food Security: Improved health conditions and affordable health services, Dependence on rainfed agriculture, Seasonality of Rainfall. Gender Equality: Equal access to education for boys and girls, Equal work load for men and women, Increased role of women in taking decisions in Gram Sabha. Maternal Health: Increased nutrition for pregnant mothers, Full utilization of Governmental hospital and medicines, Access to safe drinking water.

Betiya Soren

Informally working mother, Sarwan



Anita Hembram

Informally working mother, Sarwan



Sonamuni Murmu

Informally working mother, Sarwan



Gita Devi

Informally working mother, Sarwan



Birma Devi

Informally working mother, Sarwan



These data and assessments also permit insights into the linkage between hunger and the lack of equal rights. The local people's perspectives are crucial here: it is clear that improving the position of women in society plays an important role in increasing food security.

Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, World Food Summit, 1996). In rural India, women play a central role at these levels of food security – availability, access, and utilisation.

Gender equality supports food availability at the household level

In rural areas of the Indian state of Jharkhand (India State Hunger Index¹ score: 28.67; severity of hunger: alarming), about half of all men and women work on small family farms; 41% of women and 27% of men work as agricultural labourers. Many agricultural tasks that even a few years ago were the responsibility of men are now taken on by women because men are switching to better-paid wage labour. This “feminisation of agriculture” can be observed across India.

Policy-making is slow to take this development into account, though, and support for women in agriculture is accordingly being granted only hesitantly. Experiences and studies suggest, however, that equal access to education and agricultural resources can increase productivity by ten to 20% (see page 22). This aspect plays an important role in the Millenniumsdorf of Sarwan: women receive support and training to improve agricultural cultivation methods. In addition, they have the option to purchase better seed and equipment, for example, via self-help credit groups.

Betiya Soren from Sarwan learned in a group setting how to use her land more efficiently: “Very recently we also got some irrigation facilities and learned about improving farming through our group meetings. We are growing vegetables on our homestead and using them for our daily consumption.” Anita Hembram in turn is not only growing more vegetables for her family's consumption, but is also increasing her income: “We women were working as agricultural labourers, but different meetings held in the village have changed our mindset. I was not growing anything near my homestead land, but last year I started to produce some vegetables for us to have in our food. I also sell them on the local market if we have extra production. This also has given me some income occasionally.”

MDG MONITORING

The monitoring programme for the 15 Millenniumsdörfer managed by Welthungerhilfe has a quantitative and a qualitative aspect. Questionnaires are used once a year to collect data in the villages for quantitative monitoring. The survey includes most of the 48 indicators used officially by the United Nations to monitor the Millennium Development Goals. For example, one indicator for the goal “ensure environmental sustainability” (MDG 7) is the fraction of people with access to clean drinking water. There are also questions about income, child mortality rates and school enrolment rates. The standardised results make it possible to measure changes in each Mil-

lenniumsdorf as well as make comparisons of development in different villages.

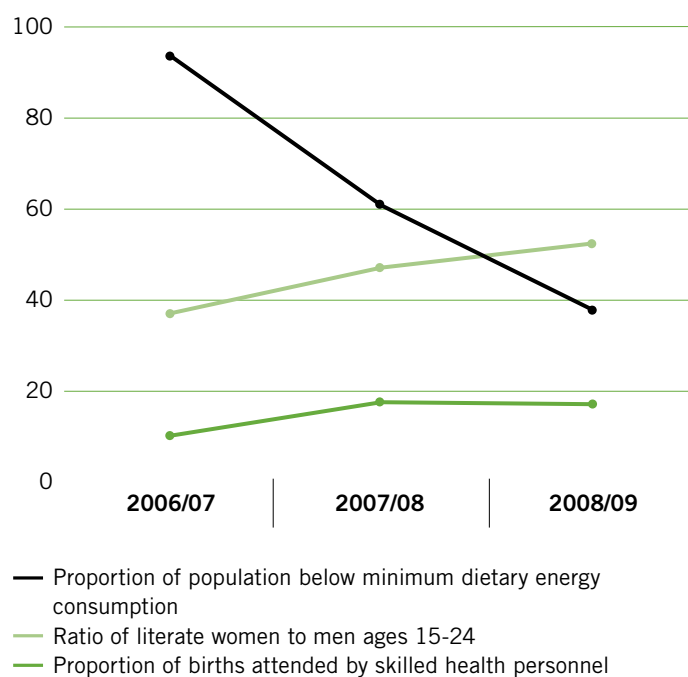
In the qualitative part, a workshop – “Participatory Impact Assessment” – is held annually with a representative cross-section of the village population. Every social group is represented, including officials, youths, women, farmers, and representatives of poor families. The participants determine step by step which changes in the village community they want to use to measure the Millennium Development Goals. The discussion follows nine key topics, based on the eight UN Millennium Development Goals: poverty, hunger, education, gender equality, child mortality,

maternal mortality, severe illnesses, environment and natural resources, and external conditions for development. For each key topic, the participants define three development goals relevant to the village that they would like to attain in five years. For example, for the key topic hunger, the goals might include sufficient access to seed or the availability of draught animals for working the fields. In addition, they take stock of how progress in achieving the goals is linked to measures in Welthungerhilfe’s projects in the Millenniumsdörfer. For example, this makes it possible to observe how the construction of a well affects the attainment of individual Millennium Goals.

Yet the societal status of women does not improve automatically when they take on a more important role in agricultural production. On the contrary, there is the risk that their standard of living is not raised decisively but that their workload increases when they must perform additional tasks. In order to improve their income and food situation, it is therefore crucial that women obtain access to resources, that is, to credit, land, and agricultural means of production.

Sonamuni Murmu experienced how important it is to be able to take on responsibility: “My husband used to earn money for the family and I was involved in domestic work most of the time. But now I spend my time in my own field. My husband helps send the children to school and sometimes also with the housework. I could not take any decisions and I had to accept whatever my husband wished. But now we both decide what we should do for our family. Now we are both thinking together about increasing our farming towards strengthening our livelihood.”

DEVELOPMENT OF “MDGS” AT VILLAGE LEVEL



To date, women have seldom owned land. But more important than land ownership is the question whether women have control over what they harvest. Only then can the income women earn in agriculture support them in making their own decisions at home. Besides these economic aspects, the organization of women in self-help groups outside their own families is of particular major importance. The groups provide them with the space they need for discussions and the experience of learning new things. Gita Devi speaks about how helpful self-help groups are: "I feel self-help groups are the best work done by the organisation, and they are important for the empowerment of women. We discuss the rights of women and they give us so many ideas. We are also learning how to work together in group activities."

