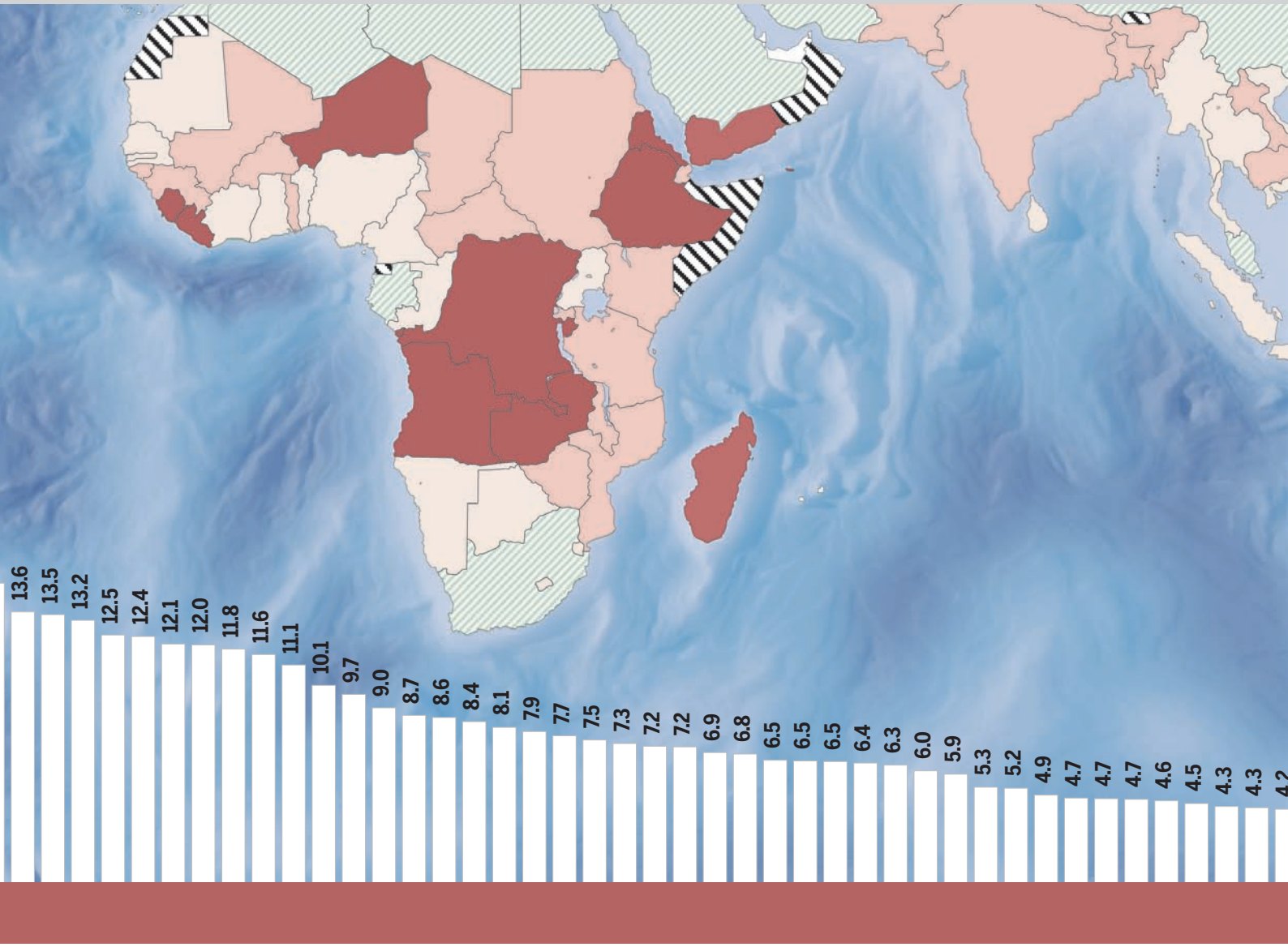

The Challenge of **Hunger 2007**

Global Hunger Index: Facts, determinants, and trends

Measures being taken to reduce acute undernourishment and chronic hunger

welt hunger hilfe

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Hunger 2007

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Bonn, October 2007

Contents

One in seven people goes to bed hungry

by Prof. Joachim von Braun, Director General of the International Food Policy Research Institute (IFPRI), Tom Arnold, Chief Executive of Concern Worldwide, and Dr. Hans-Joachim Preuß, Secretary General of Deutsche Welthungerhilfe

One in seven people go to bed hungry every day. That's 854 million people worldwide. Hunger is one of the world's major problems and therefore one of its most important challenges. People who are forced to live from hand to mouth are denied a life of dignity. The 2007 Global Hunger Index illustrates that this problem has assumed an alarming scale in 36 countries: twenty-five of these countries are in Sub-Saharan Africa, nine in Asia, one in the Middle East and Latin America respectively. There is some progress in the fight against hunger in specific regions throughout the world, and the Millennium Development Goal agreed upon by 189 heads of state in 2000 to halve worldwide hunger by 2015 could be achieved. In fact, if the current trend continues, there will still be around 580 million people going hungry in 2015 – a situation we won't accept.

Without public pressure little can be done to alleviate worldwide hunger. There is no shortage of know-how, but there is a lack of political will. The Global Hunger Index (GHI), developed by IFPRI and made public last year for the first time, is an ideal tool to record hunger and support lobby work and advocacy on both national and international platforms.

Hunger has many faces and its causes are diverse. War and armed conflict are significant contributors to undernourishment. Refugees are unable to provide for themselves, family structures break down, arable land is mined or lies fallow, and the economy stagnates. It usually takes years for reconstruction to bear fruit in post-conflict zones, and destabilised countries can only slowly begin providing for themselves in the aftermath. However, health-related matters also contribute to hunger, the most dramatic form being HIV/Aids infections. Family networks, particularly in Africa, are no longer able to cope with the repercussions of the pandemic, largely because the young men and women crucial to the productivity of the agricultural sector are dying. Many of the 15 million Aids orphans worldwide are also hit hard by hunger. Weather-related disasters such as droughts and flooding also play a part in the numerous hunger crises. According to estimates made by international climatologists, these occurrences will intensify in the course of climate change and, above all in Africa, already existing problems will become more acute. The current water shortage in many regions throughout the world is set to increase and will lead to migration in the future. At present 1.1 billion people have no access to safe drinking water.

Put simply, the main cause of hunger is poverty. The poor have no access to key resources and with this they are denied a chance to shape their lives proactively. Poverty in combination with hunger results in a day to day struggle for survival with no prospects for the future. There has been no progress in countries with bad governance.

Hunger and undernourishment form a vicious circle which is often "passed on" from generation to generation: The children of impoverished parents are often born underweight and are less resistant to disease. They grow up under conditions which impair their intellectual capacity for the whole of their life. According to estimates made by the World Health Organisation, 150 million children worldwide are suffering from chronic malnutrition and its lifelong ramifications. Half a million children go blind each year as a result of a lack of

Photo: Deutsche Welthungerhilfe

vitamin A. Iodine deficiency often causes otherwise preventable damage to the brain. Adults who were undernourished as children are physically and intellectually less productive, attain a lower level education, ultimately earn less money, and are more frequently ill than adults who enjoy a normal dietary intake as children.

It is imperative that progress is made in the fight against hunger and poverty. IFPRI is making the required analysis of scientific data available. Deutsche Welthungerhilfe and Concern, both members of the European network, Alliance2015, are engaged in this process on several levels: through direct support of undernourished people in hunger crisis zones, but also with specific measures. In the case of chronic malnutrition this involves both short and long-term action, where possible in association with local partner organisations. Lobbying on behalf of the poor and hungry in conjunction with NGOs from both the North and the South is also a key priority of our work. In taking this path we need partners in the fields of science, politics and civil society to support us.

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

Tom Arnold, Chief Executive of Concern Worldwide

Dr. Hans-Joachim Preuß, Secretary General of Deutsche Welthungerhilfe

Enough food is produced worldwide to feed everyone

Photo: Kaiser/Welthungerhilfe

1. | **The Global Hunger Index** measures the problem

by Doris Wiesmann

1.1 | The concept of the Global Hunger Index (GHI)

Because hunger has many faces, it makes sense to choose a multidimensional approach for calculating the Global Hunger Index (GHI). Such an approach has the following advantages:

1. It simultaneously captures various aspects of hunger and undernutrition.
2. The combination of indicators measured independently of each other reduces the impact of random measurement errors.
3. The condensing of information facilitates a quicker overview for decision makers in the public and political arenas.

In general, indexes are useful tools for lobbying and advocacy. If used in international rankings, indexes can foster a sense of competition among countries and thus help promote good policies.

Combining the proportion of undernourished in the population with the two indicators relating to children under five ensures that both the food-supply situation of the population as a whole and the effects of inadequate nutrition on a physiologically very vulnerable group are captured.

Children's nutritional status deserves particular attention because a lack of nutrients puts them at high risk of physical and mental impairment and death. Many chil-

The GHI is based on three equally weighted indicators

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

dren in developing countries die from infectious diseases, but frequently the indirect cause of death is a weakened immune system due to a lack of dietary energy, vitamins, and minerals. Since the first two indicators—the proportion of undernourished and the prevalence of underweight in children—do not reveal premature death as the most tragic consequence of hunger, the under-five mortality rate is also included.

The Global Hunger Index has the advantage of going beyond dietary energy availability, which is the focus of the Food and Agriculture Organisation of the United Nations' (FAO's) measure of undernourishment. The GHI's broader conceptual basis better reflects the multidimensional causes and manifestations of hunger. The index takes into consideration inequitable resource allocations both between households and within households, since the latter also affect the physical well-being of children. Sufficient food availability at the household level does not guarantee that all members benefit from it in equal measure.

All three index components are expressed as percentages and are equally weighted.[1] The GHI score varies between the best possible score of 0 and the worst possible score of 100. Higher scores indicate greater hunger; the lower the score, the better the country's situation.[2] GHI scores above 10 are considered serious, scores greater than 20 are alarming, and scores exceeding 30 are extremely alarming.

For this report, the Global Hunger Index 2007 was calculated on the basis of data from the period 2000–2005.[3] The calculation of the GHI is limited to the 97 developing countries and 21 transitional countries where measuring hunger is considered most relevant. A few Eastern European countries and Western developed nations are not taken into consideration[4] because hunger has been largely overcome in those countries, and overnutrition and unbalanced diets are a greater problem than a lack of food.

1.2 Global trends as of 2007

For a little less than three-quarters of the 115 countries for which both the GHI 2007 and the GHI 2006 were calculated, the index has improved slightly in comparison with the previous year.[5] In two countries, GHI scores remained exactly the same, and in around a quarter more, the scores deteriorated slightly.

As in 2006, Libya, Argentina, Lithuania, Romania, Chile, Ukraine, and Cuba rank in the GHI top 10, which comprises countries with a relatively high level of economic and social development.[6] Uruguay, Latvia, and Estonia newly joined this group. Libya tops the list thanks to a decline in child malnutrition as estimated by the author.

Eritrea, the Democratic Republic of the Congo, and Burundi, three countries that ranked at the very bottom of the list in 2006, are still on the losing side. Armed conflict and the widespread poverty resulting from it are major causes for these countries' poor GHI scores.

Although there were generally only a few changes in comparison with 2006, a positive development can be seen in Ethiopia, whose GHI score fell by 3 points. Ethiopia now has a better ranking than the postconflict country Sierra Leone. The improvement is partly attributable to a very small decrease in the under-five mortality rate by 0.3% (3 deaths fewer per 1,000 live births), but mostly to a noteworthy decline in the prevalence of underweight in children from 47.2% in 2000 to 38.4% in 2005.[7] This positive trend is related to greater investment in the education and health care sectors since the 1990s. The World Bank estimates that the proportion of people living on less than one dollar a day in Ethiopia declined from 31% in 1995 to 23% in 2003. Primary gross enrolment rates more than tripled during the 1990s, and the female literacy rate rose from 20% in 1990 to 34% in 2002[8]. In addition, normal weather patterns helped agricultural and gross domestic product growth recover in 2004–2006. This helped make up for the loss in production following the major drought of 2002[9].

Furthermore, the year 2000 marked the end of the two-year war with Eritrea, thus permitting an economic recovery that is reflected in the more recent data on child malnutrition. More detailed information about Ethiopia can be found in Part 2 in the section on Deutsche Welthungerhilfe's Millennium Villages Project.

Other larger changes in the GHI 2007 compared with the GHI 2006 for individual countries such as Mauritania, Georgia, and Djibouti should be interpreted with caution since they are largely the result of retrospective revisions of the data released by FAO and UNICEF, on which the calculation of the GHI is based[10]. Considering

All countries in comparison

The Global Hunger Index in 118 countries

GHI-Rank	Country	Global Hunger Index 1990	2007	GHI-Rank	Country	Global Hunger Index 1990	2007
1	Libya	2.70	0.87	60	Lesotho	14.93	13.20
2	Argentina	2.03	1.10	61	Nicaragua	16.33	13.47
3	Lithuania		1.63	62	Uzbekistan		13.60
4	Romania	3.96	1.73	63	Swaziland	11.27	14.97
5	Chile	4.03	1.83	64	Ghana	25.43	15.10
5	Latvia		1.83	65	Mongolia	19.03	15.30
7	Ukraine		1.90	66	Myanmar	19.77	15.80
8	Estonia		2.03	67	Philippines	21.90	16.23
9	Cuba	5.90	2.20	68	Guatemala	16.40	16.47
10	Uruguay	5.50	2.23	69	Sri Lanka	24.40	16.60
11	Russian Federation		2.33	70	Djibouti	30.73	17.07
12	Tunisia	5.23	2.50	71	Benin	20.67	17.37
13	Slovak Republic		2.63	72	Ivory Coast	15.33	17.40
14	Fiji	7.47	2.93	73	Vietnam	27.10	17.70
15	Kuwait	10.20	3.07	74	Namibia	22.93	17.77
16	Croatia		3.23	75	Senegal	20.03	18.00
17	Lebanon	4.87	3.50	76	Botswana	18.53	18.03
18	Mauritius	8.43	3.83	77	Mauritania	25.30	18.10
19	Syrian Arab Republic	7.30	4.17	78	Uganda	21.00	18.57
20	Turkey	6.90	4.20	79	Gambia	18.17	18.80
21	Egypt. Arab Rep.	8.27	4.27	80	Nigeria	23.77	19.13
22	Macedonia. FYR		4.33	81	Cameroon	20.67	19.33
23	Serbia and Montenegro		4.47	82	Congo. Rep.	30.83	19.73
24	Brazil	8.33	4.60	83	North Korea	16.37	20.00
25	Mexico	7.93	4.67	84	Togo	24.20	20.43
26	Jordan	4.80	4.70	85	Timor-Leste		20.60
27	Iran. Islamic Rep.	9.37	4.73	86	Kenya	22.03	20.97
28	Bosnia and Herzegovina		4.87	87	Guinea	29.00	21.77
29	Jamaica	7.30	5.20	88	Pakistan	25.73	22.70
30	South Africa	7.17	5.25	89	Lao PDR	26.43	23.23
31	Kazakhstan		5.87	90	Nepal	28.33	24.30
32	Moldova		6.03	91	Malawi	33.90	24.50
33	Trinidad and Tobago	8.43	6.30	92	Burkina Faso	23.03	24.63
34	Paraguay	8.60	6.40	93	Zimbabwe	21.33	24.83
35	Algeria	7.03	6.47	94	India	33.73	25.03
36	Malaysia	10.07	6.50	95	Sudan	25.57	25.60
37	Ecuador	9.93	6.53	96	Tanzania	27.33	26.13
38	Morocco	8.13	6.83	97	Rwanda	29.90	26.27
39	Saudi Arabia	7.00	6.90	98	Haiti	35.20	26.97
40	Albania	9.84	7.17	99	Guinea-Bissau	23.73	27.43
41	Georgia		7.20	100	Cambodia	30.73	27.57
42	Kyrgyz Republic		7.33	101	Mali	25.20	27.70
43	Peru	20.23	7.50	102	Mozambique	45.43	27.97
44	Colombia	10.23	7.70	103	Bangladesh	36.97	28.40
45	El Salvador	11.07	7.90	104	Central African Republic	32.90	29.53
46	Venezuela	7.13	8.10	105	Chad	36.30	29.90
47	China	12.77	8.37	106	Tajikistan		29.93
48	Azerbaijan		8.57	107	Madagascar	30.90	30.73
49	Gabon	11.43	8.67	108	Zambia	29.43	31.10
50	Suriname	12.17	9.03	109	Comoros	26.03	31.47
51	Guyana	15.93	9.67	110	Angola	39.77	31.50
52	Turkmenistan		10.10	111	Yemen. Rep.	26.07	31.53
53	Panama	11.80	11.07	112	Niger	38.53	32.67
54	Indonesia	18.53	11.57	113	Liberia	25.87	33.00
55	Dominican Republic	14.60	11.83	114	Ethiopia	45.98	33.67
56	Thailand	18.77	12.03	115	Sierra Leone	34.97	35.17
57	Armenia		12.07	116	Eritrea		40.27
58	Bolivia	17.20	12.43	117	Congo. Dem. Rep.	28.23	41.17
59	Honduras	15.63	12.50	118	Burundi	32.03	42.37

Source: IFPRI

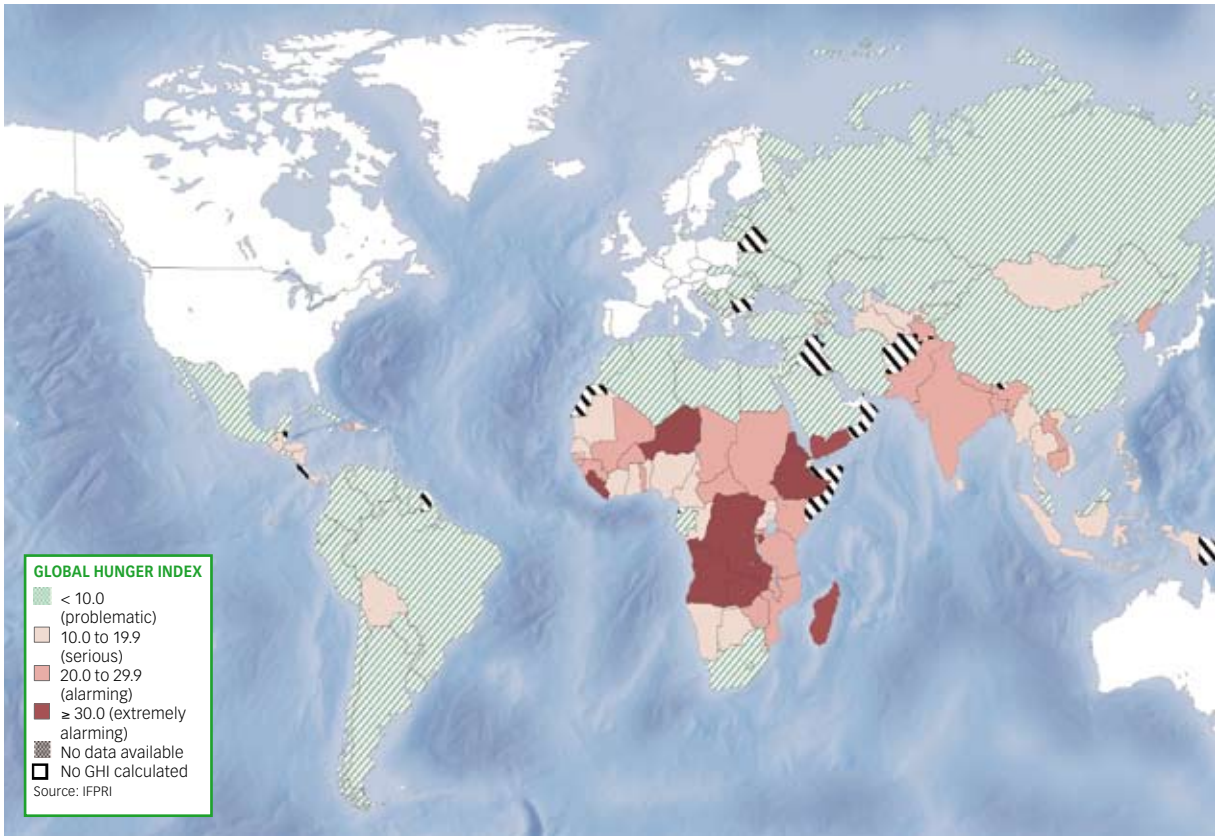
the error margins of the three international indicators used for the GHI—particularly concerning data from poorer countries—small changes in the index over short time spans, such as one year, should not be overstated. It is advisable to observe trends over a longer period of time, as we show in Section 2. The Global Hunger Index is a suitable monitoring tool to ascertain whether countries are on track to achieve the hunger-related Millennium Development Goals.

