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GLOBAL POVERTY AND HUNGER: LOCATION AND TRENDS

This chapter focuses on two measures of deprivation corresponding to the two components of the first MDG: halving poverty and hunger.

The MDG indicator of extreme poverty—the proportion of people living on less than \$1 a day—is used to show where the world's poor live and to indicate trends in poverty from 1990 (the base year for the MDGs) to 2004. This measure of poverty is then disaggregated to examine the location and changes in welfare of those living on much less than \$1 a day. By doing this, we capture changes in the severity of poverty. While poverty gap ratios have traditionally been used to indicate the depth and severity of poverty, the approach taken in this report (of disaggregating the dollar-a-day poverty rate into groups) provides a more intuitive picture, and makes it easier to understand trends in the severity of global poverty.

Progress in meeting the hunger MDG is examined by using the Global Hunger Index, an index designed to capture three dimensions of hunger: the lack of economic access to food, shortfalls in the nutritional status of children, and child mortality. The index is calculated for countries and regions to show the concentra-

tion of hungry people, hunger trends, and the extent to which poverty trends coincide with those of hunger. Countries are also ranked by the Global Hunger Index.

Although we have considered a lack of consumption (as a proxy for income) as the measure of poverty, we recognize that poverty and deprivation are multidimensional realities. Indeed, the MDGs—each with quantified targets—address many dimensions of deprivation and well-being: poverty and hunger, primary education, gender equality and women's empowerment, child mortality, maternal health, HIV/AIDS and other diseases, environmental sustainability, and global partnership. The MDGs are mutually reinforcing—the goal of halving poverty and hunger is closely linked with the other MDGs since poor and hungry populations tend to have little access to education and health services, high child mortality, and poor maternal health.

The use of the Global Hunger Index broadens our measures of well-being, but this analysis does not include all dimensions of deprivation and much of the analysis focuses on income poverty alone. Recent developments in

measuring subjective well-being have allowed for comparisons of subjective well-being across continents. Income is often associated with both well-being and deprivation and provides a rationale for the predominance of income poverty in the measurement of deprivation. However, consideration of these other measures of well-being is also important and McGillivray (2006) provides an excellent summary of these measures.

2.1 LOCATION AND TRENDS IN DOLLAR-A-DAY POVERTY

In 1990, the developing world had a population of 4.36 billion,¹ of which 1.25 billion lived on less than \$1 a day.² East Asia and the Pacific and South Asia each accounted for almost two-fifths of the world's dollar-a-day poor, and Sub-Saharan Africa accounted for about one-fifth (Figure 2.1). From 1990 to 2004, the number of people in developing countries grew by 1 billion, and the number of people living on less than \$1 a day fell. Of the developing world's

5.36 billion people in 2004, 969 million lived on less than \$1 a day. The regional composition of the developing world's poor also changed over the 14-year period. East Asia and the Pacific's share of the world's poor decreased by more than half to only 17 percent, South Asia's share increased to almost 50 percent, and Sub-Saharan Africa's share increased to 31 percent.

The trends in numbers of those living in dollar-a-day poverty are also presented in Figure 2.2. It is again clear that the difference between the East and the Pacific region and the South Asia region is remarkable. While both regions had about the same number of poor in 1990, East Asia and the Pacific had 277 million fewer people in poverty than South Asia had in 2004. From this it is also clear that East Asia and the Pacific is the only region that experienced a substantial decline in the numbers of those living on less than \$1 a day (from 476 million to 169 million) between 1990 and 2004. The number of poor decreased by a modest 33 million in South Asia, and actually increased by about 58 million in Sub-Saharan Africa. The

FIGURE 2.1 Where the Poor Live: 1990 and 2004

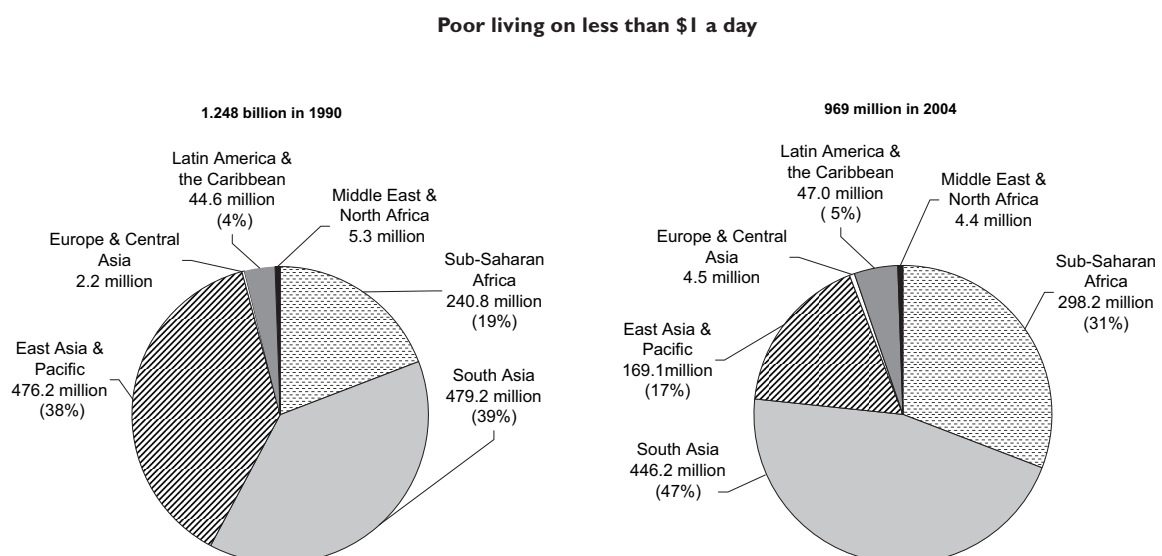


FIGURE 2.2 Trends in Global Poverty Numbers: Living on Less Than \$1 a Day (1990-2004)

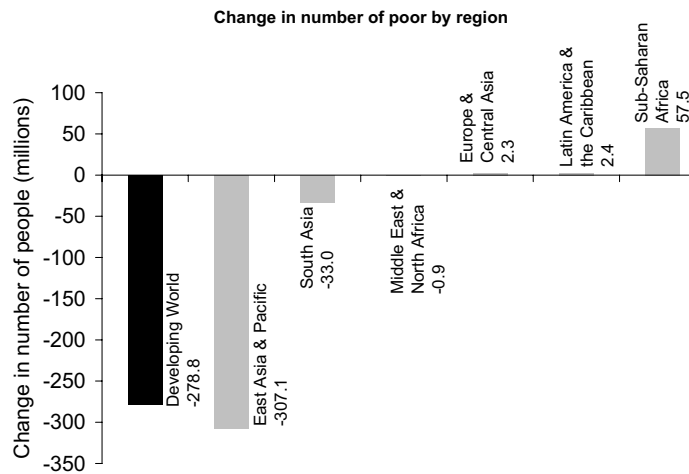
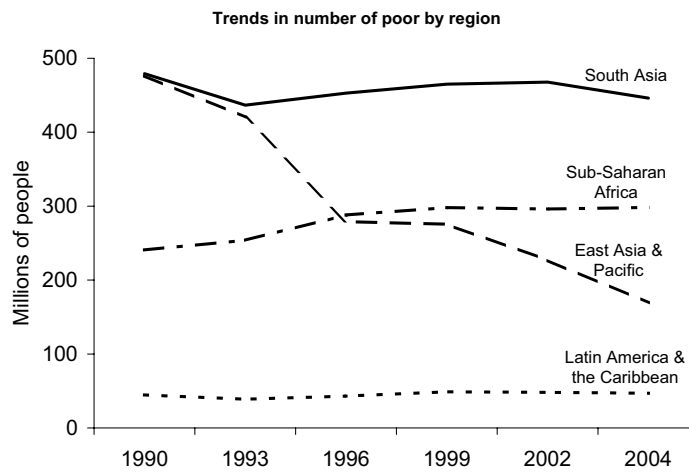
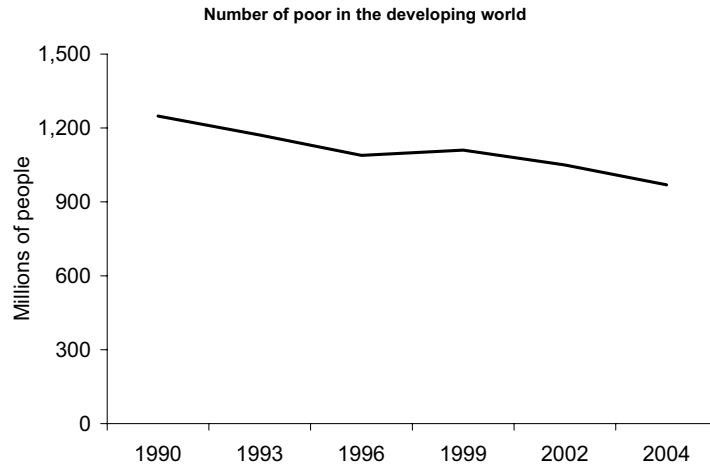
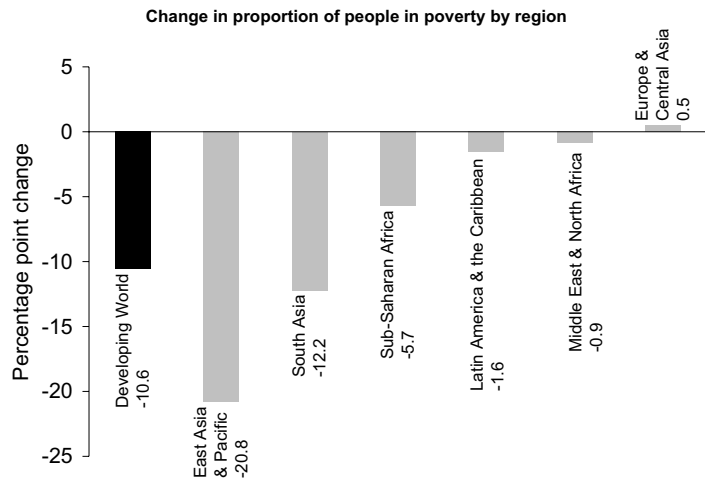
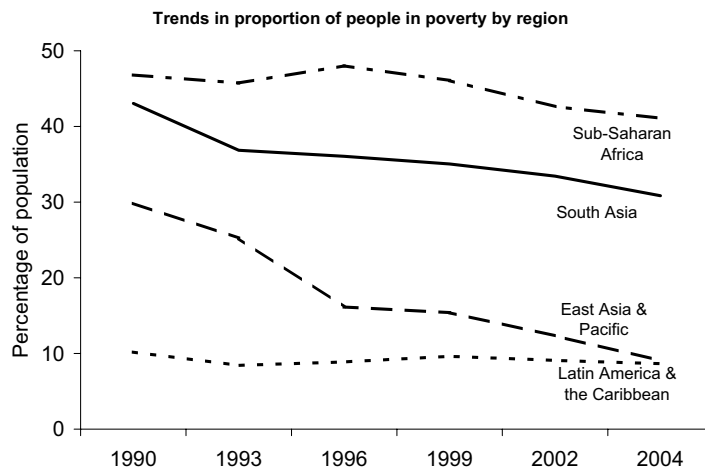
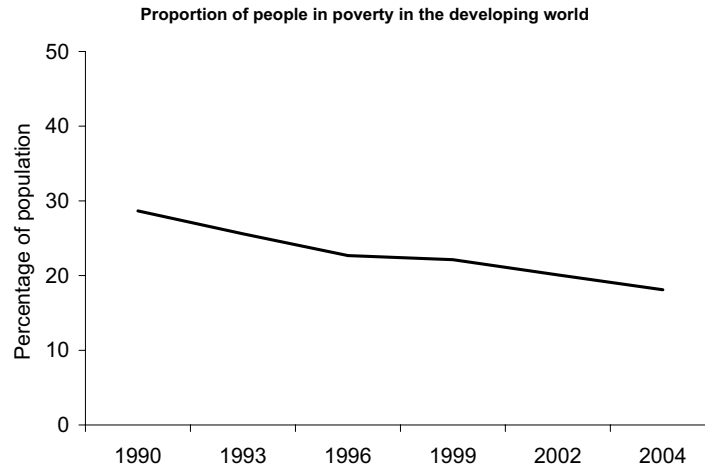


FIGURE 2.3 Trends in Global Poverty Rates: Living on Less Than \$1 a Day (1990-2004)



total number of poor in Sub-Saharan Africa became larger than that in East Asia and the Pacific during this period.