In this way, equal access to knowledge and resources can contribute to increasing households' food security. If women are mobilised in form of training, information sessions etc. at village level, their roles in the community can be transformed. Once this process has been set in motion, it can develop its own dynamics: women's increased self-confidence generates economic innovation power, which in turn contributes to increasing food security.

The positive effects of the measures described – continuing education in methods of agricultural cultivation and establishment of a microcredit system for women, among others – can be supported or constrained by outside influences, in India especially by the negative effects of cultural or traditional norms relating to women. At the same time, the National Rural Employment Guarantee Act, passed by the Indian government in 2005, is helpful. It can create new employment opportunities especially for women in rural areas. Equal pay for equal work is mandated by law and is put into practice by government employers as well as non-governmental organisations. Various educational programmes outside of the project are working towards realising gender justice. Birma Devi emphasises: "But earlier we were told that girls can't do anything except work in the kitchen. Hence our male counterparts used to enforce their decisions about girls' education. Now, due to different government and other developmental programmes such as the Millenniumsdorf Sarwan initiative, the situation is changing, resulting in male members of our society starting to cooperate with us on girls' education. We are sending our girls to school."

Equal rights for women improve the utilization of food

Even if enough food is available within a family, this says nothing about whether all family members can access an appropriate diet. In India, for example, the traditional custom is that women eat only when all other family members have eaten their fill. If food is scarce, it means that hardly anything is left for women. In other words, the availability of food by no means guarantees that women have appropriate access to it. Sonamuni Murmu suffered because of this tradition for a long time: "A few years back, I used to put my cooking pot over the oven and waited. If my husband brought something, I would cook it. I did not have three full meals and I used to eat what my children left."

A poor diet can also be the result of a lack of knowledge and insufficient education. This affects men just as it does women. In the Indian context, however, the woman is considered the key person for her family's diet. Traditionally, she is the person responsible for the task of preparing food. This is how Gita Devi describes the situation: "I got training on improved farming, and we talked about the importance of eating vegetables in meetings. I started to plant some seeds in my homestead. We now have different varieties of food, like vegetables, pulses, and sometimes also fish. We used to eat only rice and potatoes with salt but now we get full meals."

A lack of education encourages people to keep to traditionally or culturally determined beliefs that do harm: for instance, Indian women gain an average of just five kilograms during pregnancy; the international average is ten kilograms. The background for this is the notion that a pregnant woman should not eat meals too rich. Otherwise, it is thought the child will grow particularly large and heavy, making giving birth difficult.

But good nutrition counselling that includes all relevant actors (local health services, government agencies, mayors, village administration heads, radio, etc.) can change poor habits, as Anita Hembram confirms: "I immunized my children and also took iron pills when I was pregnant, but we used to be afraid to take them." Birma Devi's comment makes clear that such beliefs are especially hard to change when the new knowledge questions basic gender roles, thereby expressing a shift in the power structure: "As our priority is to serve food first to my husband and children, I sometimes have nothing or little to eat left for myself. Such practices are still widespread, but we now cook enough food."



Meeting of women's self-help group and women's credit group in the Millenniumsdorf Sarwan, Jharkhand.

If mothers are undernourished, it has disastrous consequences not only for them, but also for their children: hunger is “hereditary”, for undernourished mothers give birth to undernourished babies. In the state of Jharkhand, 57.1% of children under five years of age are underweight.¹

Birma Devi's statement points to the fact that this cycle can be overcome once and for all only if women receive comprehensive support in internalising their status as family members and members of society with equal rights and in assuming their rights.

Conclusion

In conclusion, the example of Sarwan shows that overcoming hunger is particularly promising where women are members of society with equal rights (including equal decision-making rights), both at home and in politics. The likelihood of success increases even more if the approach employed tackles all three levels of food security – availability, access, and utilisation. Finally, underlying political conditions supportive of development which aim for equal rights for women contribute considerably to overcoming hunger.

Acknowledgements

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¹ Menon P., Deolalikar, Bhaskar. 2009. India State Hunger Index – Comparison of Hunger Across States. IFPRI/Welthungerhilfe/UC Riverside. Washington D.C., Bonn, Riverside.

APPENDIX

Data Sources and Calculation of the 1990 and 2009 Global Hunger Indices

All three index components are expressed in percentages and weighted equally. Higher GHI values indicate more hunger. The index varies between a minimum of 0 and a maximum of 100. However, the maximum value of 100 would only be reached if all children died before their fifth birthday, the whole population were undernourished, and all children under five were underweight. Likewise, the minimum value of zero does not occur in practice, because this would mean there were no undernourished in the population, no children under five who were underweight, and no children who died before their fifth birthday.

The calculation of GHI scores is restricted to developing countries and countries in transition for which measuring hunger is considered most relevant. The table below provides an overview of the data sources for the Global Hunger Index.

THE GLOBAL HUNGER INDEX IS CALCULATED AS FOLLOWS:

$$\text{GHI} = (\text{PUN} + \text{CUW} + \text{CM})/3$$

with **GHI:** Global Hunger Index

PUN: proportion of the population that is undernourished (in %)

CUW: prevalence of underweight in children under five (in %)

CM: proportion of children dying before the age of five (in %)

GLOBAL HUNGER INDEX COMPONENTS, 1990 GHI AND 2009 GHI

| GHI | Number of countries with GHI | Indicators | Reference years | Data sources |
|------|------------------------------|---|----------------------|--|
| 1990 | 99 | Percentage of undernourished in the population ^a | 1990-92 ^b | FAO 2008 and authors' estimates |
| | | Percentage of underweight in children under five | 1988-92 ^c | WHO 2009 ^d ; UNICEF 2009b; MEASURE DHS 2009; and authors' estimates |
| | | Under-five mortality | 1990 | UNICEF 2009a |
| 2009 | 121 | Percentage of undernourished in the population ^a | 2003-05 ^b | FAO 2008 and authors' estimates |
| | | Percentage of underweight in children under five | 2002-07 ^e | WHO 2009 ^d ; UNICEF 2009b; MEASURE DHS 2009; and authors' estimates |
| | | Under-five mortality | 2007 | UNICEF 2009a |

^a Proportion of the population with calorie deficiency.

^b Average over a three-year period.

^c Data collected from the year closest to 1990; where data for 1988 and 1992, or 1989 and 1991, were available, an average was used. The authors' estimates are for 1990.

^d Based on the World Health Organization (WHO) Child Growth Standards, which were revised in 2006 (for more information, see WHO 2006). WHO 2009 data are the primary data source, and UNICEF 2009a and MEASURE DHS 2009 are secondary.

^e The latest data gathered in this period.