1.3 | Regional differences among index components[11]

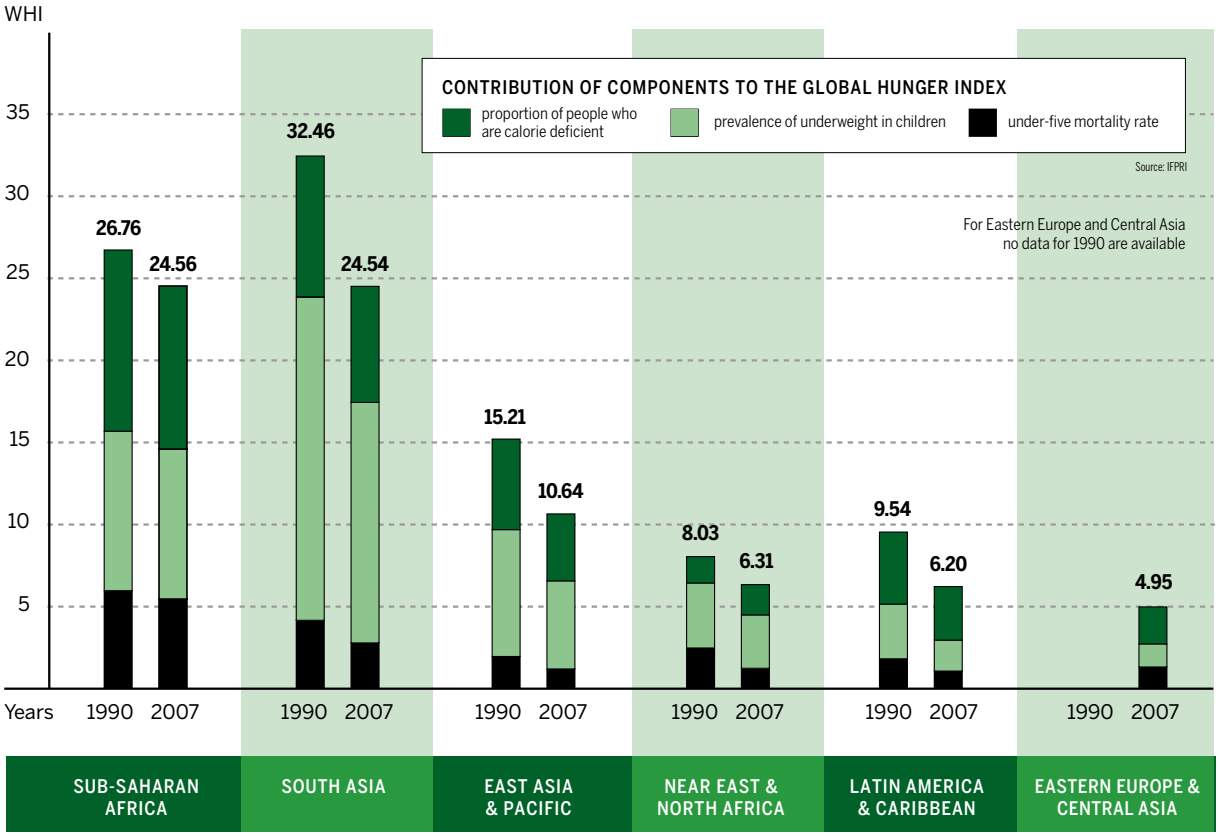
The causes and manifestations of hunger in the individual regions differ considerably—a fact illustrated by the varying values in the three GHI components in the regions. In South Asia, the prevalence of underweight in children is relatively high, whereas in Sub-Saharan Africa, child mortality and the proportion of people who cannot meet their calorie requirements play a major role.

Although these two regions have virtually identical GHI scores, their determining factors vary: in South Asia women have a lower nutritional status and more often give birth to babies with low birth weight[12]. In addition, young children are not fed properly for their age and are therefore often underweight. This is the result of the insufficient education of many South Asian women and their low status in society. However, it is noteworthy that while in South Asia a considerably smaller proportion of the population are unable to meet their minimum dietary requirements (1,800 kilocalories per capita) than in Sub-Saharan Africa, a high percentage still have a calorie supply below the average requirement of around 2,100 kilocalories.[13] In India, where the large majority of South Asia's population lives, economic growth in the agricultural sector has lagged considerably behind growth in other sectors over recent years. This has had a negative effect on progress in alleviating poverty and hunger in rural areas. Furthermore, members of the lower castes and certain ethnic minorities continue to be discriminated against in society and are

World Hunger Map
Global Hunger Index 2007 (Data from 2000 to 2005)



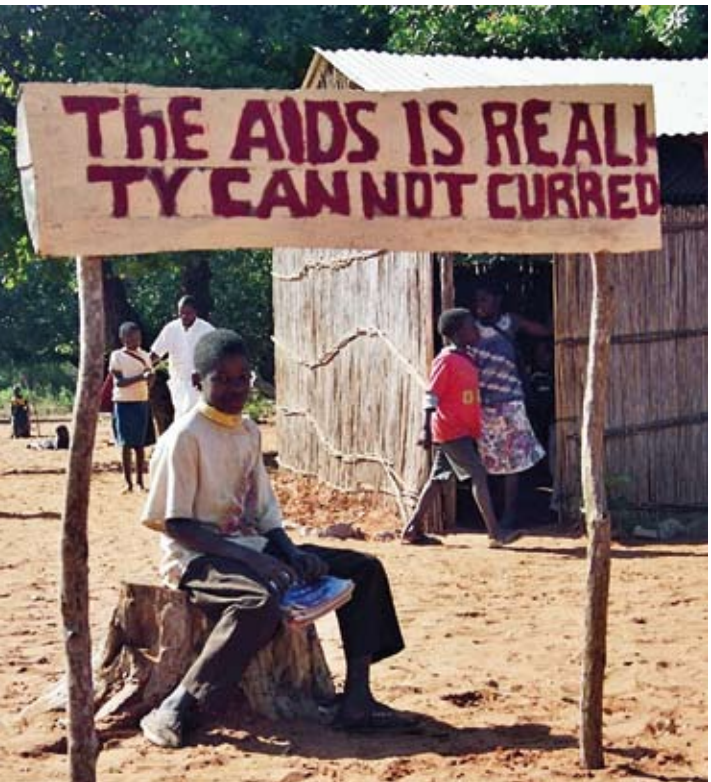
The highest child mortality rate is in Africa; South Asia has the most undernourished children – Contribution of the three components to the Global Hunger Index



therefore disadvantaged with regard to educational opportunities and the labour market[14].

In Africa, however, droughts, wars, malaria, and HIV/AIDS play a far greater role than in Asia. Besides low agricultural productivity, these factors are primary causes of food shortage and the high child mortality rate. Together with malaria and AIDS, extreme poverty contributes to high child mortality in Sub-Saharan Africa: 40% of the population live below the absolute poverty line of one dollar a day, and around two-fifths of this group live on less than 50 cents a day. In South Asia just over 30% have to survive on a dollar a day, but only 4% of this group live on less than 50 cents a day.

Three major causes of hunger: a lack of education amongst women, aids and armed conflict.



2. | Monitoring progress between 1990 and 2015

2.1 | Taking stock at the halfway point: GHI progress indicator shows developments in the fight against hunger

In signing the United Nations Millennium Declaration, 189 heads of state committed themselves to achieving binding and verifiable goals. The time frame for fulfilling the Millennium Development Goals (MDGs) is the period 1990–2015. Measurable targets have been set for that period, such as, for example, reducing the under-five mortality rate by two-thirds. On this basis, each country can determine the values it must reach by 2015 to fulfil its international commitments.

The Millennium Declaration sets measurable targets for all three GHI components—the proportion of people who are calorie deficient, the prevalence of underweight in children under five, and the under-five mortality rate. Those particular targets are defined under the first and fourth Millennium Development Goals.

We can use the GHI progress indicator (GHI-P) to evaluate trends in the fight against hunger in individual countries in the period 1990–2015 and to assess whether those countries are on track to reach the MDGs.[15] Taking stock at the halfway point illustrates current trends and enables countries to make adjustments before 2015.

A negative score on the GHI-P means that a country is losing ground and is drifting away from achieving the targets. A positive score indicates that a country is making progress; however, a country needs a score of 0.5 or higher to show that, given the continuation of present trends, it is on track to achieve its GHI target score for 2015 (derived from the MDGs) by halving the proportion of calorie-deficient people and underweight children and cutting under-five mortality by two-thirds. Ideally a GHI-P score of 1 would demonstrate that a country has already achieved all three MDG targets incorporated in the GHI as of the halfway point of the time frame—mid-2003.[16] For scores between –0.1 and 0.1, the change is considered too small to indicate a meaningful trend, and the countries falling into this category are classified as "stagnating".

Millennium Development Goals relevant to the Global Hunger Index

Millennium Development Goal 1:

Eradicate extreme poverty and hunger

Target: Halve the proportion of people suffering from hunger between 1990 and 2015.

Indicators:

- Proportion of the population who cannot meet their minimum calorie requirements
- Prevalence of underweight in children under five

Millennium Development Goal 4:

Reduce child mortality

Target: Reduce the mortality rate among children under five by two-thirds by 2015.

Indicator:

- Under-five mortality rate

Photo: Lohnes/Welthungerhilfe

Photo left: Schoeninger/Welthungerhilfe · Photo right: Meissner/Welthungerhilfe

2.2 | Trends in various regions

Cuba has the best GHI-P score, followed directly by *Kuwait*, which recovered quickly from the repercussions of the Gulf War in the early 1990s. *Peru* is on track to meet the three MDG targets; it has already more than achieved the target to halve the proportion of calorie-deficient people by 2003, has cut the under-five mortality rate by more than two-thirds, and is on course to halve the prevalence of underweight in children.

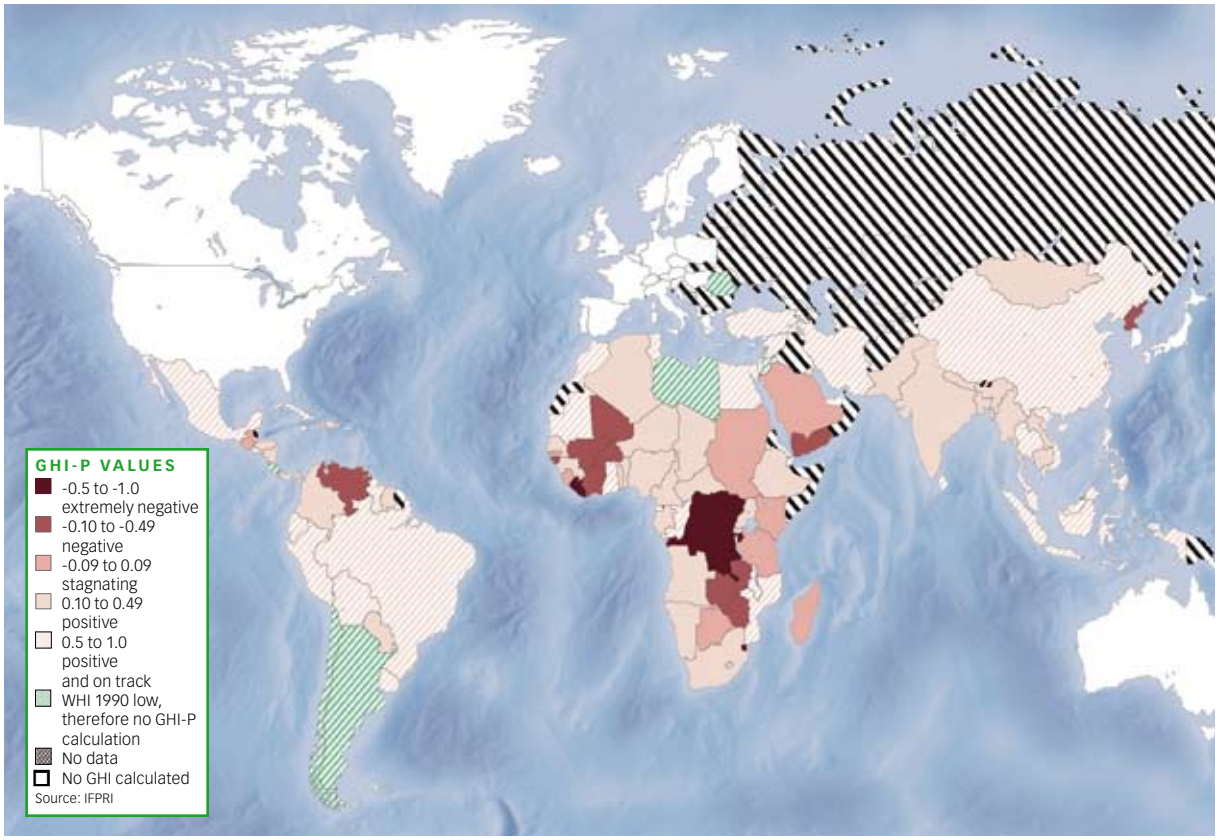
The *Republic of the Congo*, *Malawi*, and *Mozambique* began with very high and therefore unfavourable GHI scores in 1990 but have nevertheless made notable progress. If that continues, they might reach the target scores set for their countries. India and Ethiopia fell short of the 0.5 GHI-P score by a very narrow margin and therefore miss the mark of making progress in line with the MDGs.

The *Democratic Republic of the Congo* (DRC), a typical conflict country with a very weak government, has drifted the furthest away from the realisation of the hunger-related MDGs. Neither *Burundi* nor *Liberia* have been able to recover from armed conflict, and they are also ranked at the bottom of the list. *North Korea*, on the other hand, owes its negative GHI-P score to isolationism and decades of failed economic policy.

Asia

North Korea notwithstanding, positive trends prevail in Asia. Nevertheless, countries such as *Bangladesh*, *Pakistan*, *India*, *Nepal*, *Laos*, and *Cambodia* all failed to achieve their midpoint Global Hunger Index targets. Success in those countries would be very important, given that their GHI scores were very high in the base year, 1990, and are still at an alarming level. Because of insufficient data, we cannot assess progress in the GHI for the conflict country *Afghanistan*, but the nutritional status of children there has recently improved—the prevalence of underweight in children fell from 49% in 1997 to 39% in 2003. According to data provided by UNICEF, the child mortality rate remained virtually unchanged between 1990 and 2004.[17]

Taking stock at the halfway point: progress in the GHI in view of the Millennium Development Goals.



All countries in comparison

The Global Hunger Index Progress Indicator (GHI-P) in 91 countries

GHI-P rank	Country	Target reduction of the GHI 1990-2015	Actual change in the GHI since 1990	GHI-P-score 2007
1	Kuba	-3.0	-2.9	0.971
2	Kuwait	-5.2	-4.8	0.925
3	Fiji	-3.9	-3.6	0.917
4	Peru	-10.7	-9.7	0.909
5	Uruguay	-2.9	-2.6	0.900
6	Egypt, Arab Rep.	-4.7	-4.0	0.849
7	Tunisia	-2.8	-2.4	0.848
8	Djibuti	-16.1	-13.5	0.837
9	Syrian, Arab Rep.	-3.9	-3.1	0.805
10	Iran, Islamic Rep.	-5.1	-4.0	0.777
11	Brazil	-4.5	-3.3	0.746
12	Indonesia	-9.5	-7.0	0.732
13	Mozambique	-24.0	-17.5	0.727
14	Mauritius	-4.3	-3.1	0.714
15	Thailand	-9.6	-6.7	0.702
16	Vietnam	-13.5	-9.4	0.694
17	Congo, Rep.	-16.0	-11.1	0.693
18	Malaysia	-5.2	-3.6	0.692
19	Turkey	-3.9	-2.7	0.691
20	Mexico	-4.0	-2.8	0.689
21	Guyana	-8.5	-5.8	0.682
22	Ecuador	-5.3	-3.4	0.644
23	China	-6.9	-4.4	0.639
24	Sri Lanka	-12.4	-7.8	0.630
25	Ghana	-13.0	-8.2	0.627
26	El Salvador	-5.7	-3.2	0.559
27	Jamaica	-3.8	-2.1	0.558
28	Mauritania	-13.7	-7.2	0.525
29	Bolivia	-9.3	-4.8	0.513
30	Malawi	-18.7	-9.4	0.504
31	Philippines	-11.3	-5.7	0.502
32	Ethiopia	-24.7	-12.3	0.498
33	India	-17.6	-8.7	0.496
34	Suriname	-6.4	-3.1	0.493
35	Albania	-5.2	-2.5	0.487
36	Trinidad a. Tobago	-4.4	-2.1	0.485
37	Colombia	-5.2	-2.5	0.483
38	Paraguay	-4.5	-2.2	0.482
39	Guinea	-15.8	-7.2	0.457
40	Haiti	-18.4	-8.2	0.447
41	Gabon	-6.2	-2.8	0.444
42	Bangladesh	-19.3	-8.6	0.444
43	South Africa	-3.9	-1.7	0.428
44	Namibia	-12.3	-5.2	0.420
45	Angola	-21.3	-8.3	0.388
46	Myanmar	-10.6	-4.0	0.374
47	Honduras	-8.4	-3.1	0.374
48	Mongolia	-10.3	-3.7	0.363
49	Dominican Rep.	-7.7	-2.8	0.358
50	Nigeria	-13.2	-4.6	0.352
51	Nicaragua	-8.5	-2.9	0.336
52	Chad	-19.3	-6.4	0.332
53	Togo	-12.6	-3.8	0.298
54	Benin	-11.4	-3.3	0.290
55	Morocco	-4.7	-1.3	0.277
56	Niger	-21.6	-5.9	0.271
57	Nepal	-15.0	-4.0	0.269
58	Lao PDR	-14.1	-3.2	0.227
59	Rwanda	-16.3	-3.6	0.223
60	Pakistan	-13.9	-3.0	0.219
61	Uganda	-11.2	-2.4	0.217
62	Lesotho	-8.3	-1.7	0.208
63	Cambodia	-16.0	-3.2	0.198
64	Central African Rep.	-17.4	-3.4	0.194
65	Senegal	-11.1	-2.0	0.183
66	Algeria	-4.0	-0.6	0.141
67	Panama	-6.1	-0.7	0.120
68	Cameroon	-11.2	-1.3	0.119
69	Kenya	-11.6	-1.1	0.092
70	Tanzania	-14.9	-1.2	0.080
71	Saudi Arabia	-3.7	-0.1	0.027
72	Botswana	-9.6	-0.2	0.021
73	Madagascar	-16.9	-0.2	0.010
74	Sudan	-13.5	0.0	-0.002
75	Guatemala	-8.7	0.1	-0.008
76	Sierra Leone	-19.2	0.2	-0.010
77	Gambia	-9.9	0.6	-0.064
78	Zambia	-15.7	1.7	-0.106
79	Burkina Faso	-12.7	1.6	-0.126
80	Mali	-14.0	2.5	-0.179
81	Ivory Coast	-8.5	2.1	-0.242
82	Venezuela	-3.7	1.0	-0.260
83	Guinea-Bissau	-13.3	3.7	-0.279
84	Zimbabwe	-11.0	3.5	-0.319
85	Yemen, Rep.	-14.2	5.5	-0.384
86	Comoros	-13.9	5.4	-0.390
87	North Korea	-8.5	3.6	-0.428
88	Liberia	-14.2	7.1	-0.501
89	Swaziland	-6.2	3.7	-0.593
90	Burundi	-17.1	10.3	-0.605
91	Congo, Dem. Rep.	-15.3	12.9	-0.848

Source: IFPRI

In North Korea, which has depended heavily on international food aid since the mid-1990s, more and more people are going hungry.[18] Dietary energy supply per capita per day fell from 2,470 kilocalories in 1990–1992 to 2,150 kilocalories in 2001–2003, although about one-fifth of the country's food was provided by international relief agencies[19]. Severe flooding in the summer of 2006 was followed by a drought, leading to even more severe food shortages. Problems in the agricultural sector include a lack of arable land, the absence of improved farming practices, and a chronic shortage of tractors and fuel. Massive spending on the military drains the country of funds that it urgently needs for public investment. The military employed 13% of the labour force in 2004, and the government continues to have a tense relationship with the international community because of its controversial nuclear policy[20].

Middle East and North Africa

Egypt has a favourable GHI progress indicator. It had reduced child mortality from 104 per 1,000 live births in 1990 to 36 by 2004, a decline that comes close to the targeted two-thirds cut by 2015. The prevalence of underweight in children fell from about 10% to 6%. Improved access to safe water and immunisation campaigns for children as well as better care for pregnant women had a positive impact. Investments in the education sector also advanced the positive trend: school enrolment and adult literacy rates increased considerably, especially for females, yet the gender bias in access to education could not be completely redressed in such a short time. Because of massive food subsidies, calorie supply was already at a high level in the base year of 1990[21].