Figure 2.3 shows trends in the dollar-a-day poverty *rate*—the measure by which the MDG will be assessed. The proportion of the developing world's population living on less than \$1 a day fell from 28.7 percent in 1990, the base year for the MDGs, to 18.0 percent in 2004. At this pace of progress, the poverty component of the first MDG will be met in 2015 at the global level. Regional progress, however, has been uneven. The decline in the global poverty rate has been largely driven by East Asia and the Pacific, aided by South Asia. Indeed, East Asia and the Pacific has overachieved the poverty MDG; the dollar-a-day poverty rate in the region fell more than 20 percentage points, from 29.9 percent in 1990 to 9.1 percent in 2004. The dollar-a-day poverty rate also fell substantially in South Asia, from 43.1 percent to 30.9 percent during the same period. Although other regions experienced some decline in the poverty rate from 1990 to 2004 (except Eastern Europe and Central Asia, where the rates increased slightly), the situation can more aptly be characterized as stagnation: poverty rates fell from 46.8 percent to 41.1 percent in Sub-Saharan Africa and from 10.2 percent to 8.6 percent in Latin America and the Caribbean.

2.2 LOOKING BENEATH THE DOLLAR-A-DAY LINE: SUBJACENT, MEDIAL, AND ULTRA POVERTY

While the MDGs categorize the extreme poor as those living on less than \$1 a day, we disaggregate those living on less than \$1 a day into three groups according to their location below the dollar-a-day poverty line:³

- Subjacent poor: those living on between \$0.75 and \$1 a day

- Medial poor: those living on between \$0.50 and \$0.75 a day
- Ultra poor: those living on less than \$0.50 a day⁴

These cut-off points were chosen to split the distribution into meaningfully sized groups and also to be able to use simple, equally spaced units (consistent with the metric of absolute measures of global poverty).

By disaggregating the number of poor in this way, we are able to look below the dollar-a-day line to see where those in each group live and how each group has fared over time. This is first done for major regions in the developing world, then for specific countries.

Location and Trends in Subjacent, Medial, and Ultra Poverty

Of the 969 million people living on less than \$1 a day in 2004, half were subjacent poor, one-third were medial poor, and about 17 percent were ultra poor. Figure 2.4 shows where the subjacent, medial, and ultra poor of the developing world live. While South Asia accounts for most of the developing world's subjacent (53 percent) and medial (51 percent) poor, Sub-Saharan Africa is home to three-quarters (76 percent) of all ultra poor; in 2004, 121 million Sub-Saharan Africans lived on less than a meager \$0.50 a day. Although Latin America and the Caribbean has a relatively small share of global dollar-a-day poverty, its share increases with the depth of poverty: it has 4 percent of those in subjacent poverty, 5 percent of those in medial poverty, and 7 percent of those in ultra poverty.

Figure 2.5 and Figure 2.6 show the trends in subjacent, medial, and ultra poverty rates and numbers of people, respectively, in the developing world as a whole and in the four major regions from 1990 to 2004. In the developing world as a whole and in all regions

FIGURE 2.4 Where Those in Subjacent, Medial, and Ultra Poverty Live: 1990 and 2004

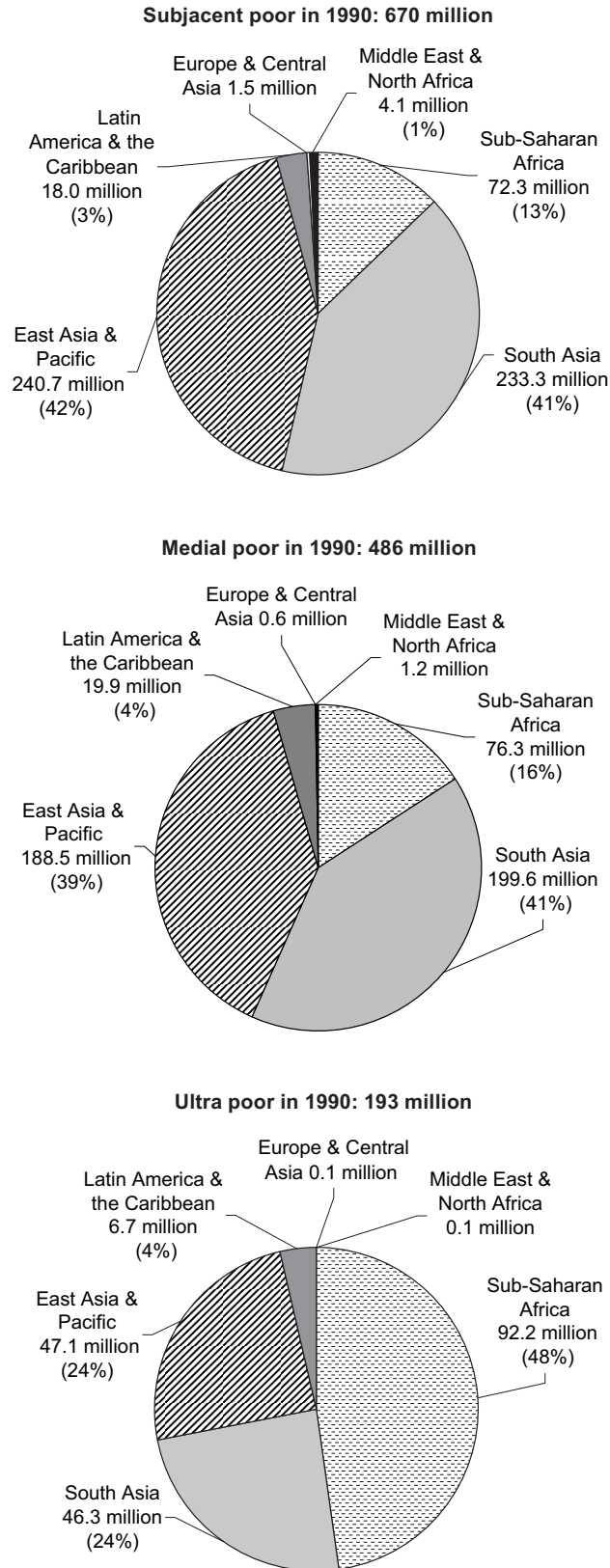
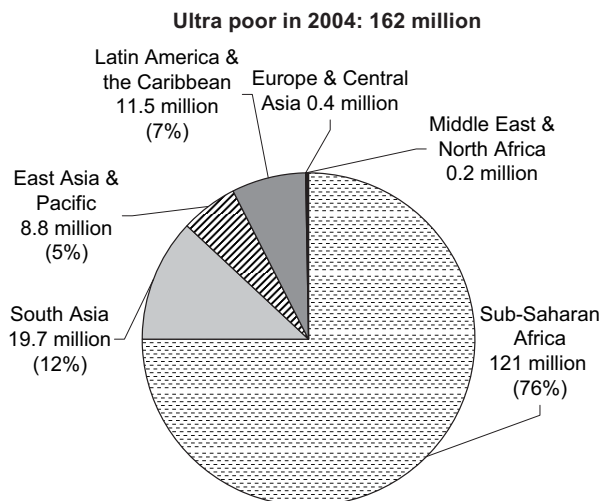
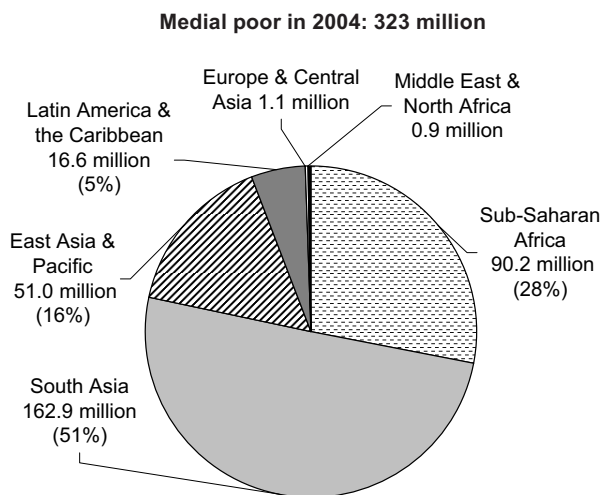
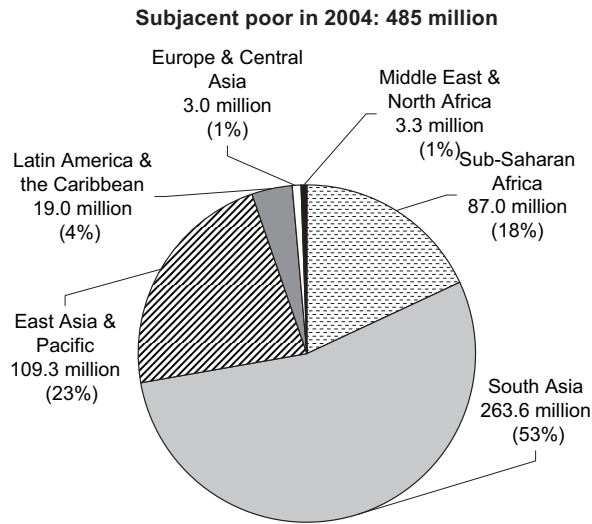


FIGURE 2.4, continued



excluding Sub-Saharan Africa, the rates (and numbers) of people in subjacent poverty are higher than those in medial and ultra poverty. The rate and number of those in ultra poverty is the lowest, often accounting for only the bottom 1–2 percent of the region’s poor. However, Sub-Saharan Africa is uniquely and alarmingly different. In Sub-Saharan Africa, there are many more people living in ultra poverty than in subjacent and medial poverty, indicating the severity of poverty in this region (a 17 percent ultra poverty rate in 2004 compared to 12 percent subjacent and 12 percent medial poverty rates).

Although in 1990 there were more people living in each type of poverty than in 2004, this was particularly true for medial and subjacent poverty. The geographic distribution of poverty was also somewhat different in 1990, as Asia rather than Sub-Saharan Africa was home to many more of those living in ultra poverty (see Figure 2.4). As with the dollar-a-day poverty trends discussed in the previous section, the four major regions in the developing world have experienced quite different trends among these three groups since 1990. Figure 2.7 and Figure 2.8 summarize these trends by depicting the changes in the total number of people living in subjacent, medial, and ultra poverty from 1990 to 2004.