DATA UNDERLYING THE CALCULATION OF THE 1990 AND 2009 GLOBAL HUNGER INDICES

| Country | Proportion of undernourished in the population (%) | | Prevalence of underweight in children under five years (%) | | Under five mortality rate (%) | | GHI | |
|----------------------|--|---------|--|---------|-------------------------------|------|----------------------------------|----------------------------------|
| | 1990-92 | 2003-05 | 1988-92 | 2002-07 | 1990 | 2007 | 1990 (with data from 1988-92) | 2009 (with data from 2002-07) |
| Afghanistan | - | - | - | 32.8 | 26.0 | 25.7 | - | - |
| Albania | 11.0 ** | 5.0 ** | 10.4 ** | 6.6 | 4.6 | 1.5 | 8.7 | <5 |
| Algeria | 4.0 ** | 3.0 ** | 8.0 | 3.0 | 6.9 | 3.7 | 6.3 | <5 |
| Angola | 66.0 | 46.0 | 32.6 ** | 14.2 ** | 25.8 | 15.8 | 41.5 | 25.3 |
| Argentina | 1.0 ** | 1.0 ** | 3.9 ** | 2.9 | 2.9 | 1.6 | <5 | <5 |
| Armenia | - | 21.0 | 3.6 ** | 4.2 | 5.6 | 2.4 | - | 9.2 |
| Azerbaijan | - | 12.0 | 11.2 ** | 7.7 | 9.8 | 3.9 | - | 7.9 |
| Bahrain | - | - | 6.3 | 4.5 ** | 1.9 | 1.0 | - | - |
| Bangladesh | 36.0 | 27.0 | 56.5 | 41.0 | 15.1 | 6.1 | 35.9 | 24.7 |
| Belarus* | - | 3.0 ** | 2.4 ** | 1.3 | 2.4 | 1.3 | - | <5 |
| Benin | 28.0 | 19.0 | 25.3 ** | 20.2 | 18.4 | 12.3 | 23.9 | 17.2 |
| Bhutan | - | - | 34.0 | - | 14.8 | 8.4 | - | - |
| Bolivia | 24.0 | 22.0 | 9.7 | 6.1 | 12.5 | 5.7 | 15.4 | 11.3 |
| Bosnia & Herzegovina | - | 3.0 ** | 3.3 ** | 1.6 | 2.2 | 1.4 | - | <5 |
| Botswana | 20.0 | 26.0 | 17.9 ** | 6.4 ** | 5.7 | 4.0 | 14.5 | 12.1 |
| Brazil | 10.0 | 6.0 | 6.1 | 2.2 | 5.8 | 2.2 | 7.3 | <5 |
| Bulgaria | 4.0 ** | 9.0 ** | 3.6 ** | 2.5 | 1.8 | 1.2 | <5 | <5 |
| Burkina Faso | 14.0 | 10.0 | 30.8 ** | 32.0 | 20.6 | 19.1 | 21.8 | 20.4 |
| Burundi | 44.0 | 63.0 | 33.6 ** | 35.0 | 18.9 | 18.0 | 32.2 | 38.7 |
| Cambodia | 38.0 | 26.0 | 45.2 ** | 28.4 | 11.9 | 9.1 | 31.7 | 21.2 |
| Cameroon | 34.0 | 23.0 | 18.0 | 16.0 | 13.9 | 14.8 | 22.0 | 17.9 |
| Central African Rep. | 47.0 | 43.0 | 25.8 ** | 24.0 | 17.1 | 17.2 | 30.0 | 28.1 |
| Chad | 59.0 | 39.0 | 33.9 ** | 33.9 | 20.1 | 20.9 | 37.7 | 31.3 |
| Chile | 7.0 | 2.0 ** | 1.0 ** | 0.6 | 2.1 | 0.9 | <5 | <5 |
| China | 15.0 | 9.0 | 15.3 | 6.0 | 4.5 | 2.2 | 11.6 | 5.7 |
| Colombia | 15.0 | 10.0 | 8.8 | 5.1 | 3.5 | 2.0 | 9.1 | 5.7 |
| Comoros | 40.0 | 52.0 | 16.2 | 22.1 | 12.0 | 6.6 | 22.7 | 26.9 |
| Congo, Dem. Rep. | 29.0 | 76.0 | 27.5 ** | 25.1 | 20.0 | 16.1 | 25.5 | 39.1 |
| Congo, Rep. | 40.0 | 22.0 | 12.5 ** | 11.8 | 10.4 | 12.5 | 21.0 | 15.4 |
| Costa Rica | 3.0 ** | 4.0 ** | 2.5 | 1.1 ** | 1.8 | 1.1 | <5 | <5 |
| Croatia | - | 4.0 ** | 0.5 ** | 0.2 ** | 1.3 | 0.6 | - | <5 |
| Cuba | 5.0 | 1.0 ** | 4.6 ** | 3.5 | 1.3 | 0.7 | <5 | <5 |
| Côte d'Ivoire | 15.0 | 14.0 | 18.0 ** | 16.7 | 15.1 | 12.7 | 16.0 | 14.5 |
| Djibouti | 60.0 | 32.0 | 20.2 | 24.0 | 17.5 | 12.7 | 32.6 | 22.9 |
| Dominican Republic | 27.0 | 21.0 | 8.4 | 3.1 | 6.6 | 3.8 | 14.0 | 9.3 |
| Ecuador | 24.0 | 15.0 | 9.5 ** | 6.2 | 5.7 | 2.2 | 13.1 | 7.8 |
| Egypt, Arab Rep. | 3.0 ** | 3.0 ** | 9.1 | 6.0 | 9.3 | 3.6 | 7.1 | <5 |
| El Salvador | 9.0 | 10.0 | 11.1 | 6.1 | 6.0 | 2.4 | 8.7 | 6.2 |
| Eritrea | 67.0 | 68.0 | - | 34.5 | 14.7 | 7.0 | - | 36.5 |
| Estonia | - | 4.0 ** | 2.2 ** | 1.2 ** | 1.8 | 0.6 | - | <5 |
| Ethiopia | 71.0 | 46.0 | 39.2 | 34.6 | 20.4 | 11.9 | 43.5 | 30.8 |
| Fiji | 8.0 | 2.0 ** | 7.7 ** | 3.7 ** | 2.2 | 1.8 | 6.0 | <5 |
| Gabon | 5.0 | 3.0 ** | 8.9 ** | 8.5 ** | 9.2 | 9.1 | 7.7 | 6.9 |
| Gambia, The | 20.0 | 30.0 | 19.6 ** | 15.8 | 15.3 | 10.9 | 18.3 | 18.9 |
| Georgia | - | 13.0 | 1.7 ** | 2.3 | 4.7 | 3.0 | - | 6.1 |
| Ghana | 34.0 | 9.0 | 24.4 | 13.9 | 12.0 | 11.5 | 23.5 | 11.5 |
| Guatemala | 14.0 | 16.0 | 23.6 ** | 17.7 | 8.2 | 3.9 | 15.3 | 12.5 |
| Guinea | 19.0 | 17.0 | 25.7 ** | 22.5 | 23.1 | 15.0 | 22.6 | 18.2 |
| Guinea-Bissau | 20.0 | 32.0 | 20.8 ** | 17.4 | 24.0 | 19.8 | 21.6 | 23.1 |
| Guyana | 18.0 | 6.0 | 16.4 ** | 10.0 | 8.8 | 6.0 | 14.4 | 7.3 |

Note: For countries with an *, data underlying the GHI are unreliable; ** indicate authors' estimates.