The GHI score has remained virtually unchanged in *Saudi Arabia* in the face of economic stagnation, and it has deteriorated in *Yemen*. The GHI scores of *Libya* and *Jordan* were already low (less than 5 points) in 1990, and thus the GHI progress indicator was not determined. The other countries in the region made progress by reducing GHI scores since 1990, although *Morocco* and *Algeria* did so at less than the required pace to meet the 2015 target. Because of the unstable political situation in *Iraq*, data on calorie supply are not available, so the GHI and the GHI-P could not be calculated. However, the country continues to hold the worldwide record for increase in the under-five mortality rate since 1990, soaring from 50 to 125 per 1,000 live births by 2004. Thus, instead of progressing toward the two-thirds cut, the rate of Iraqi children who die before their fifth birthday has more than doubled. The prevalence of underweight in Iraqi children increased by one-third, from about 12% in 1991 to 16% in 2000[22]. Since the US-led invasion in 2003, electricity shortages, a lack of clean water, an ailing health care system, and soaring inflation have worsened already-difficult living conditions.

Sub-Saharan Africa

Sub-Saharan Africa paints a not very rosy picture with a few isolated rays of hope. The majority of countries in this region have made progress in reducing their GHI score toward the MDG targets, but only six out of 42 countries[23] are on track: *Djibouti*, *Mozambique*, the *Republic of the Congo*, *Ghana*, *Mauritania*, and *Malawi*. Seven other Sub-Saharan countries, in terms of the GHI since 1990, can best be described as stagnating; they include, among others, *Sierra Leone*, *Sudan*, *Botswana*, and *Tanzania*. Given the long-time civil war in Darfur, it may come as a surprise that Sudan's GHI score has not been deteriorating at a rapid rate; however, the Greater Darfur region comprises only about 6 million of Sudan's population of 40 million and the conflict therefore carries little weight in the figures. Sudan's GHI score has remained virtually unchanged: the proportion of people who are calorie deficient has dropped along with the child mortality rate, although child malnutrition has risen. Progress in the GHI has also stagnated in Botswana, where rapid economic growth has slowed over recent years, and a very high HIV infection rate, unemployment, and the neglect of the country's rural areas impair advancement[24]. Botswana has seen the proportion of calorie-deficient people rise since 1990. In addition, the child mortality rate has risen, thereby partly outweighing a decrease in child malnutrition.

The situation is desolate in the *Democratic Republic of the Congo*, where many years of war have caused a disastrous food security and public health situation in various regions of the country. Whereas in the period 1990–1992, 32% of the population were calorie deficient, this figure rose dramatically to 72% for the period 2001–2003. An estimated 3.5 million people have died from violence, famine, and disease during armed hostilities between government forces and militia over the past 10 years. Despite an official peace treaty, many refugees have been unable to return to their homes. The so-called "resource curse" (i.e., the country's wealth of mineral resources) has repeatedly fuelled violent conflicts[25]. Such conflicts have drastically reduced not only agricultural production but also national output and government revenue. Gross national income per capita fell from $1,300 in

1990 to $590 in 2003.[26] A precarious security situation, corruption, and extremely high levels of sexual violence against women still characterize this country.

Burundi continues to rank lowest on the GHI and second lowest on the GHI progress indicator. Here, a lengthy civil war coupled with economic decline is the main cause for the high proportion of people who are calorie deficient and for increasing child malnutrition, whereas the child mortality rate has not risen since 1990 according to figures provided by UNICEF. The poverty rate in Burundi is very high, and the peace agreement reached in 2006 remains fragile. During the 1990s, *Liberia*, another postconflict country, moved rapidly away from the MDGs considered in the GHI. It has made only slow progress in the reconstruction of a devastated infrastructure as well as economic and political structures. At the same time, the country has a wealth of mineral resources and timber and the climate is favourable to agriculture.

People taking flight - here in the Congo - are no longer in a position to provide food for themselves. Photo: Meissner/Welthungerhilfe

Latin America and the Caribbean

In Latin America and the Caribbean a large number of countries are on track to meet the critical hunger-fighting MDG targets. *Argentina*[27], *Chile*, and *Costa Rica* already had favourable GHI scores of less than 5 in 1990, and they have continued to make progress. *Brazil* and *Mexico* could meet their targets, whereas *Colombia*, *Paraguay*, *Suriname*, and some countries in the Caribbean also show positive trends but are lagging behind the needed rate of progress. Even *Haiti*, the poorest country in the Western Hemisphere, has witnessed positive changes: the proportion of undernourished, the child mortality rate, and child malnutrition have fallen. The only country in the region for which the GHI-P indicates stagnation is *Guatemala*, where gains in children's nutrition and survival were offset by a rising proportion of people who are calorie deficient. A similar pattern is found in *Venezuela*, where investments in the social sector were made. Nevertheless and despite the country's oil wealth, the poverty rate rose considerably in the 1990s.

Cuba leads the GHI-P ranking with a score of 0.97. In 1990 the country already had a low GHI score of 5.9, and it has made the greatest progress in reducing that measure relative to the base year. The proportion of people who are calorie deficient fell from 8% to 2%; the prevalence of underweight in children under five was reduced from an estimated 8% in 1990 to less than half in 2000; and the under-five mortality rate declined from 13 to 7 per 1,000 live births. If Cuba reaches a child mortality rate of 4 per 1,000 live births, it will have achieved the MDGs on all three GHI components.

However, this development did not follow a linear trend: after a severe economic recession following the withdrawal of Soviet subsidies in the 1990s, the GHI had risen to 7.6 points by 1997. Since then the country has recovered from the crisis and has implemented agricultural reforms. The Cuban health care system works very well: the country's infant mortality rate measures up to that of developed countries. In addition, skilled Cuban health professionals provide technical assistance in neighbouring Haiti and even in Chad[28]. As a result of high school attendance rates, including in rural areas, nearly all adults can read and write, and females are proportionally represented from primary school to the university level.[29]

2.3 | Regional features in monitoring GHI progress

Since 1990 the GHI score for Sub-Saharan Africa has dropped only marginally, in contrast to greater progress made in South Asia. Greater political stability and economic growth have proven favourable for South Asia. In comparing the GHI progress indicator across regions, it becomes apparent that only the Latin America and Caribbean region and the East Asia and Pacific region are on track with regard to reducing their Global Hunger Index scores. Those two regions have made considerable progress in decreasing undernourishment in the population, the child mortality rate, and child malnutrition. In East Asia, China is the driving force behind the positive trend: the poverty rate has fallen considerably in that country, and specific measures to eradicate malnutrition as well as investments in agriculture have contributed to reducing the GHI score.

If current trends remain unchanged, however, South Asia and the North Africa and Middle East region will not reach their targets. South Asia is lagging behind concerning the target of halving the proportion of people suffering from calorie deficiency, partly because of too little progress in India, which is home to three-quarters of South Asia's population. Nonetheless, this region is better off with regard to its GHI-P than Sub-Saharan Africa, where development has been almost stagnant. There are in fact minor positive trends for all three GHI components, but particularly the reduction of child malnutrition and child mortality needs to take place at a much faster rate. As a matter of fact, the proportion of the ultra-poor—people who live on less than 50 cents a day—has hardly changed in Sub-Saharan Africa since 1990 (the figure has dropped minimally from 18% to 17%)[30]. Household surveys show that "poverty traps" are a decisive factor: poor people are able to neither feed themselves adequately nor invest in their future. At the same time, the infrastructure in their countries is deficient and they lack access to services in the agricultural, education, and health sectors.

GHI progress evaluation by region

Region	GHI progress indicator (GHI-P)	Progress evaluation for GHI components		
		Proportion of undernourished	Underweight in children	Child mortality rate
Latin America & the Caribean	0.66	0.52	0.87	0.63
East Asia & Pacific	0.58	0.52	0.61	0.59
South Asia	0.47	0.35	0.51	0.50
Middle East & North Africa	0.39	-0.30	0.36	0.76
Sub-Saharan Africa	0.15	0.20	0.12	0.13

Note: Regions with a GHI-P of 0.5 and above are projected to meet the GHI target score derived from the MDGs by 2015 if progress continues at the present rate.

3. | Breaking the cycle of hunger and poverty

Hunger and poverty have many causes, but distributional aspects and thereby access to essential resources continue to be decisive factors. In the case of disasters, the poorest of the poor are hit hardest. Equitable and just structures favour the realization of human rights, including the fundamental human right to food, but many people in conflict zones and countries with bad governance are not even aware of their own basic rights.

Enough food is produced today to feed the world, and that many people still go hungry is primarily an issue of global distribution. That situation, however, could change in the future: in the course of climate change arable land is lost in developing countries while the world's population continues to grow. Newly industrializing countries such as India and China make higher demands regarding their food supply. Furthermore, the production of biofuels for energy generation is on the rise. Biofuel production competes with food production and may in the long run further deplete already-low grain stocks and lead to drastic rises in the prices of basic staples on the world market. According to experts' estimates, developing countries will be among the losers from climate change.

Economic growth in low-income countries has a positive effect on hunger reduction if the agricultural sector also benefits and investments are made in the education and health sectors. Poor smallholding farmers need to be specifically involved in rural development measures. Poor households suffer most in the aftermath of war and famine. Generally they have only few or no reserves to cope with such crises. Family and traditional networks often play a crucial role in worst-case scenarios, particularly when there is no support from the state. If existing resources are not sufficient, then international organizations have a responsibility to mobilize help.

In the following chapters we present a number of tangible tools for use in the fight against hunger, in both the short and the long term. When malnutrition threatens people's lives—as is often the case during or after war or following a major natural disaster—they need immediate assistance: locally produced, special food products play a vital role in helping people recuperate and ultimately lead their lives in a self-reliant manner. The primary aim of Welthungerhilfe's Millennium Villages Project is to eradicate chronic hunger and poverty hand in hand with local civil society and following the principle of helping people toward self-help.

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Small-scale farmers have to be supported with targeted measures. Photo: Shirley/Welthungerhilfe

[1] The results of a principal components analysis suggest equal weighting.

[2] These theoretically possible extreme scores are not achieved in reality. See the Appendix for an explanation.

[3] The average for 2001–2003 for the proportion of the population with insufficient dietary intake; data from the latest statistics on undernutrition among children in the period 2000–2005 or estimates for 2004 and the child mortality rate in 2004. For further details on the data sources see the Appendix.

[4] The following selection criteria for countries were applied: the GHI was not calculated for countries with a dietary energy supply per capita higher than 2,900 kilocalories (average for 1995–1997) and an under-five mortality rate under 1.5% (15 per 1,000 live births) in 1997. Exceptions to this rule are Kuwait, Malaysia, and Slovakia, which, due to special characteristics, were included in the calculation. For a more detailed description of the rationale behind the selection criteria, see Wiesmann (2004).

[5] There are no major changes because the proportion of undernourished people is calculated using average values, which partially coincide temporally. In addition, new data on child malnutrition are not available on a regular basis. For the GHI 2006, the latest figures from 1999–2003 were used; for the GHI 2007, the latest figures from 2000–2005 were used. Since these periods overlap, the same data on child malnutrition were used de facto in some countries.

[6] Belarus, which occupied the top position in 2006, dropped out of the present ranking because meaningful estimates for underweight prevalence in children could not be produced for 2004. Costa Rica was omitted for the same reason. The Republic of the Congo was included, because data on child malnutrition from a nationally representative survey in 2005 have recently been released. Thus, the number of countries in the ranking is reduced from 119 in 2006 to 118 in 2007.

[7] It is worth noting that while this improvement shows up in the comparison of the GHI 2006 and GHI 2007, the time period during which it took place spans five years. That is, the latest survey data on child malnutrition in 2006 were from the year 2000, whereas new data from 2005 had become available by 2007. In the case of other countries with a significant change in the child malnutrition rate, this change has also taken place over a longer period and not within the space of a single year.

[7] World Bank 2005; Mogues et al. 2007.

[8] CIA 2006.

[10] See Wiesmann 2007 for a detailed explanation.

[11] For a more detailed description of the development of the GHI 1990 and the GHI 2007 in subregions see the Appendix.

[12] Smith and Wiesmann 2007.

[13] This is shown by recent research based on data from household surveys (Smith and Wiesmann 2007). FAO's measure of the proportion of the population with calorie deficiency is, however, based on the minimum and not the average dietary energy requirements, and therefore it cannot capture the proportion of people whose calorie supply lies between these two thresholds.

[14] Ahmed et al. 2007.

[15] For the specifics of how the GHI-P is calculated, see the Appendix.

[16] The halfway point between the base year of 1990 and the target year of 2015 is reached after 12.5 years, which corresponds to the average year of data collection for the data from 2000 to 2005 that are used for the GHI 2007.

[17] This may be due to a lack of up-to-date information.

[18] According to FAO estimates, 18% of the North Korean population could not meet minimum calorie requirements in the period 1990–1992. By 2001–2003, that figure had climbed to 35%. The prevalence of underweight in children rose from an estimated 26% in 1990 to 28% in 2000, but dropped thereafter to 20%, whereas the under-five mortality rate has remained constant at 55 per 1,000 live births (WHO 2006; UNICEF 2006).

[19] FAO 2006.

[20] World Bank 2007; CIA 2006.

[21] Ahmed et al. 2001; FAO 2006.

[22] WHO 2006.

[23] This figure includes only countries for which the GHI-P was calculated.

[24] Thurlow 2007.

[25] Bannon and Collier 2003; UCDP 2006.

[26] World Bank 2007, international dollars taking into consideration purchasing power parity. Numerous activities, however, take place in the informal sector that are not reflected in these figures (CIA 2006).

[27] The transient financial crisis in Argentina has not reversed the predominantly positive development since 1990.

[28] Cohen et al. 2007; World Bank 2007.

[29] It is worth noting here that the GHI and its progress indicator do not capture all aspects of human well-being. For example, political freedom and civil liberties are not considered, and Amnesty International reports serious human rights violations by the Cuban government, in particular the imprisonment of political dissidents and journalists. Cuba is also a source country for women and children trafficked for the purposes of sexual exploitation and a major destination for sex tourism (CIA 2006).

[30] Ahmed et al. 2007.

Maize can be used as both food and fuel. As a consequence, the future may see drastically rising prices in basic foodstuffs – at the expense of the poor.

Mangue in Angola is just one of Welthungerhilfe's 15 Millennium Villages. They now have a village school to accommodate the first grades, and farming is gradually regaining momentum after years of war.

4. | **Sustainable hunger alleviation** with the Millennium Villages Project

by Iris Schöninger and Ann Kathrin Sost

Photos: Lyons/Welthungerhilfe

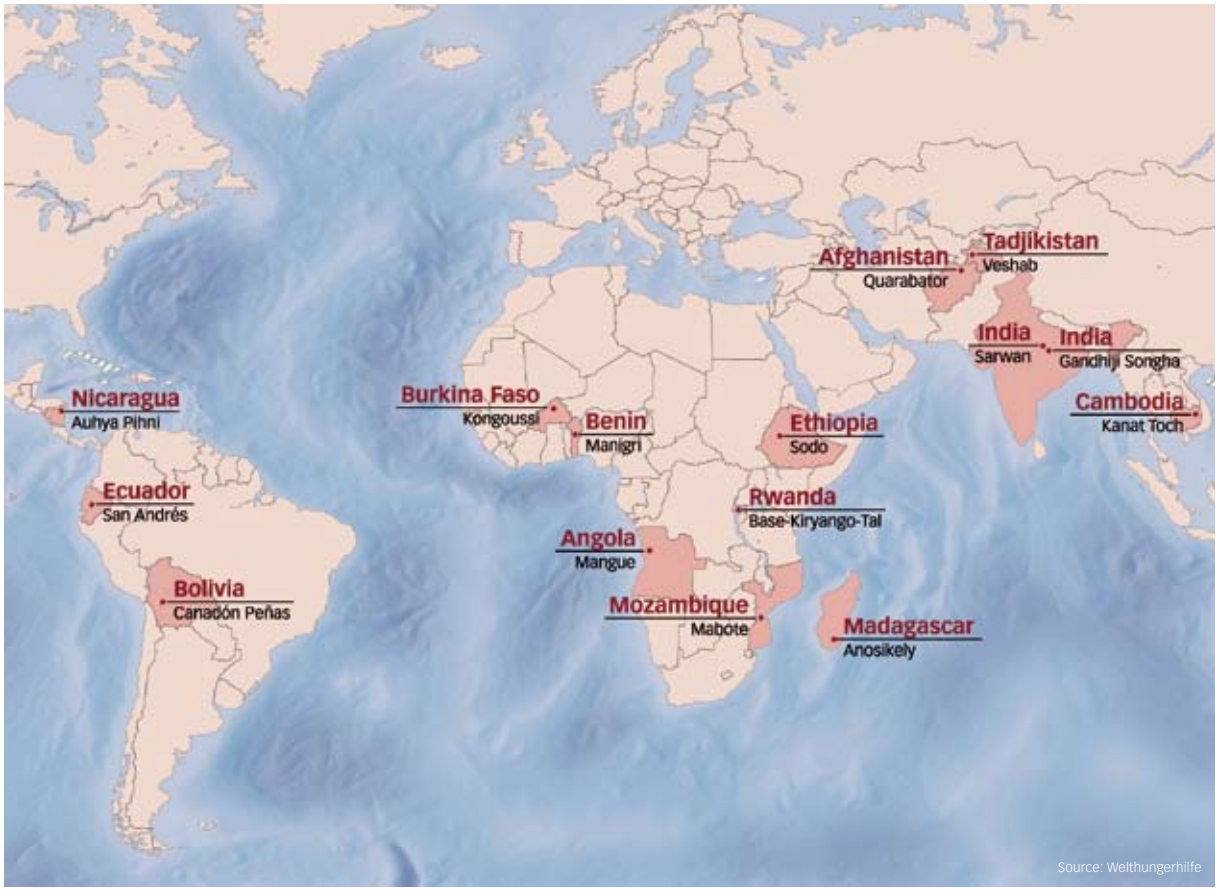
Chronic hunger is often difficult to spot at first sight. In the long run it undermines people's ability to forge future prospects and proactively shape their own lives. Three in four of those going hungry live in rural areas.[1] Rural poverty is primarily a result of unjust global economic structures and poor governance. The only way to fundamentally improve this situation is if national governments, for example, give small-scale farmers access to land or loans and develop rural infrastructure, and international donor organisations release more funds for rural development. On the other hand, developing countries are limited in what they can do when it comes to protecting themselves against cut-price imports such as basic foodstuffs from industrial nations. Subsidies in the North mean that manufacturers can sell their products below the cost of production and thus compete with local farmers in developing countries.

In signing the Millennium Declaration, states throughout the world committed themselves to achieving common goals in the fight against global poverty for the first time in history. Key aspects of universal human development were thereby given standardised definitions on the basis of objectives, sub-goals and indicators which aim to measure progress. For decades now, Deutsche Welthungerhilfe (German Agro Action), an organisation born out of the FAO's "Freedom from Hunger Campaign" back in 1962, has been primarily committed to achieving the first of these Millennium Development Goals (MDG): the eradication of extreme poverty and hunger. The account in Part 1, describing current trends in the Global Hunger Index, makes it quite clear that there is still a long way to go to achieve this goal. With its Millennium Villages Project[3], which started in 2006, Welthungerhilfe aims to provide concrete solutions to hunger-related problems over a five year period and thereby contribute to the fulfilment of the MDGs.

> *"All the people of this world shall lead an independent life in dignity and justice – free from hunger and poverty."*
>
> (from Welthungerhilfe's mission statement)

Unlike the UN Millennium Villages, all of Welthungerhilfe's villages are fully integrated into the projects taking place there and only receive minor additional funding. In this section we would like to present you with three examples of such villages in Angola, Ethiopia and Nicaragua.

Welthungerhilfe's Millennium Villages



Following a consultation period with Welthungerhilfe and local partner organisations, inhabitants of the 15 chosen villages and regions in Africa, Asia and Latin America first agreed on the specific Millennium Development Goals they plan to achieve by 2010. The unique aspect of this approach is that it's the villagers themselves who use their knowledge of the situation on the ground, social structures, the regional climate and other factors to "localise" the chosen MDGs and make sure that they are implemented practically. Projects in the various villages and countries are all based on the principle of helping towards self-help.[3] For Welthungerhilfe's work, this means:

- people in need receive direct help;
- self-help initiatives are provided with consultation to help local people assert their interests and link up where necessary;
- partner organisations in the countries in question are supported in developing their organisation and engaging in lobby work with their respective governments.

In most of the Millennium Villages, Welthungerhilfe works together with local partner organisations such as the Community Development Service, an Ethiopian NGO, and Aikuki Wal in Nicaragua. However, in a country like Angola, which has been devastated by decades of civil war, there are only self-help groups at best. Civil society institutions are still very weak here. All the Millennium Villages are located in largely remote rural areas. Neighbouring villages are therefore invited to participate in project activities so that they too can enjoy the long-term benefits of improvements in the selected villages.