South Asia and East Asia and the Pacific were very similar in 1990 in that the number of the world’s poor living in each of the two regions was virtually the same for each type

FIGURE 2.5 Trends in Subjacent, Medial, and Ultra Poverty Rates: 1990-2004

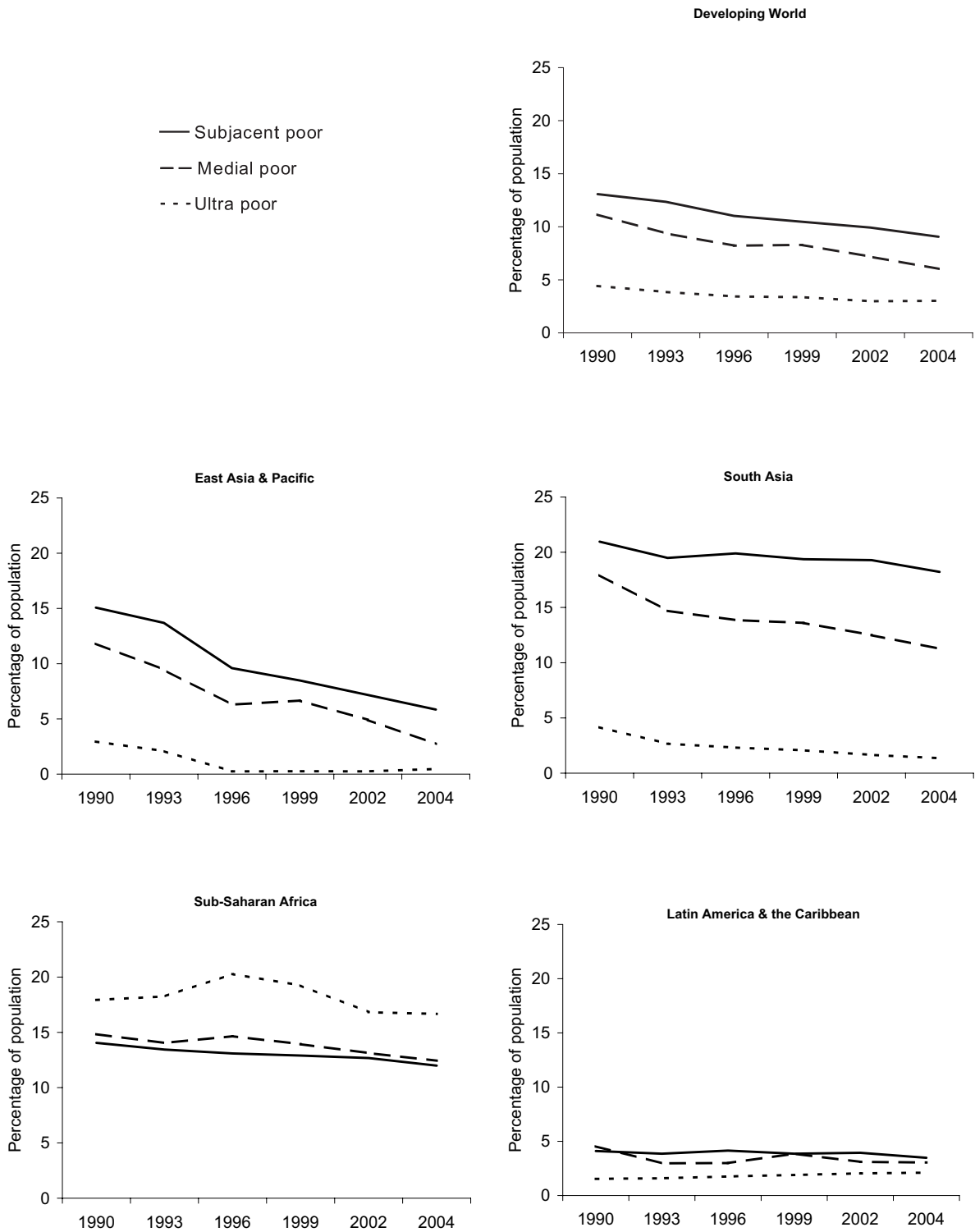


FIGURE 2.6 Trends in the Number of Subjacent, Medial, and Ultra Poor: 1990-2004

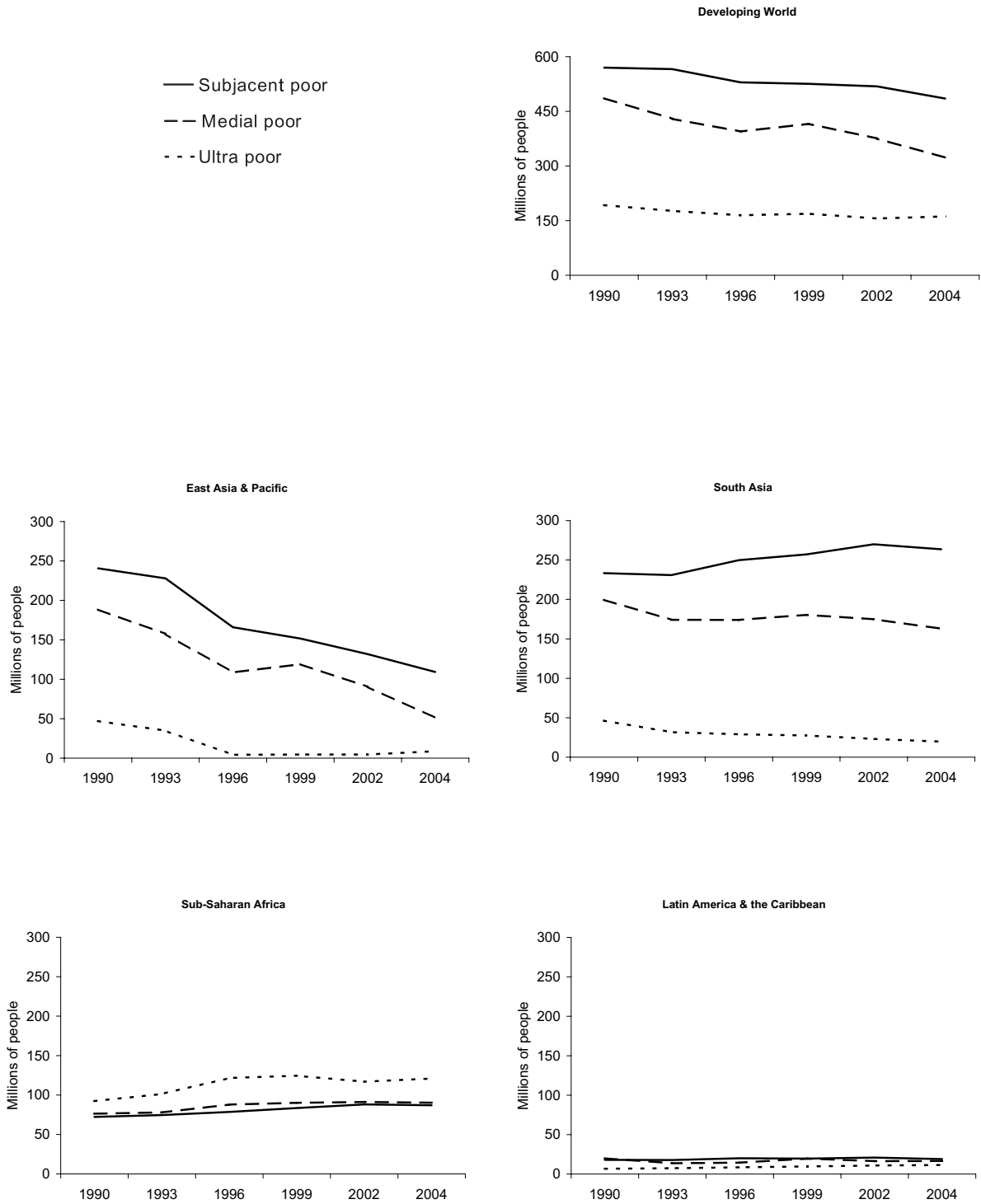


FIGURE 2.7 Change in the Number of Poor in the Developing World from 1990 to 2004

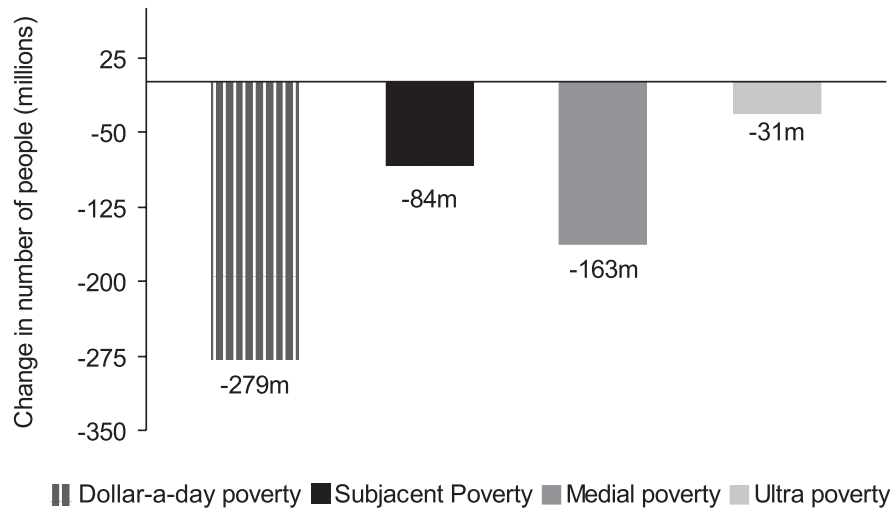
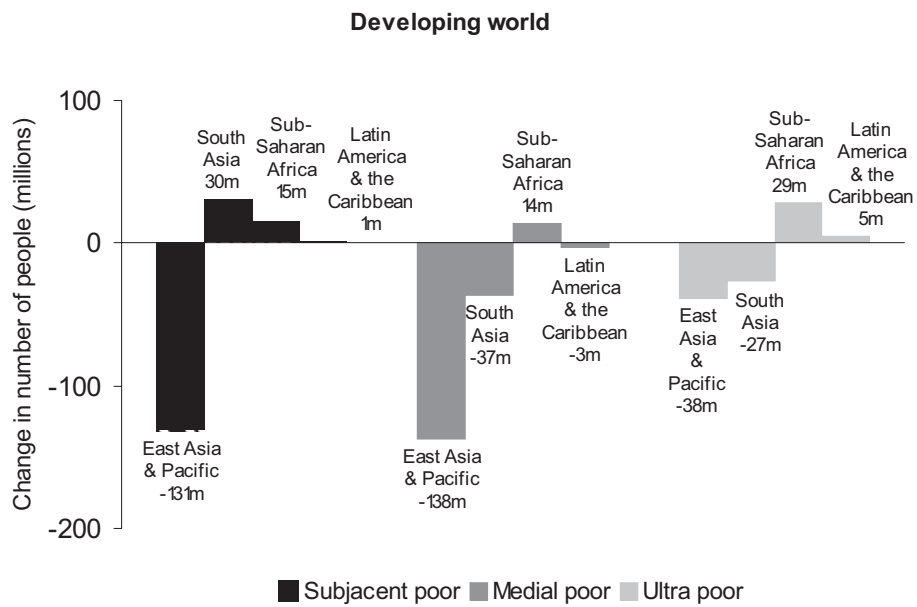


FIGURE 2.8 Regional Changes in the Number of Poor from 1990 to 2004



of poverty. They were each home to about 40 percent of the world's subjacent poor, 40 percent of the world's medial poor, and a quarter of the world's ultra poor. However, as Figure 2.6 shows, they have experienced very different development paths since then. East Asia and the Pacific experienced a substantial reduction in numbers of all three types of poverty. In contrast, South Asia found itself with increasing numbers of people in subjacent poverty and significant but smaller reductions in the number of medial and ultra poor. East Asia and the Pacific experienced substantial growth of about 8 percent annually during this period and also had initial conditions such that the growth benefited many people living in subjacent, medial, and ultra poverty (the region's growth elasticity of poverty reduction was very high). South Asia also achieved remarkable growth rates during the 1990s (about 5 percent), but was less able to convert this growth to reductions in poverty. Factors that contributed to these differences in impact of growth on poverty reduction are considered in Chapter 4.