DATA UNDERLYING THE CALCULATION OF THE 1990 AND 2009 GLOBAL HUNGER INDICES

| Country | Proportion of undernourished in the population (%) | | Prevalence of underweight in children under five years (%) | | Under five mortality rate (%) | | GHI | |
|---------------------|--|---------|--|---------|-------------------------------|------|----------------------------------|----------------------------------|
| | 1990-92 | 2003-05 | 1988-92 | 2002-07 | 1990 | 2007 | 1990 (with data from 1988-92) | 2009 (with data from 2002-07) |
| Haiti | 63.0 | 58.0 | 22.5 | 18.9 | 15.2 | 7.6 | 33.6 | 28.2 |
| Honduras | 19.0 | 12.0 | 15.8 | 8.6 | 5.8 | 2.4 | 13.5 | 7.7 |
| India | 24.0 | 21.0 | 59.5 | 43.5 | 11.7 | 7.2 | 31.7 | 23.9 |
| Indonesia | 19.0 | 17.0 | 31.0 | 24.4 | 9.1 | 3.1 | 19.7 | 14.8 |
| Iran, Islamic Rep.* | 3.0 ** | 4.0 ** | 16.1 ** | 6.2 ** | 7.2 | 3.3 | 8.8 | <5 |
| Iraq | - | - | 10.4 | 7.1 | 5.3 | 4.4 | - | - |
| Jamaica | 11.0 | 5.0 | 5.2 | 3.1 | 3.3 | 3.1 | 6.5 | <5 |
| Jordan | 3.0 ** | 4.0 ** | 4.8 | 3.6 | 4.0 | 2.4 | <5 | <5 |
| Kazakhstan | - | 2.0 ** | 2.8 ** | 4.9 | 6.0 | 3.2 | - | <5 |
| Kenya | 33.0 | 32.0 | 17.3 ** | 16.5 | 9.7 | 12.1 | 20.0 | 20.2 |
| Kuwait | 20.0 | 5.0 ** | 7.1 ** | 0.5 ** | 1.5 | 1.1 | 9.5 | <5 |
| Kyrgyz Republic | - | 3.0 ** | 4.4 ** | 2.7 | 7.4 | 3.8 | - | <5 |
| Lao PDR | 27.0 | 19.0 | 44.3 ** | 31.0 | 16.3 | 7.0 | 29.2 | 19.0 |
| Latvia | - | 3.0 ** | 1.8 ** | 1.1 ** | 1.7 | 0.9 | - | <5 |
| Lebanon | 3.0 ** | 2.0 ** | 4.6 ** | 3.5 | 3.7 | 2.9 | <5 | <5 |
| Lesotho | 15.0 | 15.0 | 13.8 | 12.5 | 10.2 | 8.4 | 13.0 | 12.0 |
| Liberia | 30.0 | 40.0 | 18.4 ** | 20.4 | 20.5 | 13.3 | 23.0 | 24.6 |
| Libya* | 1.0 ** | 2.0 ** | 5.9 ** | 2.9 ** | 4.1 | 1.8 | <5 | <5 |
| Lithuania | - | 1.0 ** | 2.2 ** | 1.4 ** | 1.6 | 0.8 | - | <5 |
| Macedonia, FYR | - | 4.0 ** | 2.5 ** | 2.0 | 3.8 | 1.7 | - | <5 |
| Madagascar | 32.0 | 37.0 | 35.5 | 36.8 | 16.8 | 11.2 | 28.1 | 28.3 |
| Malawi | 45.0 | 29.0 | 24.4 | 15.5 | 20.9 | 11.1 | 30.1 | 18.5 |
| Malaysia | 2.0 ** | 3.0 ** | 22.1 | 7.0 | 2.2 | 1.1 | 8.8 | <5 |
| Mali | 14.0 | 11.0 | 33.6 ** | 27.9 | 25.0 | 19.6 | 24.2 | 19.5 |
| Mauritania | 10.0 | 8.0 | 43.2 | 25.0 | 13.0 | 11.9 | 22.1 | 15.0 |
| Mauritius | 7.0 | 6.0 | 12.9 ** | 12.7 ** | 2.4 | 1.5 | 7.4 | 6.7 |
| Mexico | 5.0 ** | 4.0 ** | 13.9 | 3.4 | 5.2 | 3.5 | 8.0 | <5 |
| Moldova | - | 7.0 ** | 2.4 ** | 3.2 | 3.7 | 1.8 | - | <5 |
| Mongolia | 30.0 | 29.0 | 10.8 | 5.3 | 9.8 | 4.3 | 16.9 | 12.9 |
| Morocco | 5.0 | 4.0 ** | 8.1 | 9.9 | 8.9 | 3.4 | 7.3 | 5.8 |
| Mozambique | 59.0 | 38.0 | 28.5 ** | 21.2 | 20.1 | 16.8 | 35.9 | 25.3 |
| Myanmar* | 44.0 | 19.0 | 32.5 | 29.6 | 13.0 | 10.3 | 29.8 | 19.6 |
| Namibia | 29.0 | 19.0 | 21.5 | 17.5 | 8.7 | 6.8 | 19.7 | 14.4 |
| Nepal | 21.0 | 15.0 | 47.6 ** | 38.8 | 14.2 | 5.5 | 27.6 | 19.8 |
| Nicaragua | 52.0 | 22.0 | 11.3 ** | 6.1 | 6.8 | 3.5 | 23.4 | 10.5 |
| Niger | 38.0 | 29.0 | 41.0 | 39.9 | 30.4 | 17.6 | 36.5 | 28.8 |
| Nigeria | 15.0 | 9.0 | 35.1 | 27.2 | 23.0 | 18.9 | 24.4 | 18.4 |
| North Korea* | 21.0 | 32.0 | 26.9 ** | 17.8 | 5.5 | 5.5 | 17.8 | 18.4 |
| Oman | - | - | 21.4 | 8.8 ** | 3.2 | 1.2 | - | - |
| Pakistan | 22.0 | 23.0 | 39.0 | 31.0 | 13.2 | 9.0 | 24.7 | 21.0 |
| Panama | 18.0 | 17.0 | 8.9 ** | 4.3 ** | 3.4 | 2.3 | 10.1 | 7.9 |
| Papua New Guinea | - | - | 21.8 ** | 17.0 ** | 9.4 | 6.5 | - | - |
| Paraguay | 16.0 | 11.0 | 2.8 | 3.0 | 4.1 | 2.9 | 7.6 | 5.6 |
| Peru | 28.0 | 15.0 | 8.8 | 5.0 | 7.8 | 2.0 | 14.9 | 7.3 |
| Philippines | 21.0 | 16.0 | 29.9 | 20.7 | 6.2 | 2.8 | 19.0 | 13.2 |
| Qatar | - | - | - | - | 2.6 | 1.5 | - | - |
| Romania | 3.0 ** | 0.0 ** | 5.0 | 3.5 | 3.2 | 1.5 | <5 | <5 |
| Russian Federation | - | 2.0 ** | 2.4 ** | 1.6 ** | 2.7 | 1.5 | - | <5 |
| Rwanda | 45.0 | 40.0 | 24.3 | 18.0 | 19.5 | 18.1 | 29.6 | 25.4 |
| Saudi Arabia | 2.0 ** | 1.0 ** | 12.4 ** | 5.3 | 4.4 | 2.5 | 6.3 | <5 |