A new aspect in Welthungerhilfe's pan-continental approach is that comparisons in development should now be possible, despite different living situations and support measures. For this purpose, Welthungerhilfe has developed a MDG monitoring scheme. Once a year during the project period, which runs until 2010, Welthungerhilfe and its local partner organisations will be carrying out quantitative surveys in up to 100 households in its respective Millennium Villages, covering aspects of all eight MDGs. At the same time, workshops take place regularly with around 30 representatives of various age groups, professional fields, gender, etc. from the

Photo: Bolesch/Welthungerhilfe

Simple wooden huts provide shelter for families in Auhya Pinhi - but they can't withstand tropical cyclones.

Millennium Villages in order to discuss progress with a focus on the MDGs.[4] This on-going monitoring scheme means that progress can be charted and setbacks corrected in all fifteen villages.

It soon became evident after the initial 2006/2007 surveys in the fifteen Millennium Villages that poverty is defined differently according to the specific living situation and personal experiences with war, or whether those affected belong to a disadvantaged group. The project measures prioritised by villagers in order to reach the MDGs reflect this. In the context of the GHI indicators, the following sections deal with the various faces of hunger and extreme poverty in the three case studies of Millennium Villages in Ethiopia, Angola and Nicaragua and the priorities the local villagers have set.

Millennium Development Goals

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

5. | The scale of hunger in **Ethiopia, Angola and Nicaragua**

Sodo in Ethiopia, Mangue in Angola and Auhya Pihni in Nicaragua are three of the 15 Welthungerhilfe Millennium Villages in which hunger and extreme poverty are a part of everyday life. Most people live from the land, and cash is scarce. People in Sodo have around US$96 at their disposal each year. 97% of the population live on less than US$1 a day at an average of 23 cents per day. In Mangue people earn an average of US$180 per year and 91% of them live on less than US$1 a day at an average of 37 cents. 88% of the population of Auhya Pihni live on 26 cents a day while the average annual income is US$222.[5]

What is life like under such conditions? Sickness is a daily routine, the child mortality rate is high, and many people spend months every year without enough to eat – above all, without enough mineral intake. This vicious circle of suffering is evident in a comparison of the results from the initial monitoring phases in 2006 and 2007 as illustrated in the three case studies below.

5.1 Deforestation around Sodo

The village of Sodo lies just under 100km south-west of the capital, Addis Ababa. Its 2,208 inhabitants live mostly in round, grass cropped huts called 'tukuls' together with their small farm animals. Almost 95% of the male population and 87% of the female population are dependent on food from the land while a few try to make ends meet in the retail trade. Life as a subsistence farmer in Sodo is tough: most people only have small fields which often lie at a considerable distance from each other. Some of these fields are inaccessible during the rainy season. All the trees have been cut down in the region; droughts and heavy rainfall add to erosion. Due to a lack of firewood, dung and grain leftovers are burnt instead of being used as fertilizer.

No one can take their next meal for granted in Sodo: 76.4% of the population suffered a food shortage over a period of more than three months last year. On average, men have 2.2 meals a day and women 2.1. Amongst children under the age of five, 18% of the boys and 25% of girls are underweight. People's daily diet lacks vitamins and minerals. The staple food is injera, a sour, pancake-like bread made out of teff flour. Vegetable patches with cabbage, onions, garlic and chilli provide some variety but are far too small. Meat is only eaten on festive occasions. The next market is 12km away, and fruit and vegetable available there is simply not affordable.

Clean drinking water is also a major problem. Sodo only has two wells which are kept in working order by a committee in return for a small water fee. Many people gather water from the rivers or collect rainwater during the rainy season. Resulting sickness is a major problem. This particularly affects small children, and the child mortality rate is 2.5%.

Girls often have to marry at the age of 12 or 13 and consequently break off their schooling. The extremely dangerous tradition of female circumcision is also a tolerated practice for a quarter to half of all three year old girls in Sodo. Education is anything but a matter of course: only 53% of men and 36.5% of women have ever been to school, some of them only from the age of nine. This is in the process of changing. There is now a school with two classes. Attendance is free, but parents often have to pay for exercise books and learning material by hiring themselves out as day labourers.

Photo: Boettner/Welthungerhilfe

In Ethiopia, a local grain called teff is the staple food.

ETHIOPIA: Ranked 114 with a GHI value of 33.7 points (extremely alarming), despite the fact that the country has improved its GHI score by three points since 2006. Child mortality and undernourishment amongst children have fallen dramatically, partly attributable to government investment in the education and health sectors in the 1990s. 23% of the population live on less then US$1 a day. Three times as many children are now enrolled in primary school compared with the early 90s, and literacy levels amongst women have risen from 20% in 1990 to 34% in 2002. With a GHI progress indicator (GHI-P) of just under 0.5, the country is only just off target to achieve its own goals.

Ethiopia has a population of around 75 million. Due to its high population growth rate, per capita food production has been dropping steadily over the past thirty years. In the face of a shortage of farming land, farmers have given up traditional soil protection measures, and erosion has now become a major problem. Matters aren't made any better by the widespread consumption of injera, Ethiopians' staple diet, which has the lowest yield of any grain in the world. Moreover, many Ethiopian Orthodox Christian farmers do not work on the up to 180 church festival days every year. Loans often have to be repaid directly after the harvest period when grain prices are particularly low. Until recently, farmers have not been allowed to buy their own land and have therefore made no effort to improve the quality of their soil. This situation, however, is slowly in the process of changing.

Following a heavy-handed government reaction towards opposition after the 2005 elections, which saw hundreds of deaths, international donors withheld aid of around US$1 billion.

5.2 The aftermath of war in Mangue

The village of Mangue in the highlands of the Cuanza Sul province is still in the process of being rebuilt. During the war most of its 1,350 inhabitants fled and first returned to their shattered village in 2003. They rebuilt their red mud brick huts, thatched the roofs with straw, and slowly began to reclaim the land. Almost the entire population is now dependent upon subsistence farming – with no exception amongst the womenfolk, whereas a mere 1.3% of men earn money in the service and retail trade. Only a few of the people here are able to purchase food like oil and sugar, medicine, and exercise books or learning material for school.

The climate, however, is extremely favourable for farming: two rainy seasons make for excellent conditions. Nonetheless, working the land is extremely strenuous because farmers use hoes to turn over the soil. During the war, all the cattle in Mangue were confiscated. Seed, fertilizer and pesticide are also unaffordable and hardly used at all. The very thought of selling any surplus from harvests is utopian: the next market is several hours walk away and there is no road to get there.

Last year, 37% of Mangue's population went without enough food for a period of between one and three months. A further 17% went hungry for a period of three to five months. On average, men have 2.5 meals a day and women 2.6. During the monitoring phase, children under the age of five were weighed and results showed that 14% of boys and 32% of girls were underweight. The child mortality rate is 7.5%. Furthermore, people in Mangue have anything but a balanced diet: funje, a nutritionally poor maize or manioc paste, is eaten every day alongside dried fish, manioc leaves and beans, when at all available. Bloated stomachs are a typical sign of deficiency symptoms amongst children.

Fortunately the main cause of sickness amongst children – that is, dirty drinking water - is no longer a cause for concern in Mangue. With the support of Welthun-

ANGOLA: Ranked 110 in the Global Hunger Index with 31.5 points (extremely alarming). In the aftermath of 27 years of civil war, Angola has only managed to make minor progress since the 2002 ceasefire. Underweight amongst children has only fallen slightly, while the proportion of undernourished declined from 58% to 38%. In 2004 the child mortality rate was back at the level of 1990 following a period of war in which figures rose drastically to 292 per 1000 live births. Progress in hunger alleviation is not sufficient to reach MDG objectives.
According to estimates made by the World Bank, Angola has a population of 15.9 million, although no one can really be sure so soon after the war. Angola is in a good position to become a wealthy African nation since it is rich in oil and diamonds. Unfortunately, until now only the corrupt elite has profited from this and income has not been used for investment in the country. The water supply, health centres and infrastructure are largely in ruins. Two thirds of the Angolan population live in poverty. Only 40% have access to clean water.
Agriculture is still in the early stages of development following the war. The good news is productivity is on the rise, helped by the favourable climate and lush vegetation in this tropical, south-west African country. It may well soon be possible to start growing 'cash crops' like coffee again. In the days before war, Angola was the world's fourth largest coffee producer.

gerhilfe, locals have built three wells at the village centre and two further wells at the village periphery. The outer wells are also used by neighbouring villages.

Families in Mangue place particular importance on school attendance. Due to decades of war, enrolment in primary school is extremely low: only 5.4% of boys and 2.9% of girls attend school. Although Welthungerhilfe has now repaired and refurbished the village school, this only provides an education for the first two years. A second school is in the process of being built. Those who wish to attend for longer have to go to Amboiva, about 50km away. Pupils stock up as much food as they can, set off to go there, and spend as long as they can in school before their food runs out. Then they come home.

Photo: Lyons/Welthungerhilfe

No one has to worry about dirty drinking water in Mangue anymore.

5.3 | Whoever can, leaves Auhya Pihni

Auhya Pihni lies just 20km from Nicaragua's east coast and has a population of 2,630 people. As elsewhere in the Autónoma del Atlántico region, harvests here are poor, and there is a lack of employment and clean water. Families live together in cramped conditions in raised wooden huts in order to protect themselves from flooding and unwelcome guests like snakes. People here belong to an indigenous section of the population known as Miskito and they have their own language. Almost half the men and a third of the women work in farming. Another important field of work is fishing. Many try their hand in the retail trade or hire themselves out for building work or as unskilled labourers. Many of the men have emigrated to Costa Rica or the USA in search of work.

Compared to Sodo and Mangue, the people in Auhya Pihni are slightly better off: they have an average of 2.9

Meat is only seldom served in Auhya Pinhi.

Photo: Bolesch/Welthungerhilfe

meals a day, and children benefit from school dinners[6]. Nonetheless, more than a third of the population suffered from a lack of food over a three to five months period last year. Another third were affected for a period of between one and three months. 13% of boys under five and 11% of girls were underweight. 7% of children under five died prematurely. Families are unable to obtain a balanced diet: most of the time they only have rice, beans, yucca and bananas, and occasionally a little chicken or pork at their disposal. The lack of vitamins is evident in the reddish tinge in children's hair.

With support from Welthungerhilfe, locals recently repaired eleven wells for drinking water. There is now also a health post, if only an inadequate one. Malaria is a major problem, although most of the time medicine is available and there are at least mosquito nets for children. At the moment only around 43% of boys and 49% of girls go to primary school where 300 children have to share the three classrooms. Lessons take place both in the mornings and evenings to accomodate capacity.

NICARAGUA: Ranked 61 with a GHI value of 13.5 (serious). Nicaragua is slowly recovering from the civil war in the 1980s and the repercussions of the 1998 Hurricane Mitch. The proportion of undernourished and the child mortality rate have slowly been falling since 1990. The country is not on track to achieve its hunger-related MDGs.

After Haiti, Nicaragua is the second poorest country in Latin America. In 2005 almost 80% of its population lived on less than US$2 a day, and around 45% on less than US$1 a day or less. The unemployment rate is estimated at 60% and many people go abroad to look for work. Nicaragua is an agricultural country with little industry. In 2006 the country benefited from several debt relief initiatives. One third of the national budget is currently being contributed by foreign donors. Around 79% of children attend primary school, but only 29% complete it. Many families cannot afford to buy school books and other important goods.

Shimeket Shiferaw, 35, from Sodo:

Shimeket Shiferaw is one of Sodo's success stories in farming. His farmstead is full of teff, wheat, peas and chickpeas. He made so much money with his cows and chickens that he wasn't only able to feed his wife and two children, he's now also employing three young workers who live with his family. Shimeket and his wife attended further schooling. They earn around 400 birr (almost 33 euros) per month, more than most people in Sodo. However, even they went through a period of two months in which they didn't have enough to eat. The Shiferaw family organise their food supplies well: the couple only take two meals a day, whereas the children and workers have three, mostly injera or grain pulp. Shimeket hopes that Sodo's selection as a Millennium Village will soon lead to a more balanced diet in his two meals a day and that he can learn more about farming.

Shimeket Shiferaw with his wife and son.

Jonny Sanders, 26, from Auhya Pihni:

"I used to be young and strong," says Jonny. That was before the accident which robbed him and the sixteen other family members he lives with in a hut on stilts of their most important income. "I've been diving since the age of fourteen," he explains. "I used to sell the seafood I caught to various companies in Nicaragua and abroad. Sometimes I used to earn up to US$220 over a twelve day tour. A lot of money. But then I had an accident. There was a defect in my diving equipment." The 26 year old is now paraplegic. His employer paid for his medical care for a year, but now his family have to provide for him round the clock although they only earn less than US$65 a month. Jonny's main wish is clear: "I don't want my brothers to work as divers."

Jonny Sanders with his family.

Domingas Jamba, 31, from Mangue:

In 2003 Jamba was happy to finally return to her home village of Mangue after years of war. But just after arriving, her husband died before even having set eyes on their third son, Francisco. The two older boys died a short time later. Jamba had to stop attending school in the first grade when she was forced to take flight in face of the war. Later she had to help work the land. Now she hopes to attend night school and finally learn to read and write. She has a field where she grows maize, beans, sweet potatoes and manioc, but it's not enough to live off and Francisco is often ill. Jamba tops up her income by working two to three days a week on other people's fields. This helps her afford basic things like cooking oil, clothes or medicine. She's happy that Francisco is now three and is finally old enough to help her. One of his tasks is to carry firewood.

Domingas Jamba with her son, Francisco.

Photos: Wieneke/Welthungerhilfe

6. | Millennium Development Goals "from below" until 2010

6 .1 | Key aims: Increased harvests, improved healthcare and a better infrastructure

Whether Sodo, Mangue or Auhya Pihni, all three Millennium Villages are difficult to reach via road and are situated a long way from urban areas. This means they have practically no access to essential infrastructure. Beyond subsistence farming - which only generates modest harvests anyway - there are practically no alternative ways of earning money. Hunger is therefore normal for most people for at least some of the time. Behind these problems is a lack of educational opportunity and health posts.

During workshops with villagers in Sodo, Mangue and Auhya Pihni it soon became apparent that people had very clear ideas on how to develop their village. The following is a list of priorities they hope to achieve by 2010 in areas which relate directly to the reduction of hunger, poverty and the child mortality rate:

Subsistence farming doesn't generate enough food to live off adequately. In Sodo, therefore, villagers want to create other sources of income. At the same time they intend to improve their farming methods and sell any surplus from harvests. The male and female farmers in Mangue in Angola share this wish. Fertilizer is scarce; they need irrigation systems and above all draught animals to work the land because they lost everything in the war. The situation is different in Auhya Pihni in Nicaragua. Here locals want to use machines to work the land, but there are no bridges or streets for transport at the moment, and the heavy clay soil is not ideal for machinery. Better seed is also one of their priorities.

To put an end to the periods of hunger experienced by many families throughout the year, villagers in Sodo want to have access to loans and fertilizer. Equipping health posts more adequately should help raise the standard of living, too. Farmers in Auhya Pihni are also interested in small loans in order to set up a co-operative and invest in their land. With better seed they hope to yield better harvests which they can then sell. In Mangue, locals also want to increase their harvests, though they hope to do this by using draught animals. Undernutrition should then be a thing of the past.

The inhabitants of Sodo are certain that providing access to clean drinking water, improving health care and introducing family planning will all help reduce the child mortality rate. In Mangue, on the other hand, people are banking on a vaccine programme and a well equipped health post with the possibility of carrying

Photo: Lyons/Welthungerhilfe

A lack of draught animals means working the land by hand.

out medical tests which, until now, have been unheard of in the vicinity. Priorities are similar in Auhya Pihni: access to medicine, advice in caring for infants, and sickness transport are the main concerns for people in this Nicaraguan Millennium Village.

Answers differ as to which external influences are most important for the development of the village communities. In Ethiopia, people in Sodo believe good governance, functioning agricultural co-operatives and improved nationwide communications would best help them. In Angola, surfaced roads take precedence with the sale of food surpluses in mind. For people in Mangue, access to small loans as well as a modernisation of farming methods away from the old days of using hoes is important. In the former matter they regard their government as having failed. Most people in the hamlets around Auhya Pihni are also tired of being cut off from the outside world. They need roads to access regional markets. Another priority for the Nicaraguan villagers is improved educational opportunities, in particular the possibility to receive some form of scholarships for schooling.

6.2 Prospects: Empowerment alongside improving daily life

In many Millennium Villages there is a spirit of new optimism, but one thing remains clear: without setting up workable structures such as the on-going consultancy offered to self-help groups and local partner organisations, projects in these areas will not be sustainable.

In Sodo people are planting the first tree seedlings to stop erosion. A tree nursery for fruit and forage plants is also at the planning stage. Instead of relying on teff, a grain known as triticale (a cross between wheat and rye which is highly resistant to disease) is being cultivated. New, more nutritional types of chickpeas are available for the next sowing period. The cultivation of manioc and sweet potatoes, both plants which are less dependent on rainfall, is to be extended. Additionally, at least two dozen farmers are being trained in bee-keeping methods and have received beehives from Welthungerhilfe.

Creating seed banks should help farmers avoid using up their seeds during food shortages in the future. A

committee is currently being formed out of 20 groups, each consisting of ten members. In the long term, these committees should buy farmers' produce, store them in grain silos, and sell them when market prices are attractive.

To combat malnutrition, colleagues at the local partner organisation, Community Development Service Ethiopia, are informing women about how to provide their families with a balanced diet – in the hope they will pass on their new found knowledge to other women. Malaria is particularly a problem for children. Thanks to an initiative financed by the WHO, 92% of children in Sodo now have a mosquito net treated with insecticide. For their part, Welthungerhilfe have introduced the cultivation of artemisia or wormwood. Tea brewed with the plant's leaves eases malaria complaints.

In Mangue Welthungerhilfe financed the purchase of the first twenty eagerly awaited draught animals, especially as locals were in no position to pay the US$1,000 it costs for two animals plus harness. Twenty more draught animals are on their way. As opposed to normal practice, a harnessed team in Mangue consists of an ox and a cow so that people can breed their own animals in the future. In 2006 Welthungerhilfe also distributed pineapple seedlings and vegetable seed as well as running information courses regarding a healthier diet. Many farmers are already growing beans in order to raise their protein levels. However, if the food situation becomes critical, then these beans will be the first product to be sold. People here aren't over hunger yet.

In addition, Welthungerhilfe has financed the construction of two wells and an overhaul of the health post. Two nurses and a social worker are now employed there. Previous to this, villagers had to travel 45 km to get to the next health centre. Mangue's health post doesn't only provide a direct source of medicine and condoms, it also runs information courses on issues such as Aids, women's health, and hygiene. Children are vaccinated here, too. At the moment the health post doesn't have the facility to store larger quantities of medicine, despite the fact that it's used by 5,500 people from the surrounding area. There is also a lack of mosquito nets in Mangue – hardly a single household has them; however Welthungerhilfe is currently introducing the cultivation of artemisia.

In the Nicaraguan village of Auhya Pinhi farmers have received superior rice and bean seed to increase their harvest. They hope later to be able to sell any surplus. 77 small grain silos have been built for grain storage. Welthungerhilfe is giving villagers advice about the cultivation of new food such as citrus fruits. Sheep breeding and a rice hulling machine should bring in additional income.

Clean water has also been a major problem in the wider municipality of Auhya Pihni. Eleven deep wells have now been repaired and they will no longer dry up during arid periods. More such wells are to follow. There are plans to expand the school by two rooms – a small step in the fight against the startling illiteracy rate in this region which – at 44 % – is considerably higher than elsewhere in Nicaragua.

Daily life has already changed for the better in these Millennium Villages. However, alongside these improvements, the people themselves need to be empowered:

An absence of wells means women have to walk for miles every day to collect water.

Hunger and poverty in comparison

	Sodo/ Ethiopia	Mangue/ Angola	Auhya Pihni/ Nicaragua	Germany
Undernourished	Men 2.2 meals per day Women 2.1 meals per day	Men 2.5 meals per day Women 2.6 meals per day	Men/Frauen 2.9 meals per day	none
Prevalence of underweight in children under five	Boys 18 % Girls 25 %	Boys 14 % Girls 32 %	Boys 13 % Girls 11 %	none
Under-five mortality rate	2.5 %	7.5 %	7 %	0.5 %
Income	8 US$/per month (97% live on less than 1 US$ a day/average 23 US-cents)	15 US$/per month (91% live on less than 1 US$ a day/average 37 US-cents)	18,50 US$/per month (88% live on less than 1US$ a day/average 26 US-cents)	Gross monthly income as agricultural worker 1,548 Euro/ per month[7]

the poor have to be able to voice their needs, organise themselves and stand up for their rights. The data collected on a regular basis in the monitoring scheme is an important part of this, and is also made available to the local municipal administration. Partner organisations on the ground are key players in this process. Although colleagues such as those in our case studies in Ethiopia and Nicaragua are experienced in working with self-help groups, they are less knowledgeable when it comes to networking and lobby work. This is where Welthungerhilfe's consultancy plays a crucial role. In Mozambique, the partner organisation of the Millennium Village has already worked together with various other local organisations to file a shadow report on the poverty situation in the area and has called on the government for accountability. In Bolivia, the partner organisation of a Millennium Village is currently drafting a report on the governmental implementation of the right to food. Next year there are going to be several opportunities for international organisations like Welthungerhilfe and other organisations in the South to tackle this very issue and ensure that their concrete, hands-on experience contributes to achieving a fairer global environment.