Latin America and the Caribbean has seen very small changes in the number of people living in each type of poverty, but experienced increases in the number of both subjacent and ultra poor. As a result of limited growth and poverty reduction, Sub-Saharan Africa has experienced increases in the number of poor in each group, particularly in ultra poverty.

Sub-Saharan Africa's high poverty rates in 1990 and its limited growth and progress in reducing poverty since then indicates that business as usual will not lead to improvements in well-being in a timely manner for a large share of the world's absolute poorest. Indeed, the continued prevalence and severity of poverty in Sub-Saharan Africa is one of today's major ethical challenges.⁵ The diverging experiences of Asia and Sub-Saharan Africa call into question standard economic growth models that

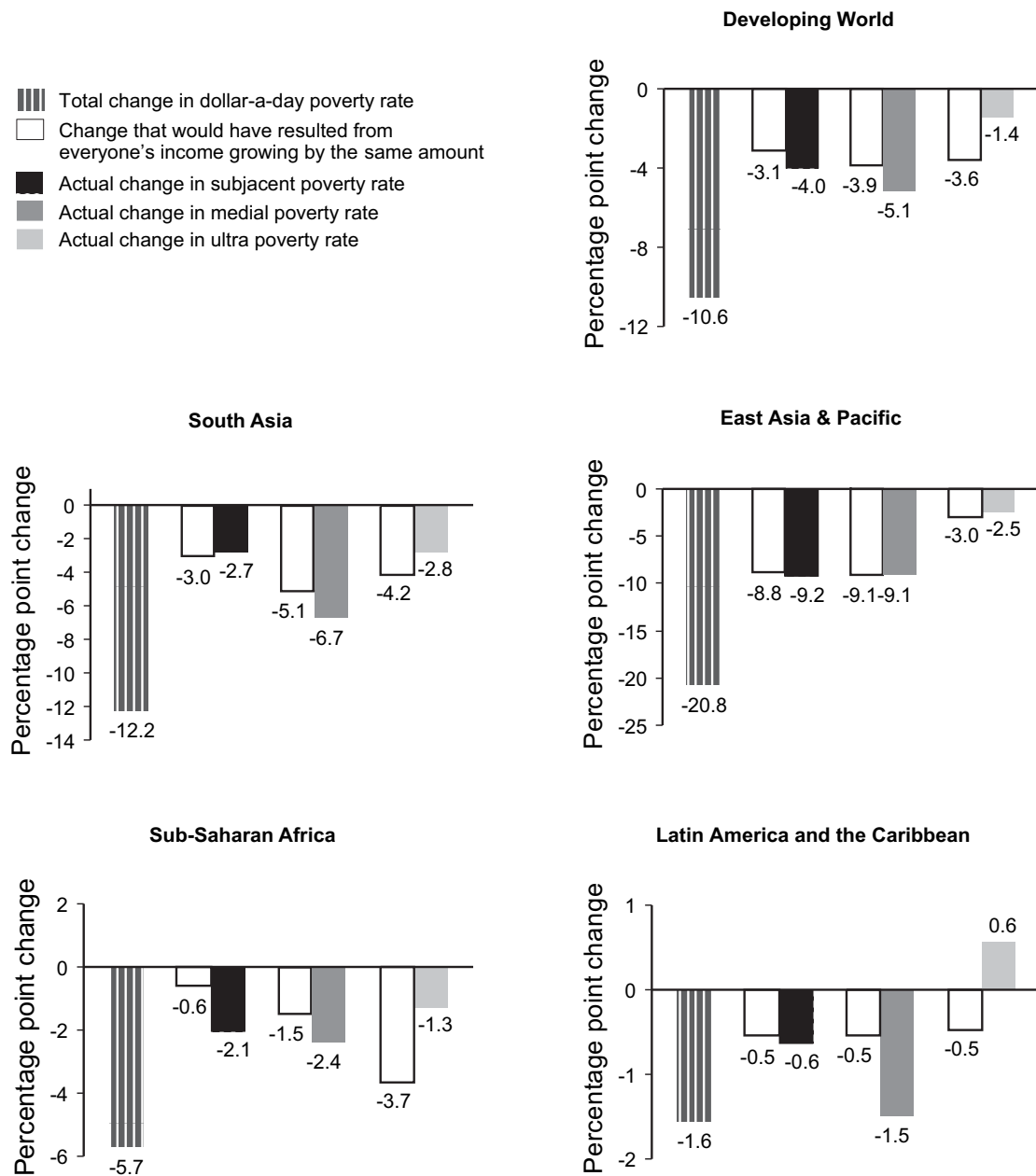
predict convergence. Theories of poverty traps link severe poverty with slow improvements in welfare. The severity of poverty and the limited progress in reducing it indicate that the poorest in Sub-Saharan Africa may be trapped in poverty, as some recent literature suggests (Collier 2007, Sachs 2005, Azariadis and Stachurski 2005). Micro-level evidence of poverty traps has been found for a number of countries in Sub-Saharan Africa, while little evidence has been found for countries in regions of the world where the severity of poverty is lower (such as Russia, China, and Mexico).⁶ We consider this further in the next section.

Analysis of Changes in Subjacent, Medial, and Ultra Poverty

According to mainstream theories of economic growth, the convergence hypothesis implies that gains should come most quickly to those living in ultra poverty. However, if poverty traps exist, those in ultra poverty may be so poor that optimal behavioral choices cause them to move out of poverty much more slowly than those who are less poor. Some reasons for this are suggested in Chapter 4.

How can we tell whether those in ultra poverty have fared better or worse than those closer to the line? While panel data is needed to answer this question, it is possible to get an indication from national poverty data by calculating the amount that subjacent, medial, and ultra poverty would have decreased (or increased in some cases) if poverty reduction had come from everyone's income growing by the same amount, with the underlying income distribution remaining unchanged. We compare this "equal growth scenario" poverty reduction with the amount of poverty reduction that actually took place. The "equal growth scenario" poverty reduction is shown as a white bar next to the actual change in each poverty rate in Figure 2.9 (Appendix 1 gives details on how this was calculated). For

FIGURE 2.9 Percentage-Point Change in Poverty from Changes in Subjacent, Medial, and Ultra Poverty: 1990-2004



example, if the 10.6 percentage-point decrease in global poverty had come from the income of everyone in the world growing by the same amount, there would have been a fall in subjacent poverty of 3.1 percentage points, a fall in medial poverty of 3.9 percentage points, and a fall in ultra poverty of 3.6 percentage points.

We find that the incidence of poverty among those just below the dollar-a-day poverty line fell more than it would have had all incomes grown equally, whereas the incidence of ultra poverty fell less than it would have had incomes grown equally. Subjacent poverty fell by more than 3.1 percentage points and ultra poverty fell by much less than 3.6 percentage points. This finding suggests the well-being of those just below \$1 a day improved more than the well-being of those well below the line. It points to a theory of poverty traps holding true for those in ultra poverty.

Disaggregating further, we see that in all major regions ultra poverty rates decreased less than they would have had everyone's income grown equally, suggesting reductions in poverty benefited those closer to the line than those further away from it.

However, there are differences across regions. In East Asia and the Pacific, growth benefited all groups nearly equally (the differences observed are probably not greater than the error with which they were measured). In this region, then, there seems to be little evidence of poverty traps, although there is little evidence of convergence, either.

In South Asia, those experiencing ultra poverty benefited the least, although those in subjacent poverty benefited almost as expected and those in medial poverty benefited the most. Such a pattern would be consistent with poverty traps being present for some groups in ultra poverty, but convergence applying to those in subjacent and medial poverty.

The pattern observed in Latin America and the Caribbean is not dissimilar to South Asia, although it is starker and consequently is worrisome. Again in Latin America, those in medial poverty benefited the most and those in ultra poverty benefited the least. However, unlike in other regions, the incidence of ultra poverty rose in Latin America and the Caribbean during 1990 to 2004. There were more people falling into this type of poverty than moving out of it.

Not only is the number of people living in ultra poverty highest in Sub-Saharan Africa, but trends suggest these people are also being substantially left behind in what little progress against poverty is being achieved in the region. The subjacent poor in Sub-Saharan Africa benefited much more than they would have had all incomes grown equally, as did those living in medial poverty, although to a lesser extent. The pattern of poverty reduction found in Sub-Saharan Africa is consistent with the presence of poverty traps in this region, as found in micro-level studies on Kenya, Madagascar, South Africa, and Côte d'Ivoire. The slow reduction in ultra-poverty rates in this region suggests that the majority of those living in ultra poverty will continue to be in Sub-Saharan Africa in the future.

In summary, the data are consistent with the premise that it is the poorest who benefit the least, and that poverty traps may exist in some regions. While the evidence is consistent with this interpretation, panel data is needed to further test these hypotheses.

2.3 COUNTRY TRENDS IN SUBJACENT, MEDIAL, AND ULTRA POVERTY

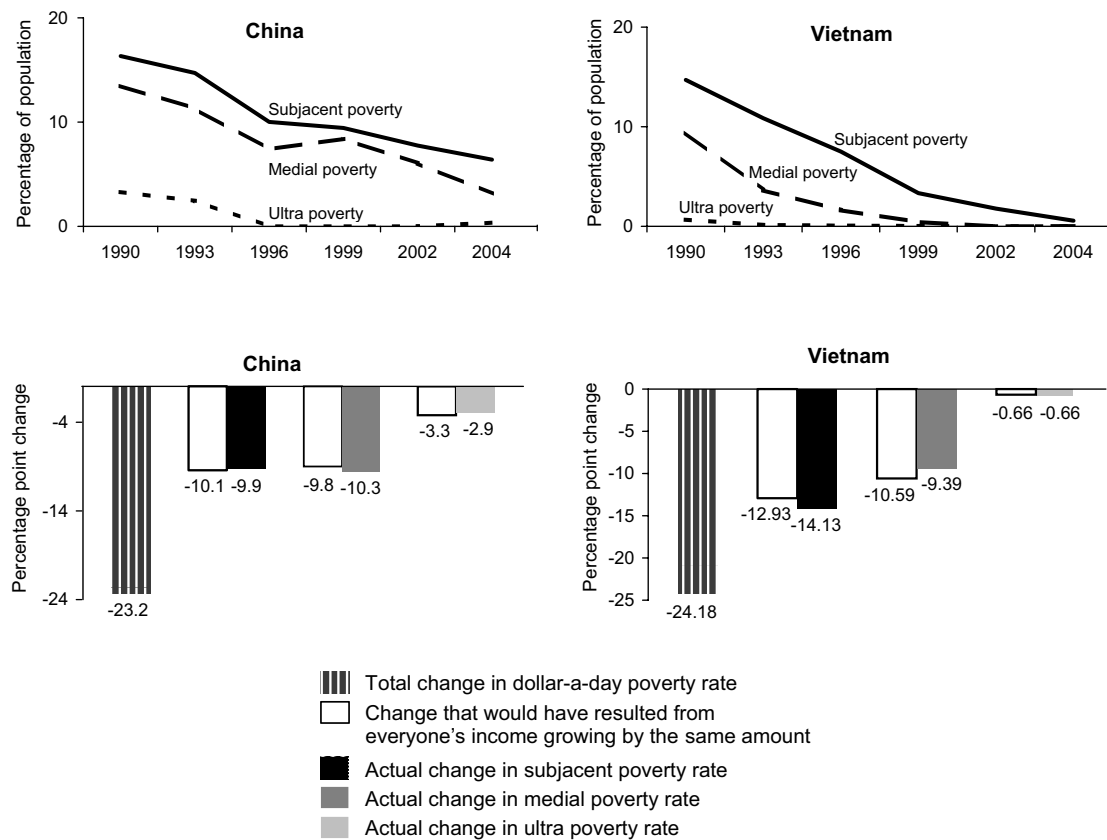
In this part of the report we consider the extent to which the regional trends are also observed at the country level for some key sample countries in each region.