Note: For countries with an *, data underlying the GHI are unreliable; ** indicate authors' estimates.

DATA UNDERLYING THE CALCULATION OF THE 1990 AND 2009 GLOBAL HUNGER INDICES

| Country | Proportion of undernourished in the population (%) | | Prevalence of underweight in children under five years (%) | | Under five mortality rate (%) | | GHI | |
|----------------------------------|--|---------|--|---------|-------------------------------|------|----------------------------------|----------------------------------|
| | 1990-92 | 2003-05 | 1988-92 | 2002-07 | 1990 | 2007 | 1990 (with data from 1988-92) | 2009 (with data from 2002-07) |
| Senegal | 28.0 | 26.0 | 19.6 | 14.5 | 14.9 | 11.4 | 20.8 | 17.3 |
| Serbia & Montenegro ¹ | - | 8.0 ** | - | 1.8 | - | 0.8 | - | <5 |
| Sierra Leone | 45.0 | 47.0 | 25.4 | 28.3 | 29.0 | 26.2 | 33.1 | 33.8 |
| Slovak Republic | - | 5.0 ** | - | 1.0 ** | 1.5 | 0.8 | - | <5 |
| Somalia | - | - | - | 32.8 | 20.3 | 14.2 | - | - |
| South Africa | 6.0 ** | 5.0 ** | 9.3 ** | 10.1 | 6.4 | 5.9 | 7.2 | 7.0 |
| Sri Lanka | 27.0 | 21.0 | 33.2 ** | 18.1 ** | 3.2 | 2.1 | 21.1 | 13.7 |
| Sudan* | 31.0 | 21.0 | 35.4 ** | 27.0 | 12.5 | 10.9 | 26.3 | 19.6 |
| Suriname | 11.0 | 7.0 | 12.8 ** | 7.0 | 5.1 | 2.9 | 9.6 | 5.6 |
| Swaziland | 12.0 | 18.0 | 11.1 ** | 6.1 | 9.6 | 9.1 | 10.9 | 11.1 |
| Syrian Arab Republic | 4.0 ** | 4.0 ** | 14.5 ** | 10.0 | 3.7 | 1.7 | 7.4 | 5.2 |
| Tajikistan | - | 34.0 | 9.8 ** | 14.9 | 11.7 | 6.7 | - | 18.5 |
| Tanzania | 28.0 | 35.0 | 25.1 | 16.7 | 15.7 | 11.6 | 22.9 | 21.1 |
| Thailand | 29.0 | 17.0 | 17.2 ** | 7.0 | 3.1 | 0.7 | 16.4 | 8.2 |
| Timor-Leste | 18.0 | 22.0 | - | 44.6 | 18.4 | 9.7 | - | 25.4 |
| Togo | 45.0 | 37.0 | 23.5 | 22.3 | 15.0 | 10.0 | 27.8 | 23.1 |
| Trinidad & Tobago | 11.0 | 10.0 | 6.8 ** | 2.8 ** | 3.4 | 3.5 | 7.1 | 5.4 |
| Tunisia | 1.0 ** | 1.0 ** | 9.1 | 2.6 ** | 5.2 | 2.1 | 5.1 | <5 |
| Turkey | 1.0 ** | 2.0 ** | 8.8 ** | 3.5 | 8.2 | 2.3 | 6.0 | <5 |
| Turkmenistan | - | 6.0 | 13.7 ** | 8.0 | 9.9 | 5.0 | - | 6.3 |
| Uganda | 19.0 | 15.0 | 19.7 | 16.4 | 17.5 | 13.0 | 18.7 | 14.8 |
| Ukraine | - | 2.0 ** | 1.4 ** | 0.9 ** | 2.5 | 2.4 | - | <5 |
| Uruguay | 5.0 | 2.0 ** | 6.2 ** | 6.0 | 2.5 | 1.4 | <5 | <5 |
| Uzbekistan | - | 14.0 | 9.7 ** | 4.4 | 7.4 | 4.1 | - | 7.5 |
| Venezuela, RB | 10.0 | 12.0 | 6.7 | 4.4 | 3.2 | 1.9 | 6.6 | 6.1 |
| Vietnam | 28.0 | 14.0 | 40.7 | 20.2 | 5.6 | 1.5 | 24.8 | 11.9 |
| Yemen, Rep. | 30.0 | 32.0 | 49.3 ** | 41.6 | 12.7 | 7.3 | 30.7 | 27.0 |
| Zambia | 40.0 | 45.0 | 19.5 | 15.0 | 16.3 | 17.0 | 25.3 | 25.7 |
| Zimbabwe | 40.0 | 40.0 | 8.0 | 14.0 | 9.5 | 9.0 | 19.2 | 21.0 |

¹ Serbia and Montenegro are two independent states since 2006, but have been grouped in the GHI, due to the available data.