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1 UN (2005), "Halving Hunger: it can be done", New York.

2 For further information see www.welthungerhilfe.de

3 This approach is based on the philosophy that people are able to take full responsibility for their living situation, provided they can rely on the necessary social structures. (Amartya Sen, 1998: Freedom of Choice. Concept and Content. European Economic Review).

4 Welthungerhilfe's MDG monitoring scheme, developed by the Coordinator of Sectoral Projects, Florian Wieneke, consists of two measures: an annual survey by means of a household questionnaire, recording development in the Millennium Villages on the basis of official UN indicators, as well as a Participatory Impact Assessment, which relates qualitative information on nine key issues related to the MDGs (poverty, hunger, education, gender, child mortality, maternal health, disease, environment and natural resources, as well as external provisions for development) with the respective project activities. The MDG monitoring scheme serves as a transparent and consistent account of Welthungerhilfe's contribution to the fulfilment of the MDGs on a village level. For further information see appendix.

5 All calculations are based on a representative random sample selection of households of each village. For reasons of clarity, results were projected onto the households of the whole village without undergoing an estimation procedure and are based on household level and on the persons in the household.

6 The World Food Programme pays for meals in schools.

7 See information provided by the German Federal Statistical Office (dated 2007-2-16) at www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Presse/pm/2007/02/PD07__063__62311.psml

Undernourishment amongst children often results in long-term damage

7. | Community-based management of acute malnutrition

by Howard Dalzell, Steve Collins, Lynnda Kiess and Tom Arnold

7.1 | Hunger Crises Triggered Innovative Research Approach

This report shows that interventions to tackle hunger must be tailored to the specific context within which it occurs. This chapter describes an innovative approach to dealing with severe acute malnutrition, pioneered by Valid International and Concern Worldwide, which has recently been adopted by the UN. It outlines what was involved in transforming an idea about a better way to deal with acute malnutrition, which had to be researched and evaluated, into a change in international nutrition policy.

An estimated 5.5 million children suffer from acute malnutrition, the most severe form of hunger. According to the UN, severe acute malnutrition is associated with an estimated 1-2 million child deaths each year.[1]

The innovative approach described below is community-based management of acute malnutrition, formerly known as Community-based Therapeutic Care (CTC). The traditional approach to tackling acute malnutrition revolved around the use of Therapeutic Feeding Centres (TFCs), large, in-patient centres where care is provided by a cadre of well-qualified medical staff. Treatment of severe acute malnutrition in a TFC requires an average of 30 days of in-patient 24-hour care. Cost considerations dictate that the number of TFCs is small and often far away from those affected by acute malnutrition.

The severe food crisis in Sudan during the late 1990s led Valid International to the conclusion that large numbers of children needing nutrition support could not be reached through TFCs. Based on this, and drawing on many years experience of working in famine and food crisis situations, they developed the CTC concept – described in more detail below – which places clinical treatment of acute malnutrition into a wider public health intervention.[2]

In 2001, Valid International approached Concern Worldwide, who agreed to be a partner in developing the CTC concept, by providing finance and field sites to test the approach. Concern in turn approached Irish Aid, who agreed to co-finance a pilot project. Concern and Valid agreed a three year action research programme with Ethiopia, South Sudan and Malawi. The evidence from this programme showed that recovery from malnutrition, default and mortality rates exceeded the internationally accepted minimum standards and many more children were reached and treated.

The evidence was sufficiently persuasive that an increasing number of governments, UN agencies and international non-governmental organisations (INGOs) have adopted CTC as their preferred approach for tackling acute malnutrition. In May 2007, the main UN agencies dealing with malnutrition and its consequences – the World Health Organisation (WHO), the World Food Programme (WFP), the United Nations Standing Committee on Nutrition and the United Nations Children Fund (UNICEF) – issued a Joint Statement 'Community-Based Management of Severe Acute Malnutrition'- in which they endorse the CTC approach, commit to implementing it themselves and recommend its adoption by governments within their national health systems.[3]

Photo: Dent/Concern

This chapter sets out:

- The essential elements in Community-based Therapeutic Care, CTC
- The evidence of its effectiveness, in terms of reduced child mortality and improved child health
- The key factors, the timeline involved and the lessons learned in moving from a research idea to changing international policy
- The challenges and next steps in scaling up this innovation to make a bigger impact on acute malnutrition and equally important, to prevent children from becoming malnourished in the first place.

7.2 | More Flexibility for Community-based Centres

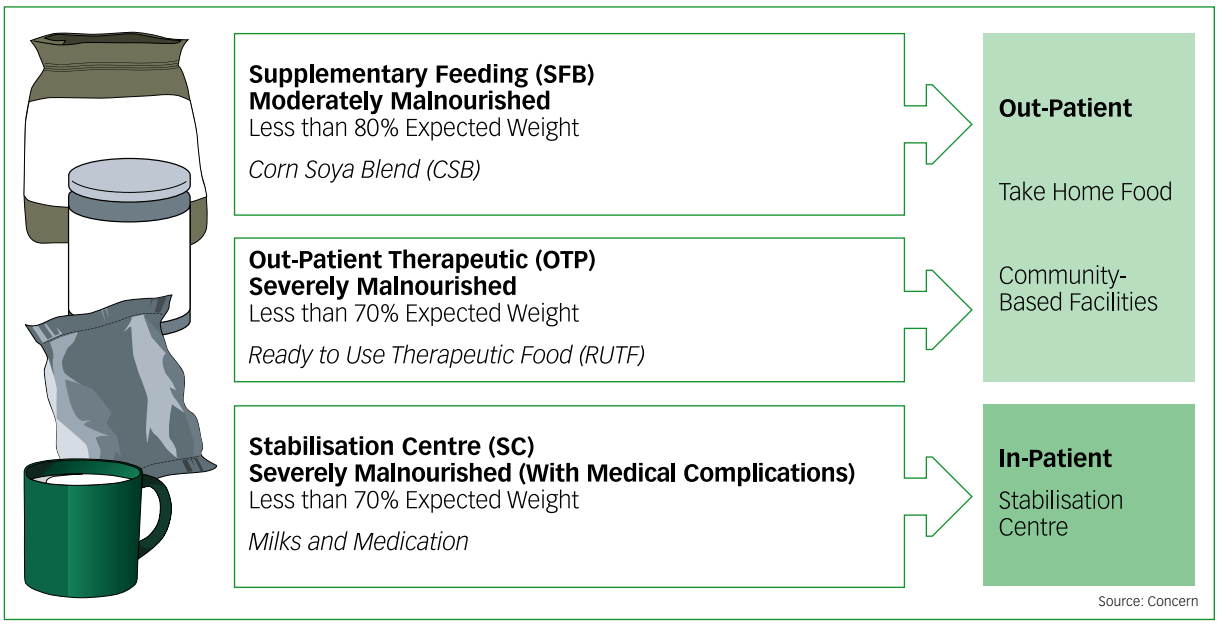
By comparison to the traditional approach to acute malnutrition involving TFCs, the key focus of the CTC approach is based on treating malnutrition within a public health framework. CTC mobilizes communities so that cases of acute malnutrition present early and supports local health services to rapidly and effectively treat those with acute malnutrition without extensive stays in hospitals for most children. The use of a specially formulated food called Ready to Use Therapeutic Food (RUTF) is an important component of the approach.

The CTC approach consists of a triage of care, as illustrated in the following figures. The severely malnourished not suffering from medical complications or illness, which in most circumstances is the majority, can enter directly into the outpatient programme where they will receive RUTF to take home. Those with complications will start in the stabilisation centres offering medical treatment and move to the out-patient component when any illness has been addressed. During more profound food shortages, supplementary feeding is provided for the moderately malnourished as a safety net and preventative measure. This is a take home package of Corn Soya Blend (CSB) or a similar product.

Out-patient Therapeutic Programme (OTP) and Supplementary Feeding Programme (SFP): These decentralised distribution sites utilise local health facility buildings and are identified both with the health authority and other community leaders. Selection of sites considers the demographics and geography to ensure the widest coverage. These sites can also include public buildings, temporary points – even setting up under a tree. People return once a week to those sites to receive a weekly ration of RUTF or CSB depending on whether they are severely or moderately malnourished.

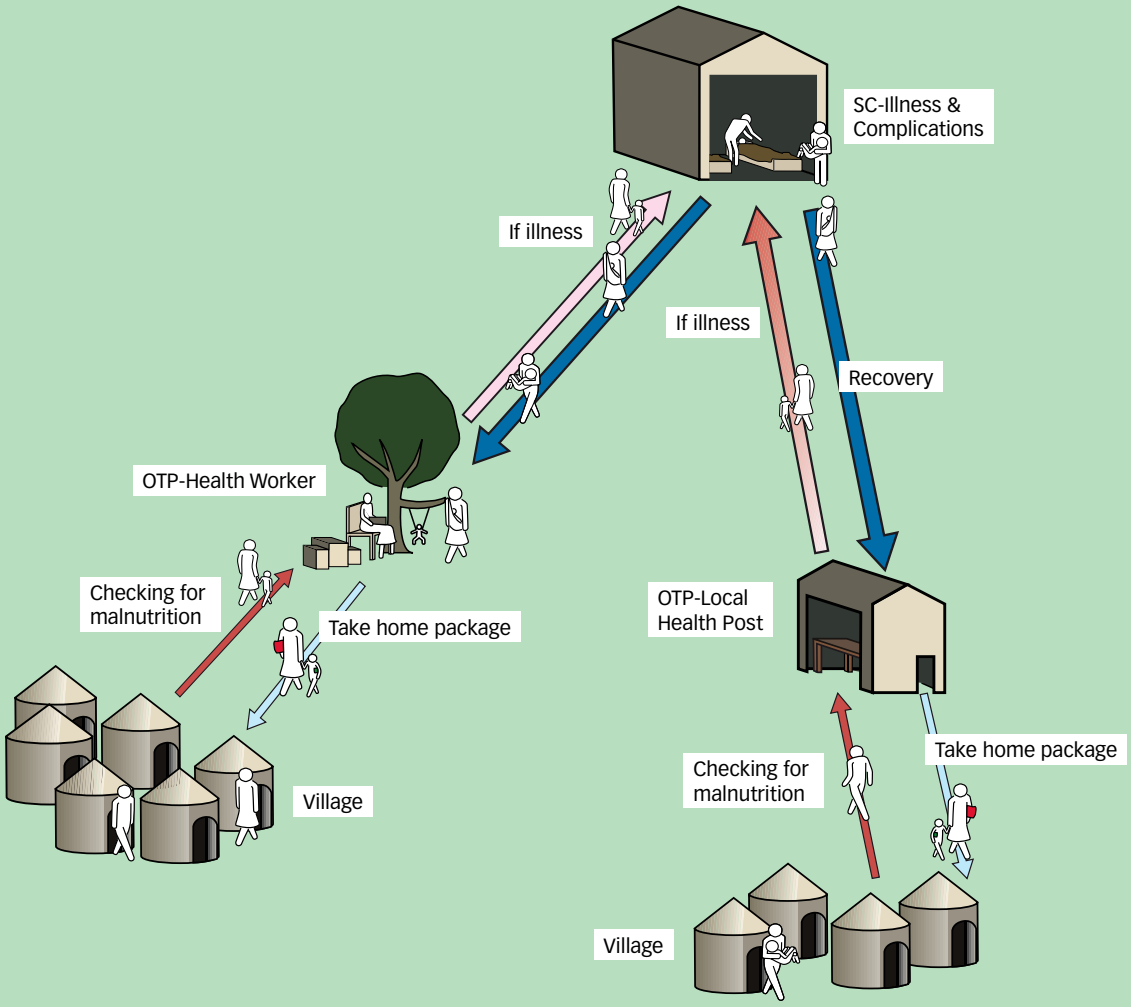
Stabilisation Centres (SC): Where possible these are set up in local health structures such as clinics or hospitals that already operate with the target area. Their role is to treat infections, correct specific nutrition deficiencies

Triage of Care



Source: Concern

Movement within the "Triage of Care"



OTP sites have been established in various settings to ensure greater proximity to the community. Here we see just two examples where firstly a health worker has simply set-up under a tree and secondly, an existing 'local health post' is utilised. The aim is to ensure that communities can more easily access the provision of take-home packages as well as more rapid referral to the stabilisation centre if illness is seen. The more numerous the OTP sites, the greater coverage the programme can provide.

Source: Concern

and begin feeding (e.g. when signs of major infection disappear and patients recover enough to regain their appetite – this can take between 3-7 days).

Community mobilisation draws upon local community health workers and other volunteers to raise awareness of the objectives, location and timing of the programme. This is a vital component that should be rapidly employed. This network is also used to educate mothers and carers about the causes of malnutrition and ill health.

7.3 | From Research Idea to International Policy (CTC)

Developing the evidence base was of crucial importance in a process aiming at changing policy. The field sites chosen for the Valid/Concern research programme were Ethiopia, South Sudan and Malawi.

The CTC concept was developed by field practitioners who had concluded, based on their experience, that severe acute malnutrition was largely a food issue rather than a medical one. The CTC research programme applied rigorous standards of design and data analysis. Standard data collection and reporting tools were developed and used, allowing the researchers to produce similar data across the different sites and present a synthesised database of 24,000 cases. In addition to looking at the impact and effectiveness of the approach, retrospective cost effectiveness studies were undertaken to measure the cost per life saved.

At the same time, other researchers conducted studies to measure the efficacy of both commercial and locally produced ready to use therapeutic foods (RUTF), in comparison with therapeutic milk. These studies researched other aspects of the CTC approach – timeliness, coverage, decentralisation, home treatment and community/caregiver acceptance.[4]

The researchers found consistent results across the different research settings, thus helping to increase the credibility and allowing findings to be generalised to different situations (e.g., political conflict, drought, development). Lessons learned across these different contexts helped the researchers to refine protocols for treatment and improve reporting formats.

The results from the 2002-2005 research programme, which have been further supported by evidence in subsequent years, demonstrated that the CTC approach of combining in and out-patient treatment could meet the SPHERE[5] standards set for humanitarian response and certainly out-performed TFCs in coverage – 80 % compared to 10-20 % delivered in TFCs.

A challenge in telling the CTC story is to identify the important factors which brought CTC from a research idea to changing international nutrition policy. Two key factors are discussed below:

- the timeliness of CTC, in light of a number of elements in the external environment,
- the engagement with key stakeholders – beneficiaries, implementers and the policy community – which occurred at all stages of the process.

The key events in gathering, sharing and using evidence of CTC to promote policy change are outlined below the timeline. These are the major events, in terms of dissemination of research results, building networks of support, publications and formal meetings. The key events in developing the field research programme are specified above the line. The conjunction of the field research and the high level advocacy resulted in the policy change.

7.4 | CTC – The Right Idea at the Right Time

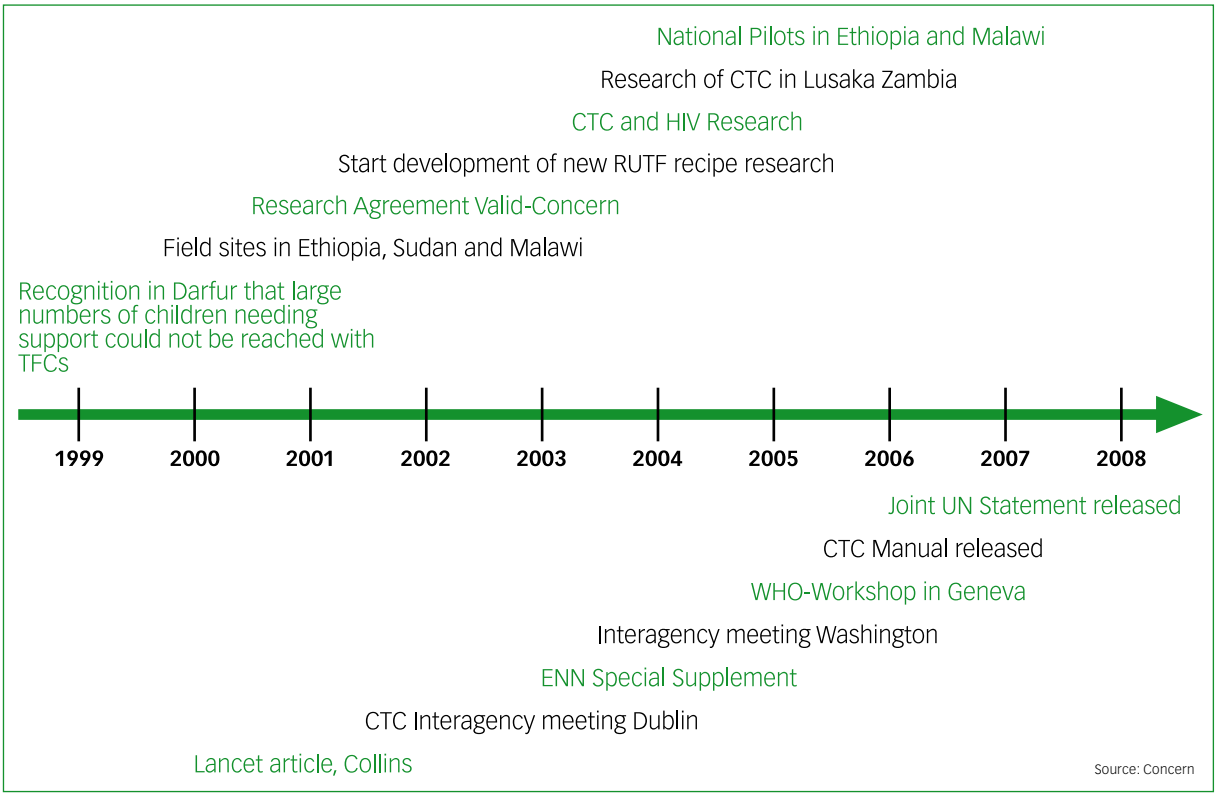
A number of factors which applied in recent years supported the acceptance of the CTC initiative.

There was a general feeling among the emergency nutrition community that TFCs and Supplementary Feeding Programmes (SFPs) were not working as well as expected. Thus, although the CTC approach meant significant changes to the core principles of existing policy and programmes for the management of acute malnutrition, there was a willingness to try something new.

CTC was developed over a period when a number of severe emergencies occurred (Darfur conflict, Ethiopia drought, Southern Africa drought, Niger food crisis, Asian Tsunami, Pakistan earthquake). While a nutrition response was not required in all of these crises, there was raised awareness of the need for effective humanitarian interventions. Several of these crises produced large numbers of malnourished children, which made it very obvious that traditional TFCs could not effectively reach the vast majority of affected children. Thus the urgency associated with saving lives in an emergency helped in accelerating the acceptance by implementers of the changes presented by the CTC approach.

The research and dissemination process for CTC occurred during a period when two other issues – child survival and HIV/AIDS – were moving up the policy priority agenda. Malnutrition is a leading contributor to child mortality and is the leading risk factor for illness. Health professionals saw the success of CTC as an opportunity to advocate for better integration of health and nutrition interventions within the child health agenda. On the HIV/AIDS front, the increasing focus on the link between HIV and malnutrition and the need for appropriate nutritional responses also increased interest in investigating a CTC approach.

Timeline of key events in generating, sharing and using evidence of CTC for policy change.



7.5 | Engagement with Key Stakeholders

From the outset of the CTC project, there was a commitment to engage with key stakeholders, particularly beneficiaries, implementers of CTC and the policy community.

The CTC approach was widely accepted by caregivers, households, communities and local health care workers in the countries where the research was conducted. Clearly RUTF helped children gain weight, but other elements of the approach – measures taken to improve access such as the shorter travel distance to CTC access points, the development of clear messages in local languages and using local terms to inform people about malnutrition and about the CTC programme, facilitating the sense of ownership amongst caregivers towards the treatment and rehabilitation of their children, and the value of early identification of cases of severe malnutrition - were all appreciated by the communities where the approach was tested. This gave considerable credence to the CTC approach.