East Asia and the Pacific

China's experience dominates the poverty trends observed in East Asia and the Pacific since it accounts for about 70 percent of the population in the region. This is indeed what is shown in the graphs in Figure 2.9 for East Asia and the Pacific and Figure 2.10 for China: trends observed within China almost match regional-level trends. However, there have

been other fast-growing economies in the region that have experienced similar successes in reducing poverty, as the case of Vietnam suggests (Figure 2.10). Changes in poverty rates in Vietnam occurred almost as if everyone had benefited equally. However, in China, those closest to the poverty line benefited less than they would have had all incomes grown equally.⁷

FIGURE 2.10 Trends in Subjacent, Medial, and Ultra Poverty in China and Vietnam, 1990-2004



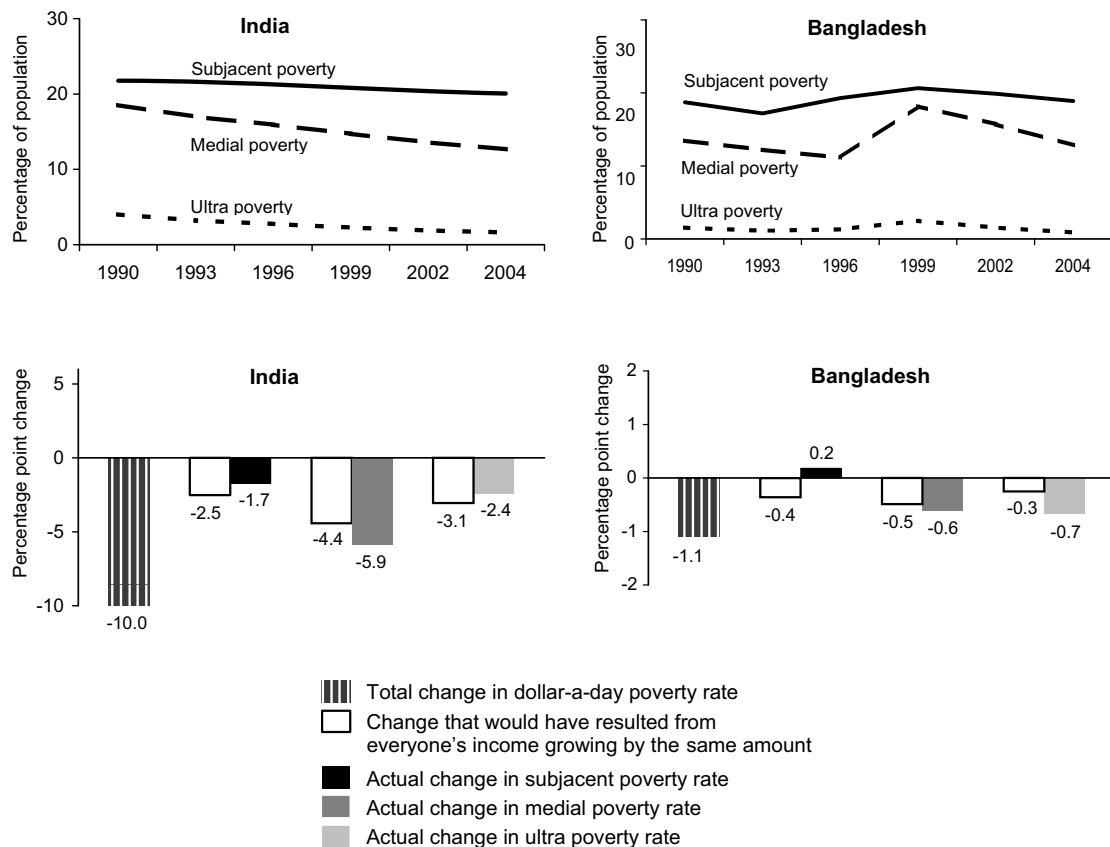
South Asia

In the same way that population trends in East Asia and the Pacific largely reflect changes in China, trends in South Asia's population reflect changes in India. However, other countries in South Asia are quite large; two in particular (Pakistan and Bangladesh) each comprise one-tenth of South Asia's population. Figure 2.11 examines trends in subadjacent, medial, and ultra poverty in India and Bangladesh. In Bangladesh, the initial reductions in poverty at the beginning of the 1990s were offset by

increases in all three types of poverty during the middle of the 1990s. However, all poverty rates have fallen since the end of the 1990s.

In India, the medial poor fared better than the subadjacent poor and the ultra poor (marginally). Although Bangladesh achieved minimal poverty reduction from 1990 to 2004, it is remarkable that the ultra poor fared better than they would have had all those below the line fared equally, suggesting that the severity of poverty lessened in the country.⁸

FIGURE 2.11 Trends in Subadjacent, Medial, and Ultra Poverty in India and Bangladesh, 1990-2004

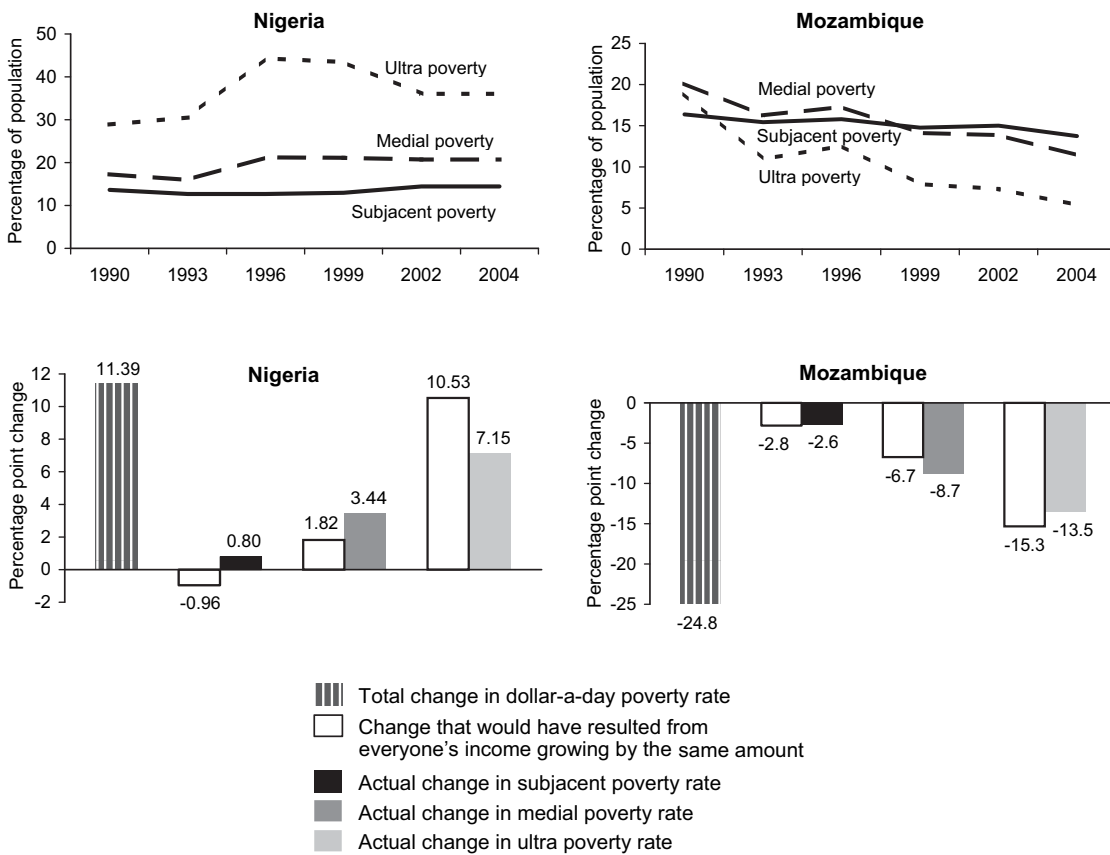


Sub-Saharan Africa

Nigeria is the single largest country in Sub-Saharan Africa, accounting for between 21 percent and 30 percent of the number of ultra, medial, and subjacent poor people living in the subcontinent. Nigeria experienced increases in the incidence of subjacent, medial, and ultra poverty between 1990 and 2004 and has therefore contributed to limited progress against poverty in the region, despite better performances in a number of countries that are home to between 5 and 10 percent of the

continent's poorest, such as Ethiopia, Tanzania, Uganda, Zambia, and Mozambique. Figure 2.12 shows the changes in subjacent, medial, and ultra poverty in Nigeria, Zambia, and Mozambique.⁹ Neither Zambia nor Mozambique suffered the increases in poverty that Nigeria experienced during the 1990–2004 period. Zambia is similar to Nigeria in that it also has a higher number of ultra poor than other groups. In Zambia, there was little overall change in the dollar-a-day poverty rate. By contrast, poverty rates fell substantially in

FIGURE 2.12 Trends in Subjacent, Medial, and Ultra Poverty in Nigeria, Mozambique, and Zambia, 1990-2004

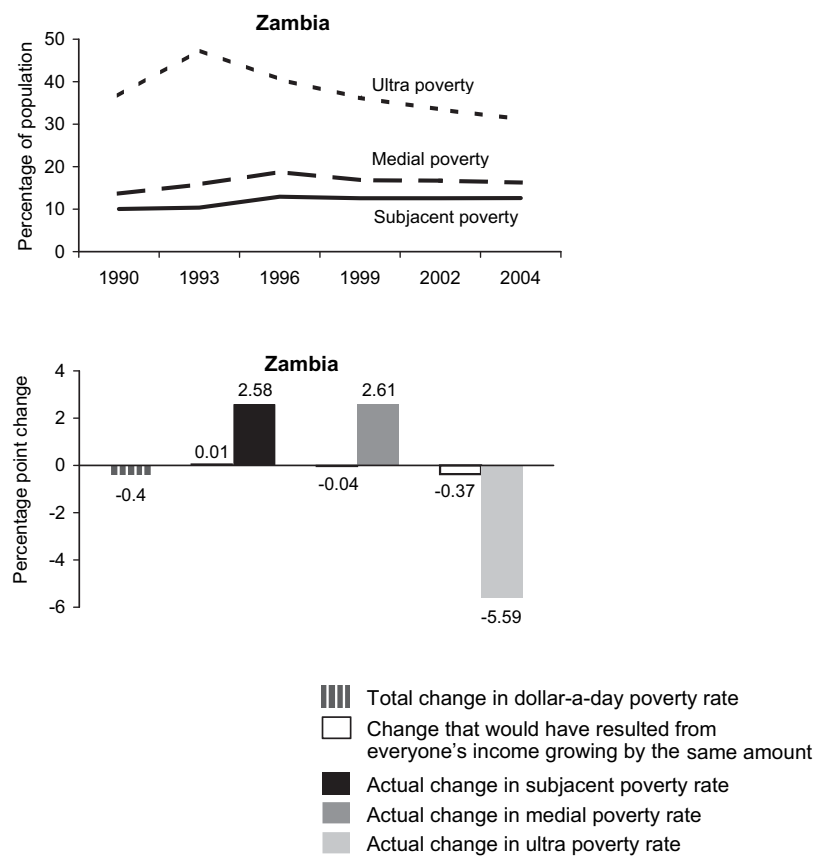


Mozambique because it underwent considerable recovery after the civil war that had ravaged the country for more than 15 years ended in 1992 (Simler et al. 2004).