2008 GLOBAL GENDER GAP INDEX AND SUBINDICES ¹

| Region/country | 2008 Global Gender Gap Index | | | Economic participation and opportunity subindex | | |
|---|------------------------------|---------------|-----------------|---|---------------|-----------------|
| | Composite score | Rank (global) | Rank (regional) | Score | Rank (global) | Rank (regional) |
| Eastern Europe and Former Soviet Union | | | | | | |
| Latvia | 0.7397 | 2 | 1 | 0.7458 | 8 | 4 |
| Moldova | 0.7244 | 7 | 2 | 0.8017 | 2 | 1 |
| Lithuania | 0.7222 | 9 | 3 | 0.7421 | 11 | 6 |
| Belarus | 0.7099 | 14 | 4 | 0.7260 | 17 | 8 |
| Bulgaria | 0.7077 | 17 | 5 | 0.6975 | 24 | 12 |
| Estonia | 0.7076 | 18 | 6 | 0.7004 | 22 | 10 |
| Kyrgyz Republic | 0.7045 | 21 | 7 | 0.6816 | 33 | 15 |
| Russian Federation | 0.6994 | 22 | 8 | 0.7426 | 10 | 5 |
| Kazakhstan | 0.6976 | 25 | 9 | 0.7413 | 12 | 7 |
| Croatia | 0.6967 | 26 | 10 | 0.6554 | 37 | 16 |
| Macedonia, FYR | 0.6914 | 31 | 11 | 0.6466 | 41 | 18 |
| Uzbekistan | 0.6906 | 33 | 12 | 0.7541 | 7 | 3 |
| Ukraine | 0.6856 | 37 | 13 | 0.7139 | 18 | 9 |
| Azerbaijan | 0.6856 | 37 | 13 | 0.7863 | 4 | 2 |
| Slovak Republic | 0.6824 | 40 | 15 | 0.6380 | 44 | 19 |
| Romania | 0.6763 | 43 | 16 | 0.7001 | 23 | 11 |
| Armenia | 0.6677 | 49 | 17 | 0.6969 | 25 | 13 |
| Georgia | 0.6654 | 53 | 18 | 0.6350 | 46 | 20 |
| Albania | 0.6591 | 55 | 19 | 0.6491 | 40 | 17 |
| Tajikistan | 0.6541 | 57 | 20 | 0.6891 | 31 | 14 |
| Latin America and Caribbean | | | | | | |
| Trinidad and Tobago | 0.7245 | 6 | 1 | 0.6663 | 35 | 4 |
| Argentina | 0.7209 | 10 | 2 | 0.6070 | 52 | 11 |
| Cuba | 0.7195 | 11 | 3 | 0.6110 | 51 | 10 |
| Costa Rica | 0.7111 | 13 | 4 | 0.5860 | 56 | 14 |
| Panama | 0.7095 | 15 | 5 | 0.6781 | 34 | 3 |
| Ecuador | 0.7091 | 16 | 6 | 0.6234 | 49 | 9 |
| Jamaica | 0.6980 | 24 | 7 | 0.7301 | 14 | 1 |
| Honduras | 0.6960 | 27 | 8 | 0.6338 | 47 | 7 |
| Peru | 0.6959 | 28 | 9 | 0.5961 | 55 | 13 |
| Colombia | 0.6944 | 29 | 10 | 0.6966 | 26 | 2 |
| Uruguay | 0.6907 | 32 | 11 | 0.6422 | 43 | 6 |
| El Salvador | 0.6875 | 35 | 12 | 0.5632 | 64 | 16 |
| Venezuela, RB | 0.6875 | 35 | 12 | 0.6336 | 48 | 8 |
| Chile | 0.6818 | 41 | 14 | 0.5154 | 71 | 18 |
| Nicaragua | 0.6747 | 44 | 15 | 0.4608 | 81 | 22 |
| Dominican Republic | 0.6744 | 45 | 16 | 0.6008 | 54 | 12 |
| Brazil | 0.6737 | 46 | 17 | 0.6526 | 38 | 5 |
| Suriname | 0.6674 | 50 | 18 | 0.5507 | 67 | 17 |
| Bolivia | 0.6667 | 51 | 19 | 0.5837 | 58 | 15 |
| Mexico | 0.6441 | 64 | 20 | 0.4789 | 76 | 20 |
| Paraguay | 0.6379 | 65 | 21 | 0.4827 | 75 | 19 |
| Guatemala | 0.6072 | 75 | 22 | 0.4746 | 78 | 21 |
| Near East and North Africa | | | | | | |
| Kuwait | 0.6358 | 66 | 1 | 0.5697 | 60 | 1 |
| Tunisia | 0.6295 | 68 | 2 | 0.4757 | 77 | 4 |
| Jordan | 0.6275 | 69 | 3 | 0.4889 | 74 | 3 |
| Syrian Arab Republic | 0.6181 | 71 | 4 | 0.5084 | 72 | 2 |
| Algeria | 0.6111 | 74 | 5 | 0.4680 | 79 | 5 |

Note: Countries sorted by 2008 Global Gender Gap Index rank in each region. Source: Data from Hausmann, Tyson, and Zahidi 2008.