As the initial users of the evidence, the international NGOs working in emergencies became important strategic partners to introduce and support the new approach. Concern Worldwide, Tearfund, Save UK, Save US, Care and Oxfam were all engaged in the early pilot work of CTC. By engaging INGOs in the implementation of the pilot studies and in sharing experiences with the new approach, the INGO community were progressively convinced to change how they managed severe malnutrition in their programmes.

Information-sharing organisations that reached INGOs, such as the Emergency Nutrition Network (ENN) and the Humanitarian Practice Network (HPN), were engaged by sponsoring special supplements which focused on results, tools and experiences. These networks then became strong voices for the new approach. Counterparts from Ministries of Health were invited to share their experiences with treatment of acute malnutrition and to provide insight on integration of CTC into health systems in developing countries. Their engagement strengthened the adoption of CTC at national level.

Engagement with the policy community occurred through networks at different levels and across different disciplines. The CTC approach crossed a number of disciplines (agriculture and markets, social sciences including anthropology, food technology, health) as well as different contexts (emergency, post emergency or transition, development). For example, local production of RUTF was encouraged from the outset and links with agriculture, food technology and markets for production of ingredients for RUTF were explored.

A series of workshops were organised with partners and stakeholders to share experiences, results, and challenges. A workshop, organised by Concern in Dublin in October 2003, set the stage for routine and transparent sharing results for the research. Save-US organised a follow up meeting in Washington in February 2005.

Communities are able to treat a greater number of undernourished

Treatment of severely malnourished in their own communities is more effective and cost-saving. Research results evidences that

- **health affected persons can live at home**, saving extensive stays of up to 30 days in therapeutic feeding centres, as was the case before
- the **treatment can be integrated into local health services**
- communities can **reach 80% of the malnourished**, feeding centres only 10 to 20%.

Oral communication of research results were shared at international conferences. Special meetings and presentations were made with key decision-makers. Practical tools for international NGOs and Ministries of Health for community based management of acute malnutrition, including technical notes, a field manual, and training materials were developed.

These various fora contributed to further refinement and broad ownership of the approach. Combined with solid evidence on the effectiveness of CTC, it ultimately led to the consensus for community-based management of acute malnutrition, reached in November 2005 at a workshop convened by the World Health Organisation, and the Joint Statement by the UN Bodies in June 2007.

7.6 | Challenges and Next Steps

Given the broad acceptance that community-based management of severe acute malnutrition, as reflected in the UN Joint Statement, is the preferred approach to tackling this problem, the challenge now is to find ways of scaling up the approach. A number of countries (Malawi, Ethiopia, Kenya) are in the process of, or are committed to, building this approach into their public health systems. Other countries have commenced pilot projects. There is an increased demand from Ministries of Health to plan and implement community based management of acute malnutrition. The UN Joint Statement will inevitably lead to a further increase in demand.

As scale–up occurs in more countries, operational research will be essential to maintain the quality of CTC and identify and solve barriers to its implementation. These barriers may include reliable availability of low cost RUTF, weak health infrastructure and overstretched health staff at the service delivery, community and management levels.

A further challenge is to broaden the application of community-based management of severe malnutrition beyond emergencies. Most deaths of children less than 5 years occur not during humanitarian crises or acute emergencies but in countries which are relatively stable. To address high levels of acute malnutrition in the non-emergency situation requires integration of the community-based approach into routine health care, including programmes for child health, malaria and HIV/AIDS.

The community-based approach can also play a role in preventing acute malnutrition. There is a growing recognition that emergency and development contexts are not independent and that chronic poverty is often the underlining factor which can turn an external shock, such as a drought, into a full scale humanitarian crisis (e.g. the food crisis in Niger in 2005). Addressing acute malnutrition in the development context is one way to mitigate and prevent the nutritional impact of crises. For those countries at greater risk of a crisis, a plan for rapid expansion of CTC should be part of a country's disaster preparedness plan.

In summary, the development of CTC and its adoption by the international community as the preferred approach to tackle severe acute malnutrition is a signifi-

Photos: Concern

Severely malnourished children are attended to in community-based centres. There, they receive also Ready-to-Use Therapeutic Food.

cant innovation at a policy and practice level. If adopted widely and scaled up, it has the potential to save many thousands of lives. The community-based principles underlying CTC have relevance beyond emergency situations and need to be integrated into national health systems, as part of an integrated approach to dealing with both acute and chronic malnutrition.

The approaches to programme design, evidence gathering, analysis of data, engagement with key stakeholders and policy advocacy have all been key factors in transforming a research idea into a change in international nutrition policy. Lessons from this process need to be documented, shared and learned from – so that we develop other innovative approaches to defeat hunger and its terrible consequences.

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Dr Steve Collins is Managing Director at Valid International.

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5 For further information see www.sphereproject.org.

Summary

GHI ranking: Investment in education, health, and the economy has positive effects, Africa lags behind

Libya, Argentina, Lithuania, Romania, and Chile occupy the top five positions in the GHI 2007; Latvia, Ukraine, Estonia, Cuba, and Uruguay follow closely behind. All of these countries are economically developed and have relatively well-functioning education and health care systems. At the bottom of the list are Eritrea, Burundi, and the Democratic Republic of the Congo (formerly Zaire), followed by other Sub-Saharan African countries. Underdevelopment, wars, and bad governance are largely responsible for these countries' high GHI scores. The already-difficult situation in some countries is exacerbated by repeated droughts and the rapid spread of AIDS. Poverty is the main cause of hunger and undernutrition: the poor cannot afford enough food and are unable to provide themselves with a balanced diet. Poor farmers are not in a position to produce food of sufficient quantity and quality for their subsistence.

Hunger hot spots: Discrimination against women exacerbates malnutrition

The hot spots of hunger remain Sub-Saharan Africa, where extreme poverty is most pronounced, and South Asia. Countries such as India, Nepal, Bangladesh, and Pakistan have a higher proportion of the population meeting their calorie requirements and a lower child mortality rate than Sub-Saharan Africa. Because of cultural practices and the low status women hold in society in the region, however, South Asia has the highest child malnutrition rate in the world. In some parts of India, for instance, male family members eat first and women make do with the leftovers. Children of undernourished and anaemic mothers have a higher risk of being born underweight. More than half of all children with low birth weight are born in South Asia. Forty percent of the world's underweight children under five live in India alone.

Taking stock of the MDG midpoint: Progress in Latin America, setbacks in conflict zones

The GHI progress indicator allows us to evaluate which countries and regions are on track in the fight against hunger, that is, with regard to meeting the hunger-related MDG targets by 2015. About one-third of the 91 countries whose GHI-P was calculated should be able to reach their GHI target scores by 2015 if present positive trends continue. Cuba tops that list, followed by other Latin American countries, Middle Eastern states, and countries in North Africa. (The transition countries in Eastern Europe and Central Asia were not included here because of a lack of data for the MDG base year of 1990.)

More than another third of the countries have also experienced improvements, but their efforts until now are not sufficient. In nine countries, seven of which are in Sub-Saharan Africa, the situation is stagnating. Nearly a fifth of the countries have seen setbacks—above all, the last two countries in the GHI ranking, Burundi and the Democratic Republic of the Congo, both countries with a very precarious security situation. Liberia also continues to suffer the consequences of a long-standing civil war, and Swaziland is particularly hard hit by the AIDS epidemic. North Korea, an isolationist country with economic mismanagement and high military expenditures, also falls into this group.

Comparing regions

Africa predominantly shows insufficient rates of progress. Only a few countries are on track, such as Mozambique, which is engaging in successful reconstruction after decades of civil war, and Ghana, which has benefited from a stable political climate. Yet all four countries at the bottom of the GHI-P ranking (Liberia, Swaziland, Burundi, and the Democratic Republic of the Congo) are located in Sub-Saharan Africa.

In Asia, positive trends prevail as measured by the GHI-P: even those countries in South Asia with high undernutrition are making progress. That progress, however, is not sufficient to be on track to reach the 2015 target. High economic growth in many countries—particularly China and India—is a driving force behind this positive development together with investments in basic social services. However, improvements in certain Asian countries are not in proportion to the economic boom: the poorest social stratum benefits much less than the wealthier section of the population. Here specific measures to eradicate malnutrition—particularly among children—are called for.

Tools of concrete hunger alleviation: Community-based Therapeutic Care and the Millennium Villages Project

On the basis of their experience with food crises in South Sudan, Ethiopia and Malawi, scientists and international experts in the field of development co-operation – including the relief agency Concern – have developed a new method to treat severely malnourished people. This is an efficient and low cost method since treatment takes place within the community and not, as before, in special feeding centres. Whereas before, only 10 to 20% of the affected population received treatment, CTC can reach 80% of those in need because it can be carried out by local health services and patients no longer have to spend up to 30 days away from home. This new approach has been generally accepted by the World Health Organisation since 2005 and at all UN levels since 2007, and should be increasingly implemented in the future.

Chronic hunger is widespread in rural areas. Three in four poor people live in the countryside. From 2006 to 2010, Deutsche Welthungerhilfe is carrying out a pilot scheme known as the Millennium Villages Project. In 15 villages throughout the world, MDGs are defined in dialogue with the local population and concrete projects are implemented in order to achieve these goals. Annual monitoring is carried out to evaluate progress and make adjustments where necessary. In the three case studies in Angola, Ethiopia and Nicaragua 88 to 97% of the population lives on less than 37 US cents a day; the child mortality rate and underweight amongst children are also high. Specific projects focus on income-generation in the agricultural sector – as well as boosting harvests –, health consultation and the development of infrastructure. Self-help groups receive support and local partner organisations act as consulting bodies. Ultimately, local partner organisations should be in a position to use their know-how to call for accountability from their respective governments and act as an advocate on behalf of the hungry in their country.

Appendix

A | Data sources and calculation of the GHI and the GHI progress indicator

The calculation of Global Hunger Index 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 used for the index. The first column indicates the reference year of the GHI and the second column specifies the respective number of countries for which the index can be calculated.

Database for the Global Hunger Index (GHI)

GHI	Number of countries in the GHI	Index components		
		Indicators	Reference years	Data sources
1990	98	• Percentage of undernourished in the population [1]	1990-1992 [2]	FAO (2006) and author's estimates
		• Prevalence of underweight in children under five	1988-1992 [3]	WHO 2006, [4] UN ACC/SCN (1993), and author's estimates
		• Under-five mortality	1990	UNICEF (2006)
2007	118	• Percentage of undernourished in the population [1]	2001-2003 [2]	FAO (2006) and author's estimates
		• Prevalence of underweight in children under five	2000-2005 [5]	WHO (2006), [4] various DHS reports, [6] and author's estimates
		• Under-five mortality	2004	UNICEF (2006)

Notes: [1] Proportion of the population with calorie deficiency. [2] Average over a three-year period. [3] Data collected from the year closest to 1990; where data for both 1988 and 1992, or both 1989 and 1991, were available, the average was used. Estimates from UN ACC/SCN (1993) and the author's estimates are for 1990. [4] The methodology applied for the WHO Global Database on Child Growth and Malnutrition is described in de Onis and Blössner (2003). [5] The most recent data collected in this period; the author's estimates are for 2004. [6] See http://www.measuredhs.com for Demographic and Health Survey (DHS) reports.

The Global Hunger Index is calculated as follows:

(1) GHI = (PUN + CUW + CM)/3

where 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 %)

All three index components are expressed in percentages and weighted equally. Higher GHI scores 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 0 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 the GHI progress indicator (GHI-P) is carried out in several stages. Initially a target score is established for the year 2015 based on the GHI components from 1990. The target score for each GHI component results from the Millennium Development Goals (MDGs), which set clearly defined objectives to be achieved over the period 1990 to 2015 (from the base year to the target year). These hunger-related objectives are to halve the proportion of hungry people (based on indicators defined by the United Nations—that is, the proportion of undernourished in the population and the proportion of children under five who are underweight)[1] and to reduce child mortality by two-thirds (the under-five mortality rate is the MDG indicator selected in this case). The target scores for all three indicators are added together and divided by three, following the formula for the GHI:

(2) GHI target score for 2015 = ((PUN 1990-1992)/2 + (CUW 1990)/2 + (CM 1990)/3)/3

The next stage involves calculating the reduction of the GHI 1990 required to achieve the MDGs, as well as any change that has already taken place in the GHI.

(3) targeted reduction of the GHI = GHI target score for 2015 – GHI 1990
(4) actual change in the GHI = GHI 2007 (MDG limit) – GHI 1990

The average time interval between the data used for the GHI 1990 and the GHI 2007 (data from 2000–2005) is about 12.5 years. Thus, the GHI 2007 approximately represents the midpoint of the period set for achieving the MDGs. There are cases where an index component has already been reduced by more than the targeted decline specified in the respective MDG. The GHI 2007 (MDG limit, as mentioned in formula 4) takes this into account by using the target score of the index component for 2015 instead of the actual figure achieved in the reference period of the GHI 2007 in such cases.[2] The next stage involves calculating the GHI progress indicator following a method developed by Gentilini and Webb (2006). This involves placing targeted reduction and actual change in the GHI in relation to each other:

(5) GHI-P = actual change in the GHI/targeted reduction of the GHI by 2015

If the actual change in the GHI matches the targeted reduction for 2015 exactly, the result is a score of 1 on the GHI-P. This indicates that the MDGs for all three index components have already been achieved. A score of 0.5 indicates a decline in the index at the MDG midpoint, which corresponds to a steady reduction of the GHI in line with the MDG targets for the 1990–2015 period. Countries with a GHI-P score of 0.5 or above are therefore on track to achieve their 2015 GHI target score. If the index has remained unchanged since 1990 the GHI-P is zero. Negative GHI-P scores result from a rise instead of decline in the index, indicating a deterioration of the situation in the country in question.

[1] The years 1990–1992 serve as the official MDG base period for the proportion of undernourished. If data on the proportion of children who are underweight are not available for the year 1990 (see the table about the data sources on the previous page), this is taken into consideration by adjusting the target score appropriately (see Wiesmann 2007 for further details). The targeted reduction is therefore somewhat higher than the exact halving of the proportion of underweight children if the data are from 1988 or 1989, and somewhat lower if they are from 1991 or 1992.

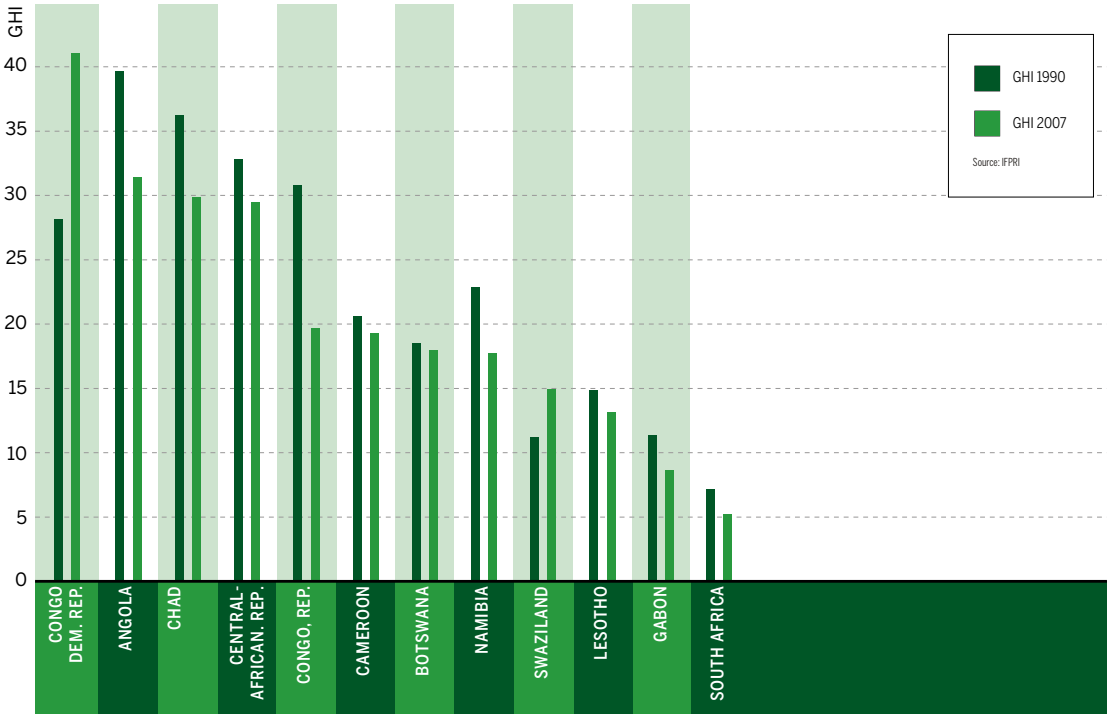
[2] Otherwise the GHI-P could indicate that the 2015 objective had already been achieved, although this might not be the case for all three index components. In this way, a reduction beyond the MDGs in one of its components does not compensate for a lack of progress in the other two.

B | GHI country trends by subregions

When looking at GHI scores for entire regions, it is easy to overlook disparities within subregions and between individual countries. Because pockets of hunger and poverty can persist especially in countries with large

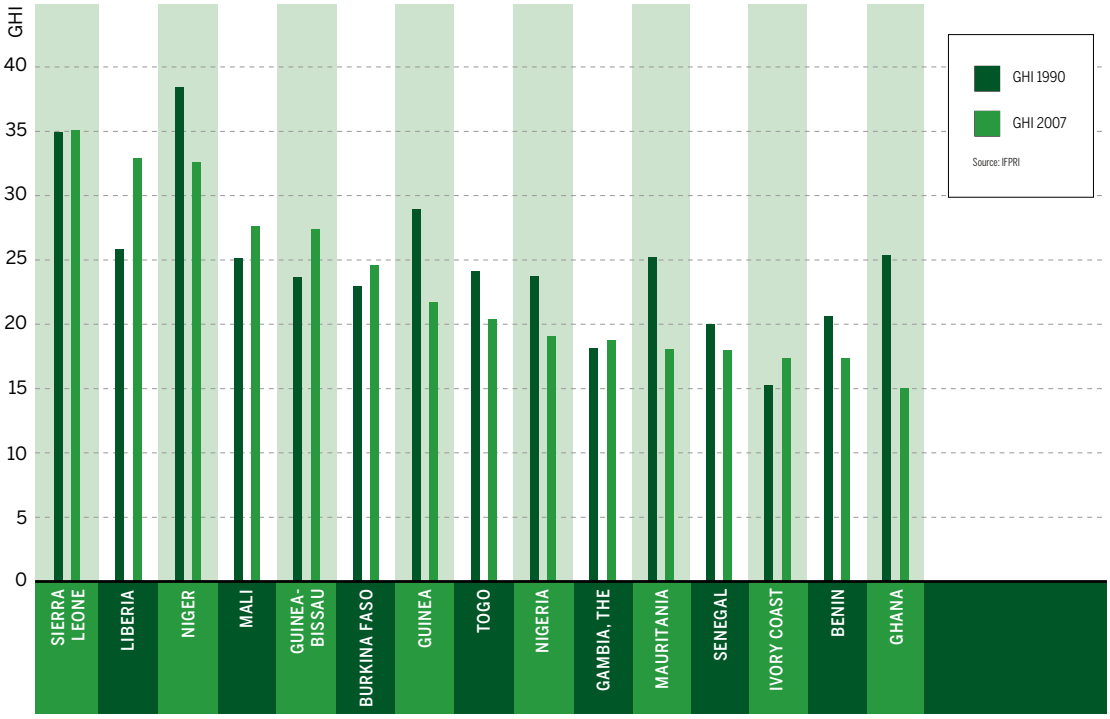
Central and Southern Africa

GHI trends from 1990 to 2007 by country



West Africa

GHI trends from 1990 to 2007 by country

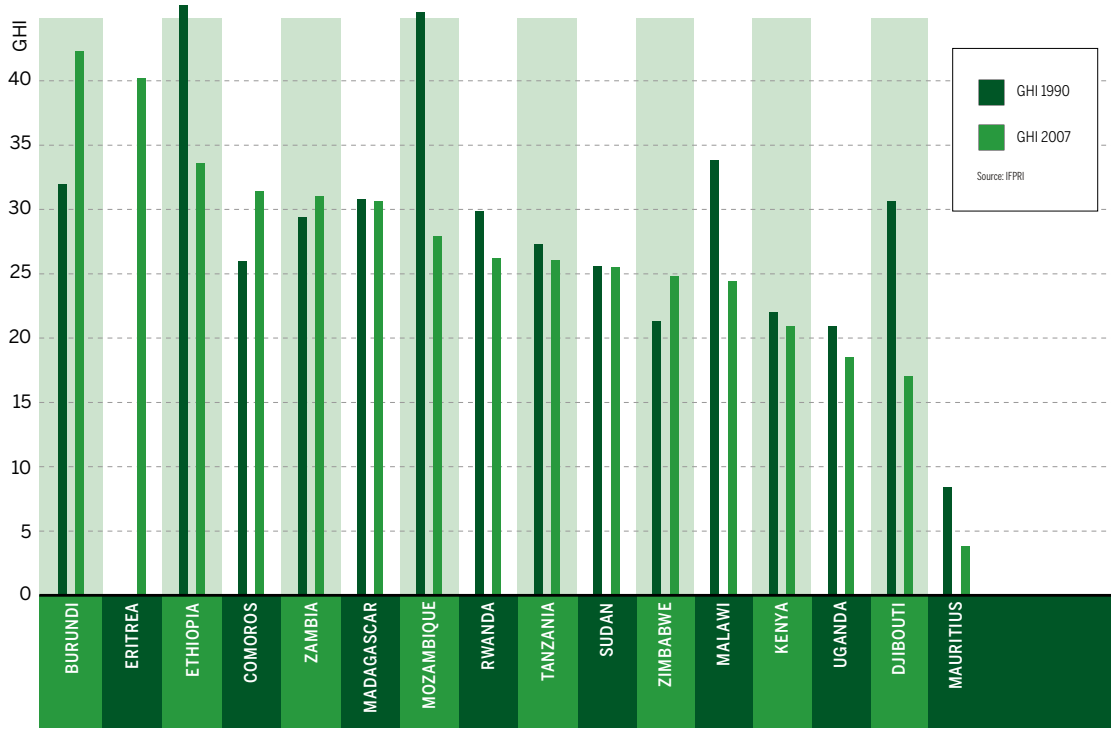


populations and very diverse geographical areas even if national aggregates of the GHI look favourable, these countries should be subject to subnational disaggregation of index scores in the future.