In Nigeria, all three poverty rates increased between 1990 and 2004; although there was a substantial increase in ultra poverty, the data suggest the incidence of ultra poverty did not increase as much as it would have had all incomes fallen equally. In Zambia, while there was little change in the overall dollar-a-day rate, this masked shifts in subjacent, medial,

and ultra poverty during this time: ultra poverty fell remarkably while subjacent and medial poverty became more prevalent. Thus, in Zambia there was a lessening of the severity of poverty experienced by many people, with more people in 2004 living on just under \$1 a day and less living on under 50 cents a day than in 1990. Although Mozambique saw substantial reductions in ultra poverty between 1990 and 2004, ultra poverty would have fallen more had all incomes grown equally.

FIGURE 2.12, continued



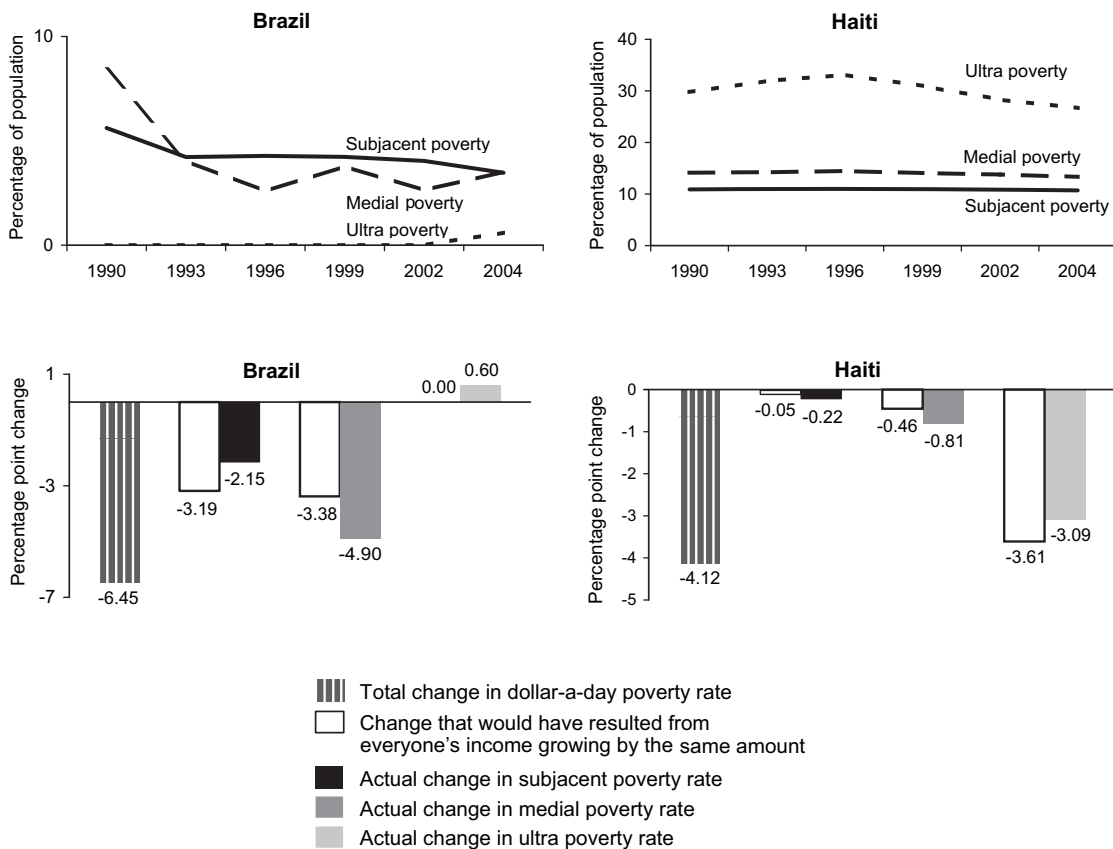
Latin America and the Caribbean

Brazil and Mexico are the largest countries in Latin America and the Caribbean and are home to the largest number of people living on less than \$1 a day in the region. Peru, Colombia, and Argentina are also home to a large number of poor. However, most of these countries have very few people living in ultra poverty.

Despite its small population, Haiti is home to the highest number of ultra poor in the region (2.24 million) on account of its high

ultra-poverty rate (27 percent). Its patterns of subjacent, medial, and ultra poverty resemble that of many Sub-Saharan countries: a higher rate of ultra poverty than of the other two types of poverty. Haiti is the poorest country in the Western Hemisphere and has a long history of political crises, violence, and bad governance (IMF 1999, Gibbons 1999). High population density, extreme poverty, and inadequate farming practices led to large-scale deforestation and soil erosion, and

FIGURE 2.13 Trends in Subjacent, Medial, and Ultra Poverty in Brazil, Haiti, and Venezuela, 1990-2004

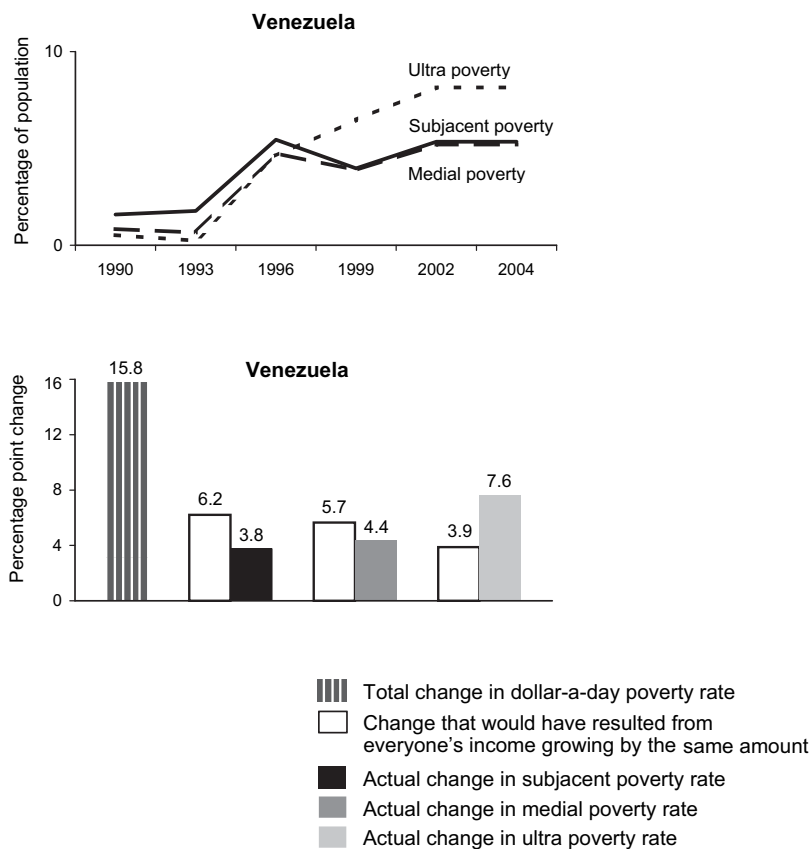


together with the government's inadequate pricing policies, these factors have depressed agricultural production and food availability (Icart and Trapp 1999). Although it lags behind other countries in the region, the poverty situation has been improving since 1990.

From 1990 to 2004, the number of ultra poor in Venezuela increased dramatically, from close to 0 to more than 2 million, contributing substantially to the regional trend of increased ultra poverty.

In general, Brazil, Haiti, and Venezuela experienced quite different poverty trends from 1990 to 2004 (Figure 2.13). In Brazil and Venezuela, the ultra poor fared worst. And despite a decrease in the severity of poverty in Haiti during this time, the ultra poor did not benefit quite as much compared to the counterfactual of all incomes growing equally (although the difference is small).¹⁰

FIGURE 2.13, continued



2.4 GLOBAL HUNGER: RANKING AND TRENDS

This section focuses on hunger—the second component of the first MDG. Hunger has many faces: loss of energy, apathy, increased susceptibility to disease, shortfalls in nutritional status, disability, and premature death. The Global Hunger Index (GHI) was designed to capture three dimensions of hunger: lack of economic access to food, shortfalls in the nutritional status of children, and child mortality, which is to a large extent attributable to malnutrition (Wiesmann 2006). Accordingly, the Index includes the following three equally weighted indicators: the proportion of people who are food-energy deficient as estimated by the Food and Agriculture Organization of the United Nations (FAO), the prevalence of underweight in children under the age of five as estimated by the World Health Organization, and the under-five mortality rate as estimated by UNICEF (see Appendix 2 for details on the measurement and construction of the GHI). Note that all three components of the GHI were selected to monitor progress toward the Millennium Development Goals (United Nations 2001).

The Index ranks countries on a 100-point scale, with 0 being the best score (no hunger) and 100 being the worst, though neither of these extremes is found in practice. In general, a value greater than 10 indicates a serious problem, greater than 20 is alarming, and greater than 30 is extremely alarming. The Global Hunger Index is restricted to developing countries and countries in transition. Developed countries are excluded because they have for the most part overcome hunger, and overconsumption is now a greater problem than is a lack of food.

As compared to using a group of single indicators, a composite index such as the GHI has several advantages. It integrates different aspects of multifaceted phenomena like hunger, it reduces the impact of random measurement errors, and it facilitates the use of statistics

by policymakers and the public by condensing information. The Index thus goes beyond measuring hunger as food-energy deficiency, which is the focus of the FAO measure of hunger (FAO 1996a).

However there are also problems in using an index. Three dissimilar measures are arbitrarily weighted equally, assuming substitutability between various measures that have intrinsic value and information as separate indicators. Additionally, the quality of the data used in all three measures of the Index varies widely across countries, and aggregating may compound this or hide underlying data problems (see Appendix 2 for a fuller discussion of the problems). Ideally, an index should be used to summarize, not replace, its component measures and should be seen merely as an entry point from which to explore many dimensions of a single concept. In the following section, we present the Global Hunger Index and its components to examine where the hungry live and how the prevalence of hunger has changed over time.

Where Are the Hungry?