| | Educational attainment subindex | | | Health and survival subindex | | | Political empowerment subindex | | |
|--|---------------------------------|---------------|-----------------|------------------------------|---------------|-----------------|--------------------------------|---------------|-----------------|
| | Score | Rank (global) | Rank (regional) | Score | Rank (global) | Rank (regional) | Score | Rank (global) | Rank (regional) |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.2332 | 16 | 1 |
| | 0.9982 | 20 | 7 | 0.9791 | 32 | 4 | 0.1184 | 42 | 9 |
| | 0.9949 | 28 | 10 | 0.9791 | 32 | 4 | 0.1726 | 23 | 2 |
| | 0.9902 | 38 | 15 | 0.9791 | 32 | 4 | 0.1442 | 33 | 8 |
| | 0.9901 | 39 | 16 | 0.9791 | 32 | 4 | 0.1641 | 26 | 4 |
| | 0.9954 | 25 | 9 | 0.9791 | 32 | 4 | 0.1555 | 29 | 7 |
| | 0.9933 | 33 | 13 | 0.9796 | 1 | 1 | 0.1636 | 27 | 5 |
| | 0.9994 | 15 | 4 | 0.9791 | 32 | 4 | 0.0764 | 67 | 14 |
| | 0.9968 | 23 | 8 | 0.9791 | 32 | 4 | 0.0731 | 68 | 15 |
| | 0.9944 | 30 | 11 | 0.9791 | 32 | 4 | 0.1579 | 28 | 6 |
| | 0.9873 | 44 | 17 | 0.9635 | 76 | 16 | 0.1681 | 25 | 3 |
| | 0.9517 | 57 | 19 | 0.9770 | 45 | 15 | 0.0794 | 66 | 13 |
| | 0.9985 | 19 | 6 | 0.9791 | 32 | 4 | 0.0507 | 81 | 17 |
| | 0.9673 | 53 | 18 | 0.9313 | 89 | 19 | 0.0575 | 79 | 16 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.1121 | 46 | 10 |
| | 0.9936 | 32 | 12 | 0.9791 | 32 | 4 | 0.0321 | 84 | 20 |
| | 0.9993 | 16 | 5 | 0.9279 | 90 | 20 | 0.0468 | 82 | 18 |
| | 1.0000 | 1 | 1 | 0.9386 | 87 | 18 | 0.0881 | 61 | 11 |
| | 0.9907 | 35 | 14 | 0.9553 | 80 | 17 | 0.0413 | 83 | 19 |
| | 0.8675 | 72 | 20 | 0.9785 | 42 | 14 | 0.0811 | 65 | 12 |
| | 0.9973 | 22 | 11 | 0.9796 | 1 | 1 | 0.2547 | 10 | 5 |
| | 0.9941 | 31 | 15 | 0.9796 | 1 | 1 | 0.3027 | 4 | 1 |
| | 1.0000 | 1 | 1 | 0.9745 | 53 | 18 | 0.2926 | 6 | 2 |
| | 0.9954 | 25 | 12 | 0.9796 | 1 | 1 | 0.2833 | 7 | 3 |
| | 0.9948 | 29 | 14 | 0.9796 | 1 | 1 | 0.1855 | 22 | 10 |
| | 0.9953 | 27 | 13 | 0.9796 | 1 | 1 | 0.2381 | 13 | 7 |
| | 1.0000 | 1 | 1 | 0.9707 | 62 | 21 | 0.0913 | 60 | 20 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.1707 | 24 | 11 |
| | 0.9814 | 48 | 19 | 0.9714 | 58 | 20 | 0.2348 | 14 | 8 |
| | 0.9987 | 18 | 9 | 0.9796 | 1 | 1 | 0.1026 | 51 | 18 |
| | 0.9995 | 14 | 7 | 0.9796 | 1 | 1 | 0.1415 | 34 | 14 |
| | 0.9880 | 43 | 17 | 0.9796 | 1 | 1 | 0.2194 | 17 | 9 |
| | 0.9988 | 17 | 8 | 0.9796 | 1 | 1 | 0.1382 | 37 | 16 |
| | 0.9856 | 46 | 18 | 0.9796 | 1 | 1 | 0.2467 | 12 | 6 |
| | 1.0000 | 1 | 1 | 0.9765 | 46 | 17 | 0.2616 | 9 | 4 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.1172 | 44 | 17 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.0625 | 75 | 21 |
| | 0.9905 | 37 | 16 | 0.9730 | 54 | 19 | 0.1555 | 29 | 12 |
| | 0.9713 | 52 | 21 | 0.9668 | 75 | 22 | 0.1450 | 32 | 13 |
| | 0.9780 | 50 | 20 | 0.9796 | 1 | 1 | 0.1399 | 36 | 15 |
| | 0.9974 | 21 | 10 | 0.9796 | 1 | 1 | 0.0921 | 58 | 19 |
| | 0.9148 | 63 | 22 | 0.9796 | 1 | 1 | 0.0599 | 78 | 22 |
| | 0.9900 | 40 | 1 | 0.9612 | 77 | 11 | 0.0224 | 87 | 8 |
| | 0.9619 | 55 | 5 | 0.9697 | 65 | 10 | 0.1105 | 47 | 1 |
| | 0.9860 | 45 | 2 | 0.9710 | 61 | 9 | 0.0642 | 73 | 4 |
| | 0.9275 | 61 | 7 | 0.9761 | 49 | 4 | 0.0603 | 77 | 5 |
| | 0.9491 | 58 | 6 | 0.9714 | 58 | 7 | 0.0558 | 80 | 6 |

¹ Only countries with both 2009 Global Hunger Index and 2008 Global Gender Gap Index are included in the table.

2008 GLOBAL GENDER GAP INDEX AND SUBINDICES ¹

| Region/country | 2008 Global Gender Gap Index | | | Economic participation and opportunity subindex | | |
|-----------------------------------|------------------------------|---------------|-----------------|---|---------------|-----------------|
| | Composite score | Rank (global) | Rank (regional) | Score | Rank (global) | Rank (regional) |
| Near East and North Africa | | | | | | |
| Iran, Islamic Rep. | 0.6021 | 79 | 6 | 0.4485 | 82 | 6 |
| Turkey | 0.5853 | 83 | 7 | 0.4123 | 85 | 8 |
| Egypt, Arab Rep. | 0.5832 | 84 | 8 | 0.4367 | 84 | 7 |
| Morocco | 0.5757 | 85 | 9 | 0.3926 | 87 | 9 |
| Saudi Arabia | 0.5537 | 88 | 10 | 0.2589 | 89 | 10 |
| Yemen, Rep. | 0.4664 | 90 | 11 | 0.2523 | 90 | 11 |
| South Asia | | | | | | |
| Sri Lanka | 0.7371 | 3 | 1 | 0.5598 | 65 | 1 |
| Bangladesh | 0.6531 | 58 | 2 | 0.4436 | 83 | 3 |
| India | 0.6060 | 76 | 3 | 0.3990 | 86 | 4 |
| Nepal | 0.5942 | 81 | 4 | 0.4618 | 80 | 2 |
| Pakistan | 0.5549 | 87 | 5 | 0.3724 | 88 | 5 |
| Southeast Asia | | | | | | |
| Philippines | 0.7568 | 1 | 1 | 0.7734 | 5 | 1 |
| Mongolia | 0.7049 | 20 | 2 | 0.7563 | 6 | 2 |
| Thailand | 0.6917 | 30 | 3 | 0.7283 | 16 | 4 |
| China | 0.6878 | 34 | 4 | 0.6915 | 30 | 5 |
| Vietnam | 0.6778 | 42 | 5 | 0.7287 | 15 | 3 |
| Indonesia | 0.6473 | 60 | 6 | 0.5714 | 59 | 7 |
| Cambodia | 0.6469 | 61 | 7 | 0.6588 | 36 | 6 |
| Malaysia | 0.6442 | 63 | 8 | 0.5548 | 66 | 8 |
| Sub-Saharan Africa | | | | | | |
| Lesotho | 0.7320 | 4 | 1 | 0.7311 | 13 | 4 |
| Mozambique | 0.7266 | 5 | 2 | 0.8345 | 1 | 1 |
| South Africa | 0.7232 | 8 | 3 | 0.5685 | 61 | 18 |
| Namibia | 0.7141 | 12 | 4 | 0.7091 | 20 | 6 |
| Tanzania | 0.7068 | 19 | 5 | 0.7889 | 3 | 2 |
| Uganda | 0.6981 | 23 | 6 | 0.6943 | 28 | 9 |
| Botswana | 0.6839 | 39 | 7 | 0.6492 | 39 | 12 |
| Madagascar | 0.6736 | 47 | 8 | 0.6962 | 27 | 8 |
| Ghana | 0.6679 | 48 | 9 | 0.7445 | 9 | 3 |
| Malawi | 0.6664 | 52 | 10 | 0.6872 | 32 | 11 |
| Gambia, The | 0.6622 | 54 | 11 | 0.7063 | 21 | 7 |
| Kenya | 0.6547 | 56 | 12 | 0.6928 | 29 | 10 |
| Zimbabwe | 0.6485 | 59 | 13 | 0.6113 | 50 | 15 |
| Mauritius | 0.6466 | 62 | 14 | 0.5269 | 68 | 21 |
| Nigeria | 0.6339 | 67 | 15 | 0.6459 | 42 | 13 |
| Zambia | 0.6205 | 70 | 16 | 0.5679 | 62 | 19 |
| Mali | 0.6117 | 72 | 17 | 0.7112 | 19 | 5 |
| Mauritania | 0.6117 | 72 | 17 | 0.4894 | 73 | 24 |
| Angola | 0.6032 | 77 | 19 | 0.5843 | 57 | 17 |
| Burkina Faso | 0.6029 | 78 | 20 | 0.6377 | 45 | 14 |
| Cameroon | 0.6017 | 80 | 21 | 0.5211 | 69 | 22 |
| Ethiopia | 0.5867 | 82 | 22 | 0.5654 | 63 | 20 |
| Benin | 0.5582 | 86 | 23 | 0.5162 | 70 | 23 |
| Chad | 0.5290 | 89 | 24 | 0.6028 | 53 | 16 |