The following overview is further differentiated by region, with countries ranked by their 2007 GHI score. Some trends and development patterns can thereby be illustrated.

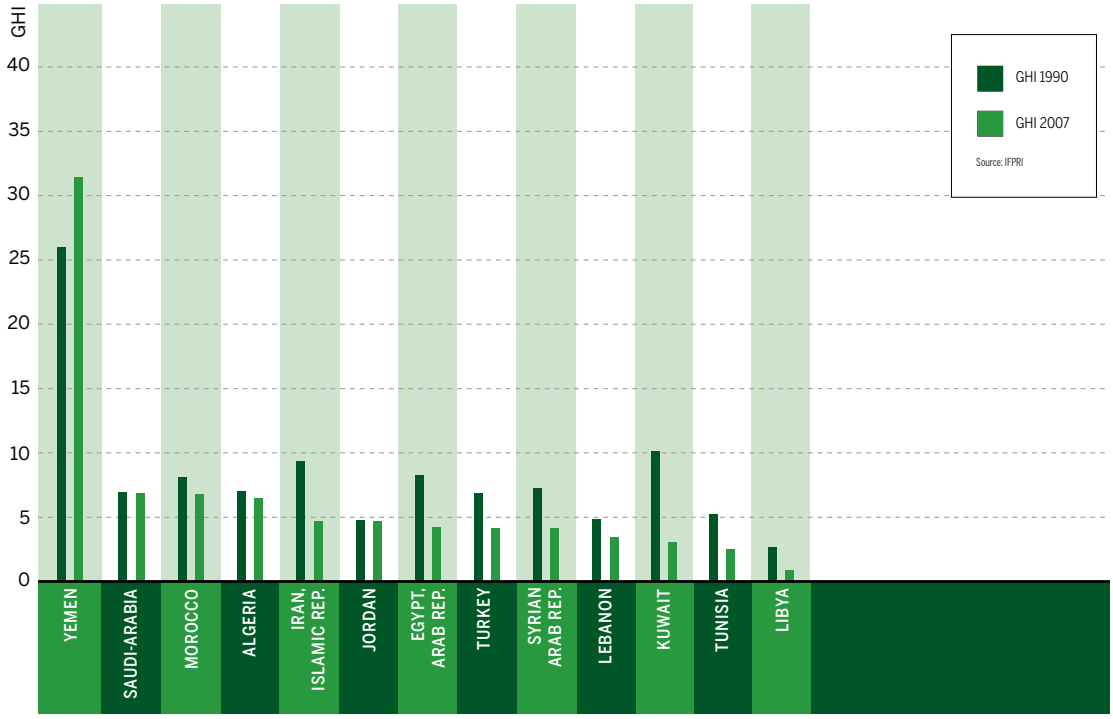
East Africa

GHI trends from 1990 to 2007 by country



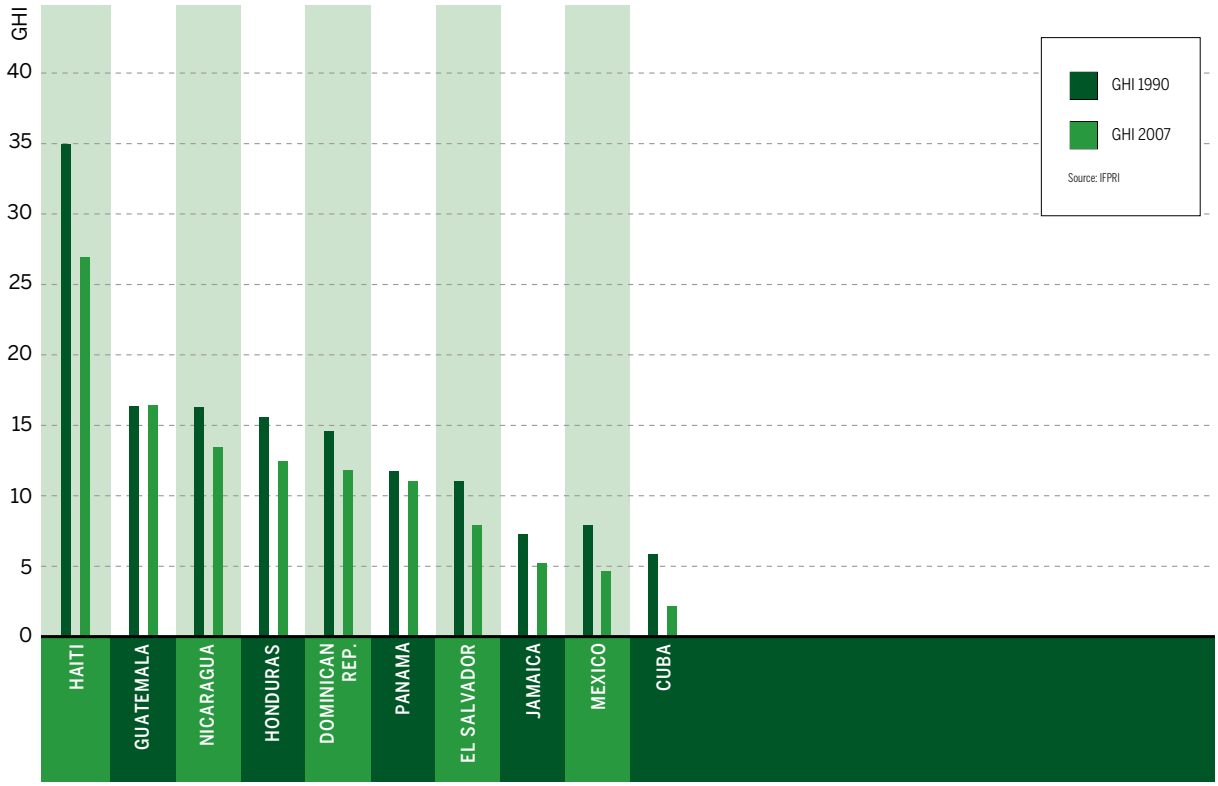
Near East and North Africa

GHI trends from 1990 to 2007 by country



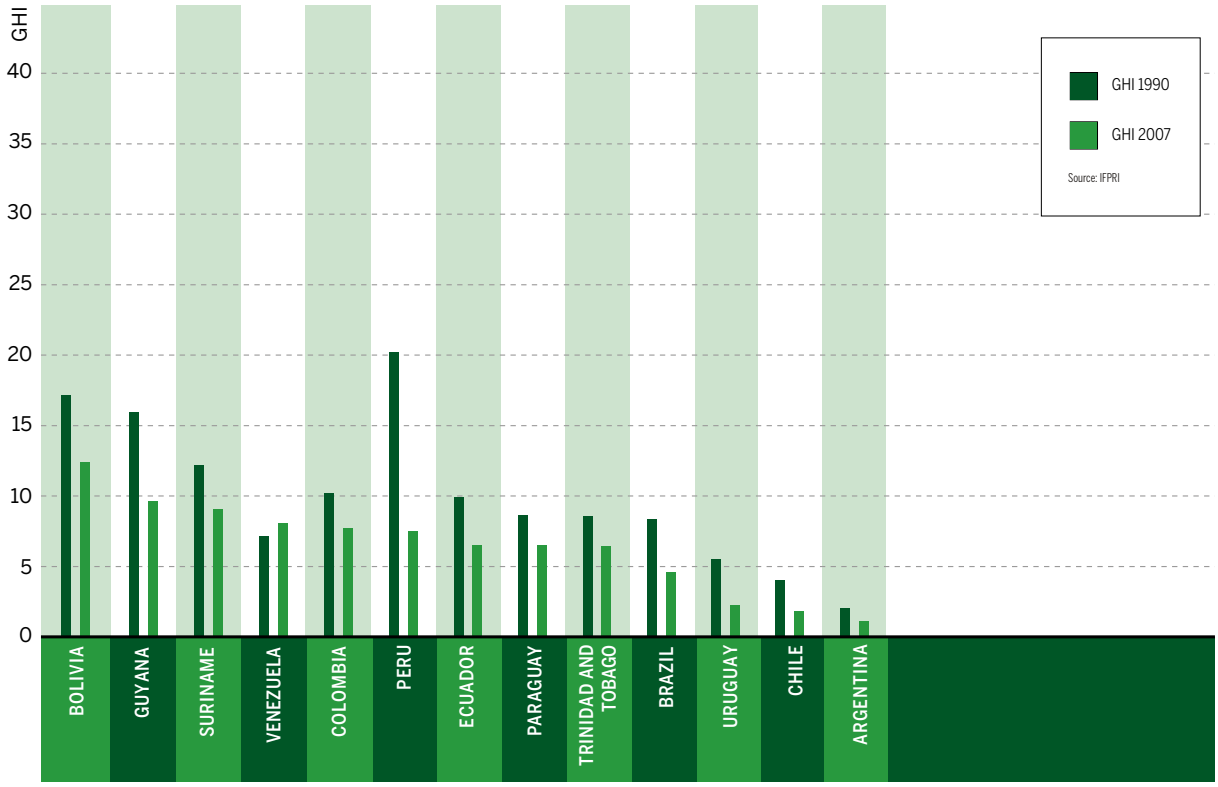
Central America and the Caribbean

GHI trends from 1990 to 2007 by country



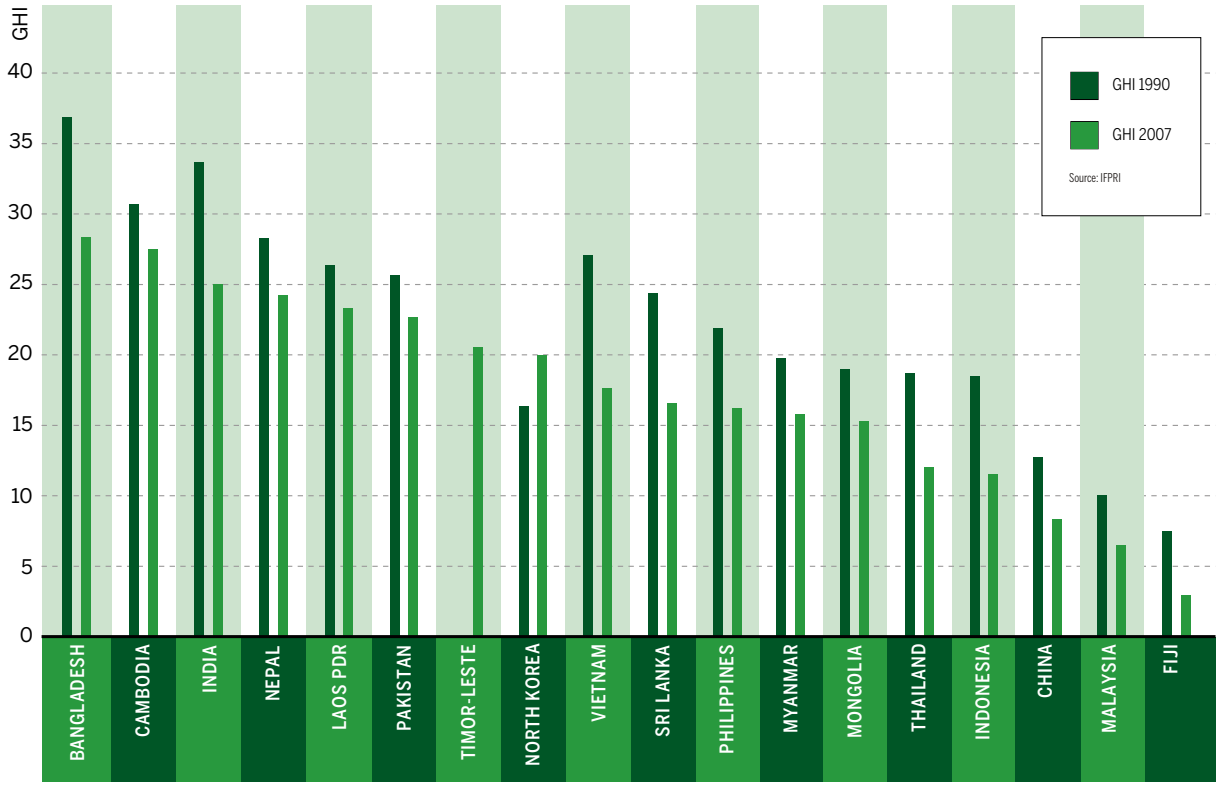
South America

GHI trends from 1990 to 2007 by country



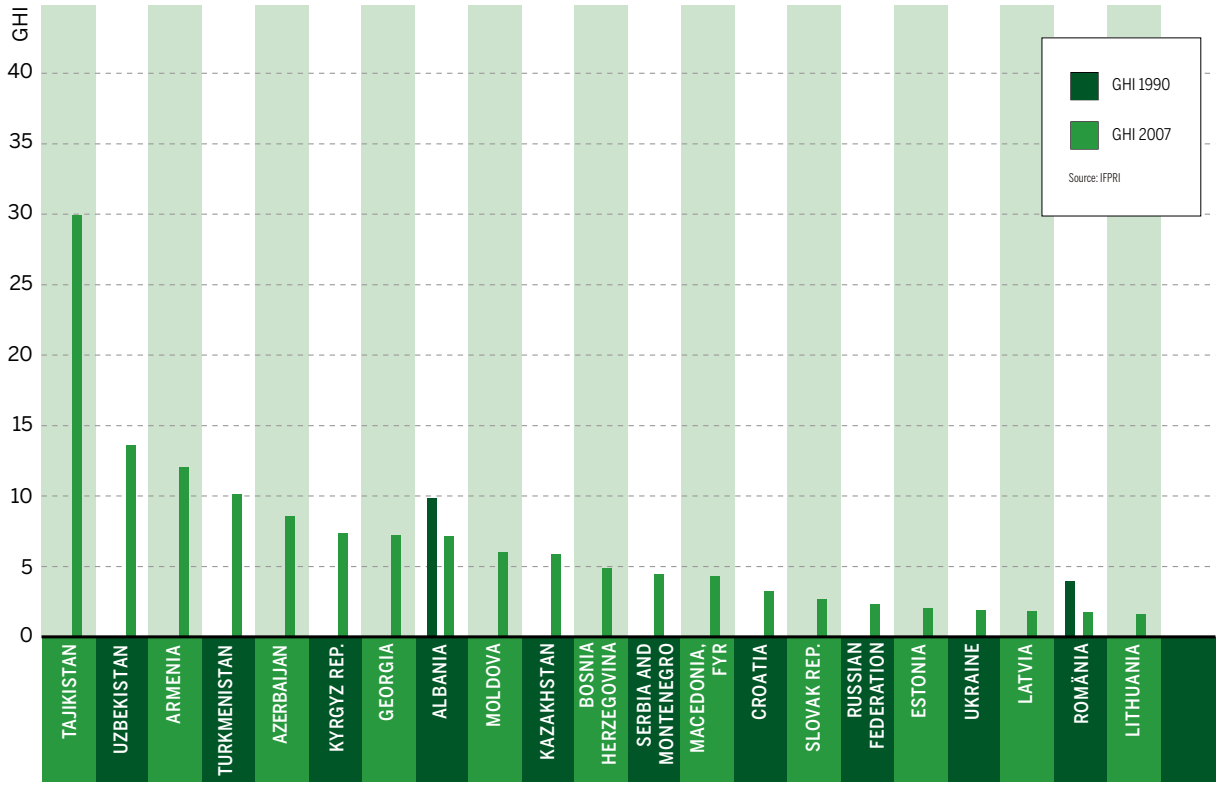
South Asia, East Asia and Pacific countries