The Global Hunger Index 2003 ranking for 119 countries is shown in Table 2.1, with the best performers at the top of the list. The world map in Figure 2.14 shows that according to the GHI, the hot spots of hunger are in Sub-Saharan Africa and South Asia. Sub-Saharan Africa had a GHI score of 25.4 in 2003, closely followed by South Asia (see Figure 2.15) despite the fact that poverty is about 10 percentage points lower in South Asia. East Asia and the Pacific, the Middle East and North Africa, and Latin America and the Caribbean follow. The GHI is lowest in Europe and Central Asia, at 5.6. There are a few exceptions to this regional pattern: countries with GHI scores higher than 20 are Haiti in the Caribbean; Yemen in the Near East; Tajikistan in Central Asia; Laos, Cambodia, Timor-Leste

(East Timor) in Southeast Asia; and the Democratic Republic of Korea in East Asia.

Belarus occupies the top rank with a GHI of 1.6 (the child malnutrition data for this country are based on the author's preliminary estimates, however), which is closely followed by Argentina, Chile, Ukraine, and Romania (Table 2.1). Countries that experienced long-lasting violent conflicts affecting the infrastructure, the productive base of the economy, and the population's livelihoods have very high GHI scores, indicating grave outcomes in terms of hunger. Nine of the 12 countries at the very bottom of the list—Burundi, the Democratic Republic of Congo, Eritrea, Ethiopia, Sierra Leone, Angola, Liberia, Cambodia, and Tajikistan—were affected by war in the GHI reference period from 1999–2003 or are still recovering from severe conflicts (UCDP 2006).

Trends in Hunger

In Sub-Saharan Africa, overall progress from 1992 to 2003 was relatively small compared to that in other regions (Figure 2.15 and Figure 2.16). The proportion of people who are food-energy deficient fell by about 4 percentage points, but there was very little improvement in the prevalence of underweight in children and in the under-five mortality rate (a decline of less than 1 percentage point).

South Asia made large strides in combating hunger in the 1990s. In 1992, South Asia's GHI score was five points higher than Sub-Saharan Africa's, but by 2003, South Asia's regional score had caught up with Sub-Saharan Africa. The GHI decreased by seven points, with a reduction in the prevalence of underweight in children from 58 percent to 44 percent contrib-

FIGURE 2.14 Global Hunger Index 2003: Mapping of Countries

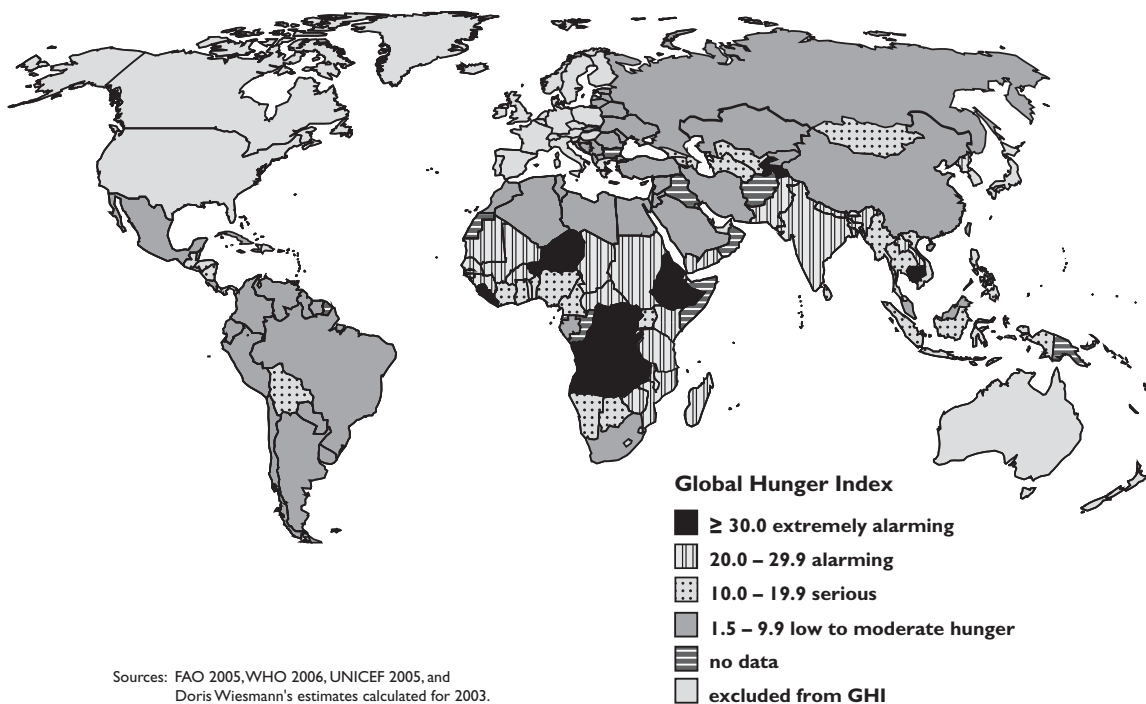


TABLE 2.1 Global Hunger Index (GHI)—Ranking of Countries

GHI rank	Countries	Global Hunger Index			GHI rank	countries	Global Hunger Index			GHI rank	countries	Global Hunger Index		
		1992	1997	2003			1992	1997	2003			1992	1997	2003
1	Belarus	..	3.71	1.59*	X 41	Colombia	9.70	8.13	7.27	81	Mauritania	27.73	17.43	20.03
2	Argentina	1.87	2.93	1.81	42	South Africa	7.46	7.32	7.66	x 82	Senegal	19.70	19.90	20.13
3	Chile	3.93	2.37	1.87	x 43	Venezuela	6.17	7.93	7.83	83	Korea, Dem. Rep. ^a	15.51	20.91	20.33
4	Ukraine	..	3.71	1.97	X 44	Peru	19.73	10.80	7.83	x 84	Djibouti	32.09	24.45	20.90
5	Romania	3.89	2.36	2.07	45	Kazakhstan	..	4.96	8.17	x 85	Togo	23.70	21.23	21.10
6	Libya	4.80	2.40	..	X 46	El Salvador	11.17	9.80	8.17	86	Kenya	23.13	22.93	21.73
7	Tunisia	5.03	4.43	2.47	47	China	12.57	8.57	8.23	x 87	Guinea	28.67	24.64	21.73
8	Cuba	5.83	7.62	2.57	48	Kyrgyz Rep.	..	10.34	8.36	x 88	Pakistan	25.97	23.60	21.77
9	Lithuania	..	2.47	2.64*	49	Gabon	13.63	10.83	9.00	89	Timor-Leste ^b	22.29
10	Croatia	..	3.84	2.72	50	Suriname	..	9.39	9.37	90	Zimbabwe	21.87	23.50	23.20
11	Latvia	..	3.46	2.74*	51	Guyana	15.17	12.83	9.83	x 91	Lao PDR	25.83	26.73	23.83
12	Uruguay	5.20	3.50	2.74	X 52	Azerbaijan	..	14.89	10.27	X 92	Nepal	27.77	27.77	24.50
13	Russian Federat.	..	3.80	2.93	53	Turkmenistan	..	11.40	10.40	x 93	Haiti	35.03	33.23	25.33
14	Fiji	7.14	5.97	3.07	54	Dominican Rep.	14.10	12.40	11.27	94	Malawi	33.40	30.47	25.40
15	Slovak Republic	..	3.87	3.22*	X 55	Georgia	..	9.17	11.53	X 95	Sudan	27.43	22.80	25.67
16	Lebanon	5.10	3.23	3.28	56	Bolivia	17.27	14.07	11.57	X 96	India	32.80	25.73	25.73
17	Costa Rica	3.30	3.50	..	x 57	Panama	11.33	11.03	12.21	97	Burkina Faso	21.03	22.87	25.80
18	Kuwait	9.90	2.67	3.56	x 58	Thailand	17.83	13.80	12.36	X 98	Guinea-Bissau	22.74	25.39	26.61
19	Estonia	..	2.70	3.56*	x 59	Indonesia	18.53	15.60	12.47	X 99	Rwanda	31.87	32.10	27.20
20	Mauritius	8.47	7.73	3.80	x 60	Lesotho	16.13	14.57	12.80	X 100	Chad	36.50	35.87	27.33
21	Syrian Arab Rep.	7.17	6.73	4.23	x 61	Armenia	..	12.19	13.30	x 101	Mali	25.37	31.97	28.07
22	Bosnia & Herzeg.	..	5.56	4.60	x 62	Nicaragua	16.44	16.97	13.47	x 102	Bangladesh	36.50	35.73	28.27
23	Jordan	4.47	4.83	4.73	x 63	Uzbekistan	..	11.74	13.60	x 103	Central Afric. Rep.	33.27	30.50	28.43

X 24	Serbia & Montenegro	..	2.29	4.77	64	Honduras	16.47	16.97	14.03	X 104	Mozambique	47.17	34.97	28.83
x 25	Mexico	7.50	5.99	5.10	65	Swaziland	11.17	14.00	14.87	X 105	Yemen	27.23	30.70	29.19
x 26	Egypt	6.63	7.00	5.17	66	Ghana	27.03	18.67	14.87	106	Madagascar	30.90	31.93	29.92
27	Jamaica	6.67	5.43	5.27	67	Mongolia	18.10	24.68	15.83	107	Tanzania	27.83	31.63	29.97
28	Brazil	8.50	6.70	5.43	X 68	Myanmar	19.33	15.53	16.17	X 108	Tajikistan	..	19.86	30.25
29	Saudi Arabia	6.87	7.40	5.44	X 69	Sri Lanka	22.40	21.87	16.63	X 109	Cambodia	33.03	36.03	30.73
X 30	Turkey	7.07	4.93	5.45	70	Guatemala	17.37	17.70	16.87	x 110	Comoros	26.58	29.55	30.81
x 31	Iran	9.00	5.80	5.80	71	Namibia	23.03	22.32	17.50	111	Zambia	31.13	30.57	31.77
x 32	Macedonia, FYR	..	6.50	5.93	X 72	Philippines	21.80	19.63	17.55	X 112	Liberia	25.27	30.66	32.00
x 33	Paraguay	8.37	6.16	..	73	Benin	19.40	20.97	17.77	X 113	Angola	40.83	38.17	32.17
x 34	Ecuador	10.13	7.73	6.22	x 74	Côte d'Ivoire	14.23	17.43	18.13	x 114	Niger	38.53	41.20	33.43
x 35	Moldova	..	6.93	6.32*	75	Vietnam	25.93	22.37	18.37	X 115	Sierra Leone	33.20	33.70	35.20
x 36	Morocco	7.20	7.40	6.42	76	Botswana	18.53	16.37	18.57	X 116	Ethiopia ^c	46.44	41.72	36.70
X 37	Algeria	7.13	7.57	6.50	X 77	Uganda	21.83	21.73	18.63	X 117	Eritrea	..	41.10	40.37
38	Trinidad & Tobago	7.30	7.73	6.63	78	Gambia	20.37	21.97	18.83	X 118	Congo, Dem. Rep.	28.00	38.37	40.83
39	Albania	9.18	7.62	7.23	x 79	Nigeria	22.47	20.90	19.17	X 119	Burundi	32.30	39.71	42.70
40	Malaysia	10.17	7.73	7.23	x 80	Cameroon	19.93	21.17	19.52					

NOTES:

*GHI scores contain author's preliminary estimates of the underweight prevalence in children under five years. GHI 1997 was used to rank Costa Rica, Libya, and Paraguay, because GHI 2003 could not be calculated for these countries. Ten countries could not be included due to lack of (recent) data: Afghanistan, Bahrain, Bhutan, Bulgaria, Congo (Republic), Iraq, Oman, Papua New Guinea, Qatar, and Somalia. x = Countries experienced a minor or intermediate armed conflict between 1989 and 2003, but no war. X = Countries waged a full-blown war between 1989 and 2003.