Note: Countries sorted by 2008 Global Gender Gap Index rank in each region. Source: Data from Hausmann, Tyson, and Zahidi 2008.

| | Educational attainment subindex | | | Health and survival subindex | | | Political empowerment subindex | | |
|--|---------------------------------|---------------|-----------------|------------------------------|---------------|-----------------|--------------------------------|---------------|-----------------|
| | Score | Rank (global) | Rank (regional) | Score | Rank (global) | Rank (regional) | Score | Rank (global) | Rank (regional) |
| | 0.9650 | 54 | 4 | 0.9776 | 44 | 2 | 0.0172 | 88 | 9 |
| | 0.8901 | 68 | 9 | 0.9712 | 60 | 8 | 0.0675 | 72 | 3 |
| | 0.9018 | 65 | 8 | 0.9717 | 56 | 5 | 0.0227 | 86 | 7 |
| | 0.8437 | 77 | 10 | 0.9716 | 57 | 6 | 0.0952 | 56 | 2 |
| | 0.9795 | 49 | 3 | 0.9765 | 46 | 3 | 0.0000 | 90 | 11 |
| | 0.6179 | 89 | 11 | 0.9796 | 1 | 1 | 0.0159 | 89 | 10 |
| | 0.9925 | 34 | 1 | 0.9796 | 1 | 1 | 0.4164 | 1 | 1 |
| | 0.9093 | 64 | 2 | 0.9496 | 85 | 4 | 0.3098 | 3 | 2 |
| | 0.8452 | 76 | 3 | 0.9315 | 88 | 5 | 0.2484 | 11 | 3 |
| | 0.7454 | 84 | 5 | 0.9553 | 80 | 2 | 0.2144 | 19 | 4 |
| | 0.7509 | 83 | 4 | 0.9498 | 84 | 3 | 0.1465 | 31 | 5 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.2741 | 8 | 1 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.0839 | 63 | 6 |
| | 0.9906 | 36 | 3 | 0.9796 | 1 | 1 | 0.0685 | 70 | 7 |
| | 0.9778 | 51 | 5 | 0.9410 | 86 | 8 | 0.1408 | 35 | 2 |
| | 0.8943 | 66 | 7 | 0.9700 | 63 | 3 | 0.1184 | 42 | 3 |
| | 0.9445 | 59 | 6 | 0.9719 | 55 | 5 | 0.1014 | 52 | 4 |
| | 0.8559 | 74 | 8 | 0.9796 | 1 | 1 | 0.0933 | 57 | 5 |
| | 0.9895 | 41 | 4 | 0.9695 | 66 | 7 | 0.0631 | 74 | 8 |
| | 1.0000 | 1 | 1 | 0.9796 | 1 | 1 | 0.2173 | 18 | 4 |
| | 0.7990 | 81 | 18 | 0.9782 | 43 | 7 | 0.2948 | 5 | 2 |
| | 0.9956 | 24 | 3 | 0.9754 | 51 | 10 | 0.3534 | 2 | 1 |
| | 0.9826 | 47 | 5 | 0.9683 | 72 | 18 | 0.1964 | 21 | 6 |
| | 0.8698 | 71 | 12 | 0.9688 | 68 | 14 | 0.1998 | 20 | 5 |
| | 0.8890 | 69 | 10 | 0.9758 | 50 | 9 | 0.2333 | 15 | 3 |
| | 0.9999 | 13 | 2 | 0.9527 | 82 | 23 | 0.1338 | 38 | 7 |
| | 0.9566 | 56 | 6 | 0.9796 | 1 | 1 | 0.0619 | 76 | 23 |
| | 0.8749 | 70 | 11 | 0.9674 | 74 | 20 | 0.0847 | 62 | 19 |
| | 0.8936 | 67 | 9 | 0.9612 | 77 | 21 | 0.1235 | 40 | 9 |
| | 0.8355 | 78 | 15 | 0.9796 | 1 | 1 | 0.1272 | 39 | 8 |
| | 0.9261 | 62 | 8 | 0.9681 | 73 | 19 | 0.0319 | 85 | 24 |
| | 0.9344 | 60 | 7 | 0.9522 | 83 | 24 | 0.0964 | 54 | 16 |
| | 0.9884 | 42 | 4 | 0.9796 | 1 | 1 | 0.0914 | 59 | 18 |
| | 0.8252 | 80 | 17 | 0.9686 | 69 | 15 | 0.0960 | 55 | 17 |
| | 0.8478 | 75 | 14 | 0.9612 | 77 | 21 | 0.1050 | 50 | 14 |
| | 0.6567 | 87 | 22 | 0.9695 | 66 | 13 | 0.1093 | 48 | 12 |
| | 0.8561 | 73 | 13 | 0.9796 | 1 | 1 | 0.1216 | 41 | 10 |
| | 0.7779 | 82 | 19 | 0.9796 | 1 | 1 | 0.0711 | 69 | 21 |
| | 0.7068 | 85 | 20 | 0.9699 | 64 | 12 | 0.0971 | 53 | 15 |
| | 0.8343 | 79 | 16 | 0.9686 | 69 | 15 | 0.0825 | 64 | 20 |
| | 0.7001 | 86 | 21 | 0.9686 | 69 | 15 | 0.1129 | 45 | 11 |
| | 0.6329 | 88 | 23 | 0.9754 | 51 | 10 | 0.1081 | 49 | 13 |
| | 0.4683 | 90 | 24 | 0.9765 | 46 | 8 | 0.0685 | 70 | 22 |

¹ Only countries with both 2009 Global Hunger Index and 2008 Global Gender Gap Index are included in the table.

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