GHI trends from 1990 to 2007 by country



Eastern Europe and Central Asia

GHI trends from 1990 to 2007 by country



C. | Data underlying the calculation of the Global Hunger Index

Country	Proportion of undernourished in the population (in %)		Prevalence of underweight in children under five years (in %)		Under-five mortality rate (in %)		Global Hunger Index (GHI)		MDG-GHI target value	GHI progress-indicator (GHI-P)
	1990-92	**2001-03**	**1988-92**	**2000-05**	**1990**	**2004**	**1990**	**2007**	**2015**	**2007**
Afghanistan	-	-	40.3**	-	26.0	25.7	-	-	-	-
Albania	12.9*	6.0	12.1***	13.6	4.5	1.9	9.84	7.17	4.67	0.487
Algeria	5.0	5.0	9.2	10.4	6.9	4.0	7.03	6.47	3.01	0.141
Angola	58.0	38.0	35.3**	30.5	26.0	26.0	39.77	31.50	18.44	0.388
Argentina	2.0	1.0	1.2**	0.5***	2.9	1.8	2.03	1.10	0.86	-
Armenia	-	29.0	-	4.0[a]	6.0	3.2	-	12.07	-	-
Australia	-	-	-	-	1.0	0.6	-	-	-	-
Austria	-	-	-	-	1.0	0.5	-	-	-	-
Azerbaijan	-	10.0	-	6.7	10.5	9.0	-	8.57	-	-
Bahrain	-	-	7.2	7.0***	1.9	1.1	-	-	-	-
Bangladesh	35.0	30.0	61.0	47.5	14.9	7.7	36.97	28.40	17.66	0.444
Belarus	-	3.0	-	-	1.7	1.1	-	-	-	-
Belgium	-	-	-	-	1.0	0.5	-	-	-	-
Benin	20.0	14.0	23.5**	22.9	18.5	15.2	20.67	17.37	9.31	0.290
Bhutan	-	-	37.9	-	16.6	8.0	-	-	-	-
Bolivia	28.0	23.0	11.1	7.4	12.5	6.9	17.20	12.43	7.91	0.513
Bosnia & Herzegovina	-	9.0	-	4.1	2.2	1.5	-	4.87	-	-
Botswana	23.0	30.0	26.8**	12.5	5.8	11.6	18.53	18.03	8.94	0.021
Brazil	12.0	8.0	7.0	2.4***	6.0	3.4	8.33	4.60	3.88	0.746
Bulgaria	-	9.0	-	-	1.8	1.5	-	-	-	-
Burkina Faso	21.0	17.0	27.1**	37.7	21.0	19.2	23.03	24.63	10.35	-0.126
Burundi	48.0	67.0	29.1**	41.1	19.0	19.0	32.03	42.37	14.96	-0.605
Cambodia	43.0	33.0	37.7**	35.6[a]	11.5	14.1	30.73	27.57	14.73	0.198
Cameroon	33.0	25.0	15.1	18.1	13.9	14.9	20.67	19.33	9.46	0.119
Canada	-	-	-	-	0.8	0.6	-	-	-	-
Central African Rep.	50.0	45.0	31.9**	24.3	16.8	19.3	32.90	29.53	15.52	0.194
Chad	58.0	33.0	30.6**	36.7[a]	20.3	20.0	36.30	29.90	17.02	0.332
Chile	8.0	4.0	2.0**	0.7	2.1	0.8	4.03	1.83	1.90	-
China	16.0	12.0	17.4	10.0	4.9	3.1	12.77	8.37	5.88	0.639
Colombia	17.0	14.0	10.1	7.0[a]	3.6	2.1	10.23	7.70	4.98	0.483
Costa Rica	6.0	4.0	2.8	-	1.8	1.3	3.53	-	1.67	-
Comoros	47.0	62.0	19.1	25.4	12.0	7.0	26.03	31.47	12.10	-0.390
Congo, Dem. Rep.	31.0	72.0	33.2**	31.0	20.5	20.5	28.23	41.17	12.98	-0.848
Congo, Rep.	54.0	34.0	27.5**	14.4[a]	11.0	10.8	30.83	19.73	14.81	0.693
Croatia	-	7.0	-	2.0***	1.2	0.7	-	3.23	-	-
Cuba	8.0	2.0	8.4**	3.9	1.3	0.7	5.90	2.20	2.88	0.971
Cyprus	-	-	-	-	1.2	0.5	-	-	-	-
Czech Republic	-	-	1.0	-	1.3	0.4	-	-	-	-
Denmark	-	-	-	-	0.9	0.5	-	-	-	-
Djibouti	53.0	26.0	22.9	12.6***	16.3	12.6	30.73	17.07	14.61	0.837
Dominican Rep.	27.0	27.0	10.3	5.3	6.5	3.2	14.60	11.83	6.87	0.358
Ecuador	8.0	5.0	16.1***	12.0***	5.7	2.6	9.93	6.53	4.65	0.644
Egypt	4.0	3.0	10.4	6.2[a]	10.4	3.6	8.27	4.27	3.56	0.849
El Salvador	12.0	11.0	15.2	9.9	6.0	2.8	11.07	7.90	5.40	0.559
Eritrea	-	73.0	-	39.6	14.7	8.2	-	40.27	-	-
Estonia	-	3.0	-	2.3***	1.6	0.8	-	2.03	-	-
Ethiopia	73.7*	46.0	43.8	38.4[a]	20.4	16.6	45.98	33.67	21.27	0.498
Fiji	10.0	4.0	9.3***	2.8***	3.1	2.0	7.47	2.93	3.56	0.917
Finland	-	-	-	-	0.7	0.4	-	-	-	-
France	-	-	-	-	0.9	0.5	-	-	-	-
Gabon	10.0	5.0	15.1**	11.9	9.2	9.1	11.43	8.67	5.21	0.444
Gambia	22.0	27.0	17.1**	17.2	15.4	12.2	18.17	18.80	8.23	-0.064
Georgia	-	13.0	-	4.1***	4.7	4.5	-	7.20	-	-
Germany	-	-	-	-	0.9	0.5	-	-	-	-
Ghana	37.0	12.0	27.1	22.1	12.2	11.2	25.43	15.10	12.40	0.627
Greece	-	-	-	-	1.1	0.5	-	-	-	-
Guatemala	16.0	23.0	25.0**	21.9	8.2	4.5	16.40	16.47	7.74	-0.008
Guinea	39.0	24.0	24.0**	25.8[a]	24.0	15.5	29.00	21.77	13.17	0.457
Guinea-Bissau	24.0	37.0	21.9***	25.0	25.3	20.3	23.73	27.43	10.46	-0.279
Guyana	21.0	9.0	18.0**	13.6	8.8	6.4	15.93	9.67	7.48	0.682
Haiti	65.0	47.0	25.6	22.2[a]	15.0	11.7	35.20	26.97	16.77	0.447
Honduras	23.0	22.0	18.0	11.4[a]	5.9	4.1	15.63	12.50	7.25	0.374
Hungary	-	-	-	-	1.7	0.8	-	-	-	-
India	25.0	20.0	63.9	46.6[b]	12.3	8.5	33.73	25.03	16.18	0.496
Indonesia	9.0	6.0	37.5	24.9***	9.1	3.8	18.53	11.57	9.01	0.732
Iran	4.0	4.0	16.9***	6.4***	7.2	3.8	9.37	4.73	4.28	0.777
Iraq	-	-	11.9	15.9	5.0	12.5	-	-	-	-
Ireland	-	-	-	-	1.0	0.6	-	-	-	-
Israel	-	-	-	-	1.2	0.6	-	-	-	-
Italy	-	-	-	-	0.9	0.5	-	-	-	-
Ivory Coast	18.0	14.0	12.3**	18.8***	15.7	19.4	15.33	17.40	6.79	-0.242
Jamaica	14.0	10.0	5.9	3.6***	2.0	2.0	7.30	5.20	3.54	0.558
Japan	-	-	-	-	0.6	0.4	-	-	-	-
Jordan	4.0	7.0	6.4	4.4	4.0	2.7	4.80	4.70	2.18	-
Kazakhstan	-	8.0	-	2.3***	6.3	7.3	-	5.87	-	-
Kenya	39.0	31.0	17.4**	19.9	9.7	12.0	22.03	20.97	10.48	0.092
Korea, Rep.	2.0	1.0	-	-	0.9	0.6	-	-	-	-
Kuwait	24.0	5.0	5.0**	3.0***	1.6	1.2	10.20	3.07	5.01	0.925
Kyrgyz Republic	-	4.0	-	11.2***	8.0	6.8	-	7.33	-	-
Laos PDR	29.0	21.0	34.0**	40.4	16.3	8.3	26.43	23.23	12.31	0.227
Latvia	-	3.0	-	1.3***	1.8	1.2	-	1.83	-	-
Lebanon	2.0	3.0	8.9**	4.4***	3.7	3.1	4.87	3.50	2.23	-
Lesotho	17.0	12.0	15.8	19.4[a]	12.0	8.2	14.93	13.20	6.59	0.208

Country	Proportion of undernourished in the population (in %)		Prevalence of underweight in children under five years (in %)		Under-five mortality rate (in %)		Global Hunger Index (GHI)		MDG-GHI target value	GHI progress-indicator (GHI-P)
	1990-92	**2001-03**	**1988-92**	**2000-05**	**1990**	**2004**	**1990**	**2007**	**2015**	**2007**
Liberia	34.0	49.0	20.1**	26.5	23.5	23.5	25.87	33.00	11.63	-0.501
Libya	0.0	0.0	4.0**	0.6***	4.1	2.0	2.70	0.87	1.12	-
Lithuania	-	0.0	-	4.1***	1.3	0.8	-	1.63	-	-
Macedonia	-	7.0	-	4.6***	3.8	1.4	-	4.33	-	-
Madagascar	35.0	38.0	40.9	41.9	16.8	12.3	30.90	30.73	13.97	0.010
Malawi	50.0	34.0	27.6	22.0[a]	24.1	17.5	33.90	24.50	15.24	0.504
Malaysia	3.0	3.0	25.0	15.3***	2.2	1.2	10.07	6.50	4.91	0.692
Mali	29.0	28.0	21.6**	33.2	25.0	21.9	25.20	27.70	11.21	-0.179
Mauretania	15.0	10.0	47.6	31.8	13.3	12.5	25.30	18.10	11.59	0.525
Mauritius	6.0	6.0	17.0**	4.0***	2.3	1.5	8.43	3.83	4.09	0.714
Mexico	5.0	5.0	14.2	6.2***	4.6	2.8	7.93	4.67	3.90	0.689
Moldavia	-	11.0	-	4.3[a]	4.0	2.8	-	6.03	-	-
Mongolia	34.0	28.0	12.3	12.7	10.8	5.2	19.03	15.30	8.75	0.363
Morocco	6.0	6.0	9.5	10.2	8.9	4.3	8.13	6.83	3.45	0.277
Mozambique	66.0	45.0	46.8**	23.7	23.5	15.2	45.43	27.97	21.41	0.727
Myanmar	10.0	5.0	36.3	31.8	13.0	10.6	19.77	15.80	9.16	0.374
Namibia	34.0	23.0	26.2	24.0	8.6	6.3	22.93	17.77	10.64	0.420
Nepal	20.0	17.0	50.5**	48.3	14.5	7.6	28.33	24.30	13.36	0.269
Netherlands	-	-	-	-	0.9	0.6	-	-	-	-
New Zealand	-	-	-	-	1.1	0.6	-	-	-	-
Nicaragua	30.0	27.0	12.2***	9.6	6.8	3.8	16.33	13.47	7.79	0.336
Niger	41.0	32.0	42.6	40.1	32.0	25.9	38.53	32.67	16.92	0.271
Nigeria	13.0	9.0	35.3	28.7	23.0	19.7	23.77	19.13	10.61	0.352
North Korea	18.0	35.0	25.6***	19.5	5.5	5.5	16.37	20.00	7.88	-0.428
Norway	-	-	-	-	0.9	0.4	-	-	-	-
Oman	-	-	21.6	17.7***	3.2	1.3	-	-	-	-
Pakistan	24.0	23.0	40.2	35.0	13.0	10.1	25.73	22.70	11.88	0.219
Panama	21.0	25.0	11.0**	5.8***	3.4	2.4	11.80	11.07	5.71	0.120
Papua New Guinea	-	-	29.0***	-	10.1	9.3	-	-	-	-
Paraguay	18.0	15.0	3.7	1.8***	4.1	2.4	8.60	6.40	4.07	0.482
Peru	42.0	12.0	10.7	7.6[a]	8.0	2.9	20.23	7.50	9.53	0.909
Philippines	26.0	19.0	33.5	26.3***	6.2	3.4	21.90	16.23	10.61	0.502
Poland	-	-	-	-	1.8	0.8	-	-	-	-
Portugal	-	-	-	-	1.4	0.5	-	-	-	-
Qatar	-	-	7.6***	3.4***	2.6	2.1	-	-	-	-
Romania	3.1*	0.0	5.7	3.2	3.1	2.0	3.96	1.73	1.77	-
Russian Federation	-	3.0	-	1.9***	2.9	2.1	-	2.33	-	-
Rwanda	43.0	36.0	29.4	22.5[a]	17.3	20.3	29.90	26.27	13.60	0.223
Saudi Arabia	4.0	4.0	12.6**	14.0***	4.4	2.7	7.00	6.90	3.26	0.027
Senegal	23.0	23.0	22.3	17.3[a]	14.8	13.7	20.03	18.00	8.90	0.183
Serbia & Montenegro	-	10.0	-	1.9	2.8	1.5	-	4.47	-	-
Sierra Leone	46.0	50.0	28.7	27.2	30.2	28.3	34.97	35.17	15.81	-0.010
Singapore	-	-	-	3.4	0.9	0.3	-	-	-	-
Slovak Republic	-	6.0	-	1.0***	1.4	0.9	-	2.63	-	-
Slovenia	-	3.0	-	-	1.0	0.4	-	-	-	-
Somalia	-	-	38.8**	25.8	22.5	22.5	-	-	-	-
South Africa	5.8*	4.9*	9.7***	4.1***	6.0	6.7	7.17	5.25	3.25	0.428
Spain	-	-	-	-	0.9	0.5	-	-	-	-
Sri Lanka	28.0	22.0	42.0**	26.4	3.2	1.4	24.40	16.60	12.02	0.630
Sudan	31.0	27.0	33.7**	40.7	12.0	9.1	25.57	25.60	12.12	-0.002
Suriname	13.0	10.0	18.7***	13.2	4.8	3.9	12.17	9.03	5.82	0.493
Swaziland	14.0	19.0	8.8**	10.3	11.0	15.6	11.27	14.97	5.02	-0.593
Sweden	-	-	-	-	0.7	0.4	-	-	-	-
Switzerland	-	-	-	-	0.9	0.5	-	-	-	-
Syrian Arab Republic	5.0	4.0	12.5**	6.9	4.4	1.6	7.30	4.17	3.41	0.805
Tajikistan	-	61.0	-	17.0***	12.8	11.8	-	29.93	-	-
Tanzania	37.0	44.0	28.9	21.8[a]	16.1	12.6	27.33	26.13	12.39	0.080
Thailand	30.0	21.0	22.6***	13.0***	3.7	2.1	18.77	12.03	9.18	0.702
Timor-Leste	11.0	8.0	-	45.8	17.2	8.0	-	20.60	-	-
Togo	33.0	25.0	24.4	22.3***	15.2	14.0	24.20	20.43	11.58	0.298
Trinidad & Tobago	13.0	11.0	9.0**	5.9	3.3	2.0	8.43	6.30	4.03	0.485
Tunesia	1.0	1.0	9.5	4.0	5.2	2.5	5.23	2.50	2.45	0.848
Turkey	2.0	3.0	10.5**	6.4***	8.2	3.2	6.90	4.20	2.99	0.691
Turkmenistan	-	8.0	-	12.0	9.7	10.3	-	10.10	-	-
Uganda	24.0	19.0	23.0	22.9	16.0	13.8	21.00	18.57	9.76	0.217
Ukraine	-	3.0	-	0.9	2.6	1.8	-	1.90	-	-
United Kingdom	-	-	-	-	1.0	0.6	-	-	-	-
United States	-	-	-	-	1.2	0.8	-	-	-	-
Uruguay	7.0	3.0	7.0**	2.0***	2.5	1.7	5.50	2.23	2.61	0.900
Uzbekistan	-	26.0	-	7.9	7.9	6.9	-	13.60	-	-
Venezuela	11.0	18.0	7.7	4.4	2.7	1.9	7.13	8.10	3.42	-0.260
United Arab Emirates	4.0	3.0	-	-	1.4	0.8	-	-	-	-
Vietnam	31.0	17.0	45.0	33.8	5.3	2.3	27.10	17.70	13.56	0.694
Yemen, Rep.	34.0	37.0	30.0	46.5***	14.2	11.1	26.07	31.53	11.84	-0.384
Zambia	48.0	47.0	22.3	28.1	18.0	18.2	29.43	31.10	13.72	-0.106
Zimbabwe	45.0	45.0	11.0	16.6[a]	8.0	12.9	21.33	24.83	10.37	-0.319

Notes: * Author's own estimates on the proportion of undernourished in the population. ** Estimate of the percentage of underweight amongst children from UN ACC/SCN 1993. *** Author's own estimates of prevalence of underweight in children. [a] Data from the Demographic and Health Surveys (DHS), see www.measuredhs.com.
[b] Data from the 3rd National Family Health Survey 2005/06 in India, see www.nfhsindia.org. Unless stated otherwise, data regarding underweight amongst children is from WHO 2006 (based on the NCHS/WHO international reference). Data on underweight in children referring to a different age group than under-five year olds were adjusted by means of correction factors (see Wiesmann 2006 for details regarding the methodology).
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The International Food Policy Research Institute (IFPRI) was founded in 1975. Its mission is to provide policy solutions that reduce poverty in developing countries, achieve sustainable food security, improve health and nutrition, and promote environmentally friendly agricultural growth. To achieve these goals, the Institute focuses on research as well as capacity strengthening and policy communication. It works closely with national agricultural research and nutrition institutions and regional networks in developing countries. The Institute also engages in wide-ranging dialogue so that the new scientific insights generated by its research results can be integrated into agricultural and food policies and can raise public awareness regarding food security, poverty, and environmental protection. IFPRI is funded by governments, international and regional organisations, and private foundations, many of which are members of the Consultative Group on International Agricultural Research (www.cgiar.org). This association consists of 15 international agricultural research centres that work closely with national agricultural research systems, governments, NGOs, and the private sector.

welt hunger hilfe

Our vision

All the people of this world shall lead an independent life in dignity and justice – free from hunger and poverty.

Deutsche Welthungerhilfe (German Agro Action) was founded in 1962 as the national committee of the "Freedom from Hunger Campaign" set up by the United Nations' Food and Agricultural Organisation (FAO). Today, it's one of Germany's largest non-governmental organisations. Non-profit-making, non-denominational and politically independent, the organisation is run by a board of honorary members under the patronage of the President of the Federal Republic of Germany. Its work is funded by private donations and public grants.

What we want

- Welthungerhilfe campaigns worldwide for human rights, sustained development, a guaranteed food supply and conservation of the environment. We regard our work to be successful when people improve their living conditions to such an extent that they can enjoy a secure livelihood without outside aid.
- As citizens of a wealthy country, we bear a responsibility for making sure we don't only pay lip-service to the idea of solidarity with the poorest members of the human race. For this reason, together with partners from the world of politics, media and schools, we campaign for fairer cooperation with countries in the developing world.
- We use the funds entrusted to us sparingly and effectively. The work of our staff is characterised by commitment, experience and competence.

How we work

- We provide help from one set of hands by means of rapid humanitarian aid in acute crisis regions. Where hunger and poverty are chronic, we cooperate closely with local partners on long term projects.
- As part of this process we provide support for the landless, for small-scale farmers, women, children and young people; and for people who need start-up aid in order to lead their lives in justice and dignity.
- We fund our work from private donations and public grants. We have received the "seal of approval" from Germany's Central Institute for Social Issues (DZI) for the cost-effective and transparent way we use our funds.
- Levels of control such as internal auditing, evaluation or regular reports from projects ensure that funds are used correctly.

Our Identity – Who we Are

Concern Worldwide is Ireland's largest non-governmental organisation, dedicated to the reduction of suffering and working towards the ultimate elimination of extreme poverty. We work in 30 of the world's poorest countries and have over 4,000 committed and talented staff.

Our Mission – What We do

Our mission is to help people living in extreme poverty achieve major improvements in their lives, which last and spread without ongoing support from Concern. To this end, Concern will work with the poor themselves, and with local and international partners who share our vision, to create just and peaceful societies where the poor can exercise their fundamental rights.

To achieve this mission we engage in long term development work, respond to emergency situations, and seek to address the root causes of poverty through our development education and advocacy work.

Our vision – for change

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

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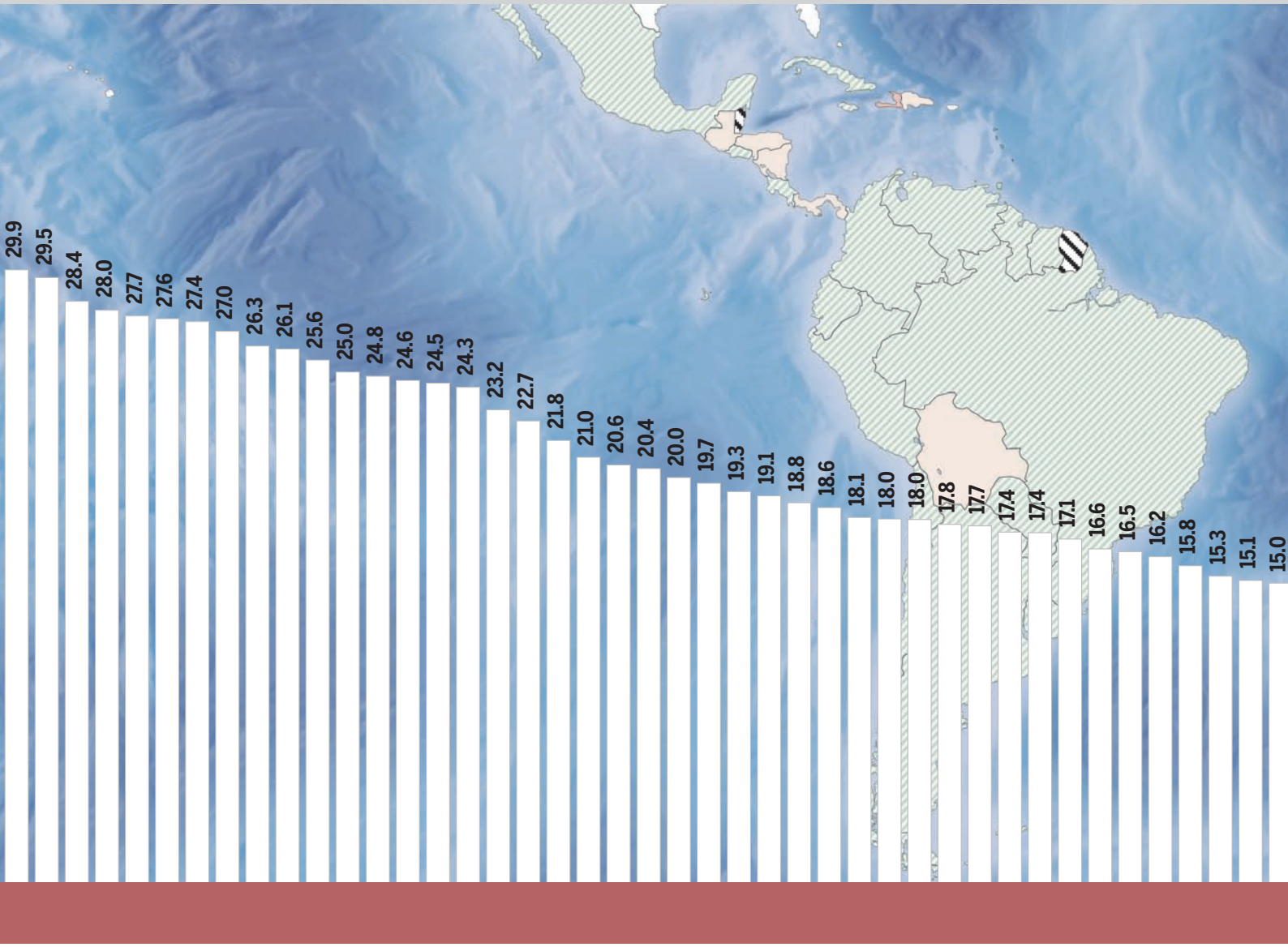

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