^a North Korea

^b East Timor

^c For years earlier than 1993, when the secession of Eritrea took place, numbers for Ethiopia included the area of Eritrea

FIGURE 2.15 Regional Trends in the Global Hunger Index and Its Components for the Years 1992, 1997, and 2003

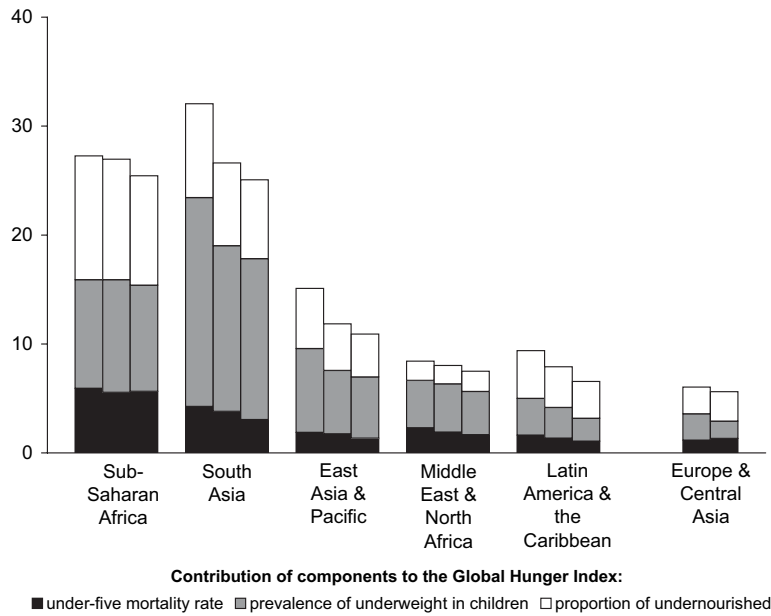
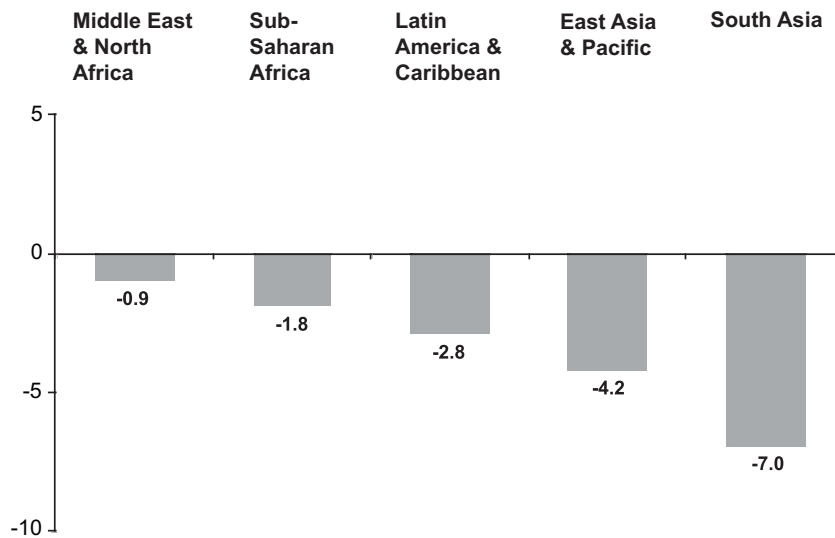


FIGURE 2.16 Changes in the Global Hunger Index from 1992 to 2003



uting the largest share to this decline. Despite the remarkable improvement in child nutritional status in South Asia, the region still has the highest prevalence of underweight in children in the world.

Starting from a much lower GHI score of about 15, East Asia and the Pacific experienced a reduction of only 4 points in the GHI from 1992 to 2003. However, the lower level of the GHI at the outset suggests that in the early 1990s, a larger share of the population was already able to meet the most basic food and nutritional needs in this region than in Sub-Saharan Africa and South Asia.

China and India, the world's population giants in South Asia and East Asia and the Pacific, made large contributions to the overall positive development in these two regions. Food-energy deficiency declined in both countries, child malnutrition was reduced by more than 7 percentage points in China and by more than 13 percentage points in India, and the under-five mortality rate was cut by about 30 percent in India from 1992 to 2003. However, the lack of improvement in India's GHI score between 1997 and 2003 despite continued growth is a cause for concern, since India's GHI still indicates alarming levels of hunger.

Notable among countries in South Asia and East Asia and the Pacific, the Democratic Republic of Korea is the only country for which hunger increased, according to the GHI. However, its place in the GHI may be far surpassed by Afghanistan if data had been available to calculate the index for this South Asian country.

In Latin America and the Caribbean, there was sustained progress up to 2003, though not at a great pace: the GHI declined by about three points. A look at the composition of the GHI in 1992 reveals that the proportion of people who were food-energy deficient

amounted to 13 percent and exceeded the prevalence of underweight in children and the under-five mortality rate.

For Europe and Central Asia, a lack of data on food security and nutrition for the early 1990s prevents observation of long-term trends. Most of these nation-states came into existence after the dissolution of the Soviet Union or after the Balkan War in the 1990s.

2.5 THE RELATIONSHIP BETWEEN POVERTY AND HUNGER

Poverty is a key factor affecting the underlying determinants of household food security, caring capacity, and health environments. Poor households and individuals are unable to achieve food security, have inadequate resources for care, or cannot utilize resources for health on a sustainable basis (Smith and Haddad 2000). Higher rates of child malnutrition and child mortality are found in poor households. Poor families not only struggle to put a sufficient quantity of food on the table, but are also prone to food insecurity with regard to the quality of their diets: even when dietary energy requirements are met, their diets may lack essential micronutrients such as iron, iodine, zinc, and vitamin A.

Because undernourished people are less productive and child malnutrition has severe and permanent consequences for physical and intellectual development, poverty and hunger can become entwined in a vicious cycle. Babies born to severely undernourished and anemic mothers are at higher risk to be underweight and die soon (Smith et al. 2003). If they survive, they will never make up for the nutritional shortfalls at the very beginning of their lives. Adults who were malnourished as children are less physically and intellectually productive, have lower educational attainment and lifetime earnings, and are affected by higher levels of chronic illness and disability (UNICEF 1998;

Behrman, Alderman, and Hoddinott 2004; UNS SCN 2004). Thus, poverty can be transmitted to the next generation via the pathway of child malnutrition.

Given these links between hunger, malnutrition, and poverty, we would expect that trends in these indicators largely coincide. However, in addition to increasing income, reducing child malnutrition and mortality also requires investment in basic health and education services, sanitation and safe water supply, and changes in the behaviors of caretakers (UNICEF 1990). And on a technical note, the relationship between prices for food and nonfood items influences how poverty translates into hunger and malnutrition. All of these factors may weaken the observed relationship between the GHI and measures of dollar-a-day poverty.

A comparison of countries' GHI rankings with a ranking of their dollar-a-day poverty estimates shows that the estimated correlation between the GHI and the poverty ranking is high.¹¹ The hot spots of poverty outside South Asia and Sub-Saharan Africa are partly the same as for the GHI: Laos, Cambodia, and Haiti have poverty headcount ratios at \$1 a day of 27, 34, and 54 percent, respectively, and have alarmingly high levels of hunger according to the GHI. However, the overlap between poverty and GHI estimates is not perfect. For example, the poverty headcount ratio at \$1 a day is greater than 15 percent for El Salvador, Ecuador, Venezuela, Bolivia, and Turkmenistan, although these countries fall into the "serious" and not "alarming" category according to the GHI (and for Venezuela, the GHI indicates even low to moderate hunger). And there are some notable outliers, which may speak to data problems as much as anything else.

We examine the empirical relationship of levels and trends in regional poverty and hunger and compare the GHI and its components with dollar-a-day and ultra-poverty rates. Sub-Saha-

ran Africa has both the highest GHI score and the highest proportion of people living on less than \$1 a day, amounting to 41 percent (Figure 2.3). Reductions in both dollar-a-day poverty and the GHI were slow during the 1990s and early 2000s (see Figure 2.16 and Figure 2.3). The high proportion of ultra-poor people in this region—both as a share of the population and as a share of the poor—is particularly striking. In addition to the high burden of diseases such as malaria and AIDS in Sub-Saharan Africa, this most likely contributes to the comparatively high child mortality rates found in this region. Food shortages, the high extent of ultra-poverty, and a high prevalence of life-threatening infectious diseases are major problems that have to be tackled in Sub-Saharan Africa.

South Asia's GHI score is only marginally below that of Sub-Saharan Africa, even though dollar-a-day poverty is about 10 percentage points lower. A more marked decline in the GHI as discussed above coincides with a fall in the poverty headcount ratio at \$1 a day by 12 percentage points.

It has already been noted that despite the remarkable improvement in child malnutrition in South Asia, the region still has the highest prevalence of underweight in children in the world. The main reason proposed to explain a higher child malnutrition rate in South Asia than in poorer, conflict-plagued Sub-Saharan Africa is that South Asian women's nutrition and feeding and caring practices for young children are inadequate, which is related to their status in society and their lower level of education (World Bank 2006a, Smith et al. 2003). South Asia has particularly high rates of underweight women and low birth-weight babies (Smith et al. 2003, UNS SCN 2004). According to a recent study in Bangladesh, intensive nutrition education for mothers improves child nutritional status significantly and sustainably even when no nutritional supplements are provided, and this

effect is attributable to changes in maternal child-feeding and caring practices (Roy et al. 2005).

Smith and Wiesmann (2007) use estimates of food insecurity from household expenditure surveys to show that severe to moderate food-energy deficiency (defined as per capita calorie availability below the average requirements for light activity) is at about the same level in South Asia and Sub-Saharan Africa (51 and 57 percent, respectively). However, severe food-energy deficiency (defined as per capita calorie availability below the minimum requirements for light activity) is much more prevalent in Sub-Saharan Africa: 51 percent as compared to 35 percent in South Asia. And moderate food-energy deficiency is higher in South Asia (16 percent) than in Sub-Saharan Africa (6 percent). This suggests there is not only a higher severity of poverty in Sub-Saharan Africa (as evidenced by the high share of ultra poor) than in South Asia, but also a higher severity of hunger. This is not surprising, given that the conceptual link between poverty and hunger and the estimates for these two indicators come from the same data sources.

East Asia and the Pacific's four-point reduction in the GHI is much lower than its dramatic decline in poverty of 21 percentage points during the 1990s and early 2000s. However, this disparity in poverty and hunger trends should

be seen in the light of a lower level of the GHI at the outset.

In Latin America and the Caribbean, slow progress against both poverty and hunger was observed, starting from a lower level for both indicators. The increase in proportion of the ultra poor living on less than 50 cents a day was not matched by increases in any of the components of the GHI.

2.6 CHAPTER CONCLUSION

This chapter has presented a global picture of extreme poverty and hunger and the way it has changed over time. It has highlighted regions of the world in which poverty and hunger are highly prevalent and remain persistent. Sub-Saharan Africa continues to experience a high incidence of poverty and even though improvements in poverty have been evident in South Asia, hunger remains persistently high. We have also shown that the world's absolute poorest are overwhelmingly located in Sub-Saharan Africa.

Improvements in well-being were experienced in all regions from 1990 to 2004, as evidenced by falling measures of poverty and hunger. However, progress has been markedly uneven between regions, and in general, global and regional trends indicate that improvements have been the least for those who need them most: the poorest.