

Investment priorities for reaching the Millennium Development Goals in other regions

Development is not a one-size-fits-all process, so national MDG-based strategies will need to be adapted to specific regional and national situations. This chapter describes regional investment priorities outside Sub-Saharan Africa. We begin by identifying interventions from chapter 5 that are especially relevant in Asia, home to two-thirds of the world's poorest people: 271 million in East Asia, 430 million in South Asia and the rest in Central Asia (Chen and Ravallion 2004). Although human development indicators are improving overall, the region is marked by a high degree of variation in social and economic conditions. East Asia has been one of the fastest growing regions in the world for the last half century and has made major strides in reducing poverty, hunger, illiteracy, and disease. But pockets of the region, especially in Lao People's Democratic Republic (PDR), Cambodia, and parts of Indonesia, remain trapped in poverty. China embodies the contrasts starkly—the western and northern rural provinces lag far behind coastal regions, which have grown explosively. In South Asia, India is home to more than 360 million people below the poverty line (Chen and Ravallion 2004). It has seen rapid development in its southern states, but serious challenges remain in the north. Most of the rest of South Asia shares a similar experience of growth mixed with variable progress on social development indicators. The Central Asian states face extreme geographic isolation, ecological stress, and rapidly deteriorating development indicators.

Countries in Latin America and in the Middle East and North Africa face their own challenges in meeting the Goals. These two regions together accounted for only an estimated 57 million of the world's poorest people in 2001, or 5.2 percent of the total (Chen and Ravallion 2004). But both regions face serious development challenges such as economic stagnation, environmental stress, rural isolation, and deeply entrenched social inequalities. The

transition countries of Central and Eastern Europe also face unique challenges, many of which derive from the collapse of the Soviet Union. For countries with special needs, including the Least Developed Countries, landlocked countries, small island developing countries, and countries at high and regular risk of natural disasters, specific interventions will be required.

East Asia

China

China's economic performance in the last two decades has been nothing short of spectacular. Real per capita economic growth rates have averaged 8.2 percent a year. Output has quadrupled. The incidence of rural poverty declined from 30 percent in 1990 to 11 percent in 2002 (Woo and others 2004). China is on track to meet many of the Goals, including the targets for poverty, hunger, primary enrollment, and health.

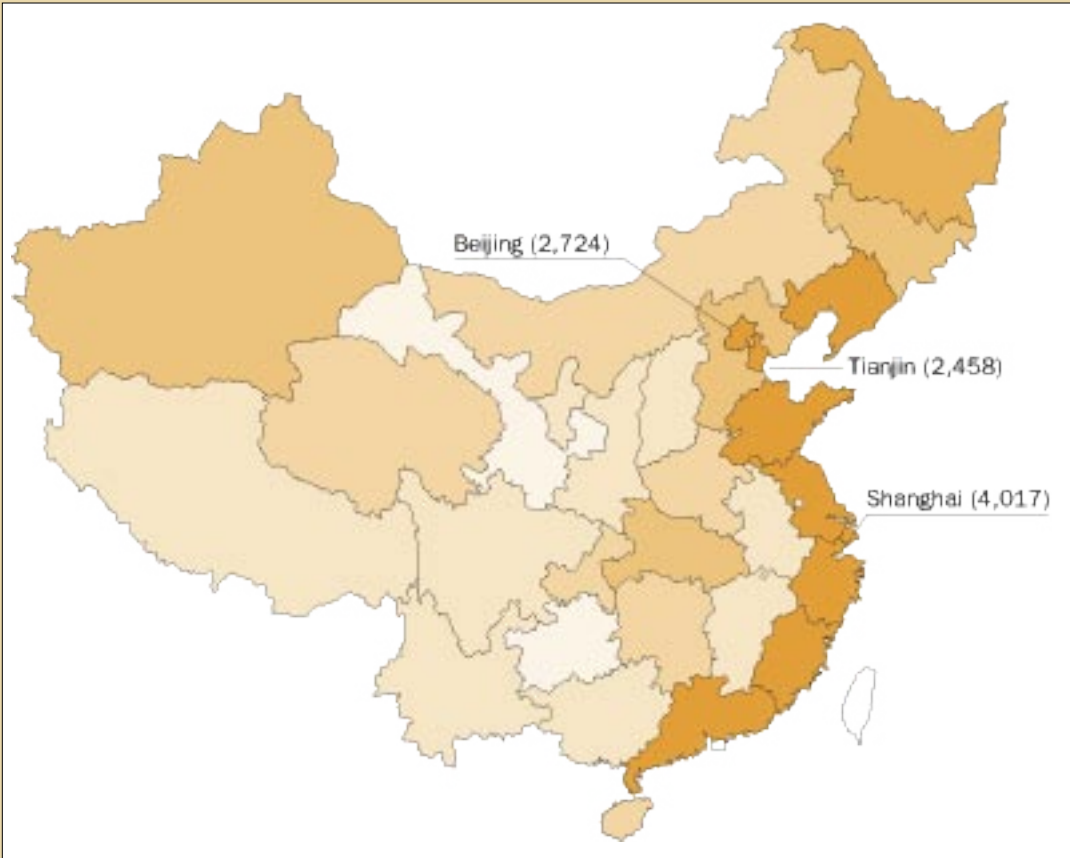
Despite these achievements, China still has 102 million people below the poverty line, and income growth is unlikely to maintain the pace of the past two decades. Rural income growth in particular declined from 5.7 percent in the 1990s to nearly 4 percent during 1997–2002, leading to more disparities between the coastal, more urbanized provinces—such as Guandong, Jiangsu, and the metropolises of Beijing and Shanghai—and the interior, more rural southwest, central, and northwest provinces—such as Henan, Shanxi, and Gansu (map 11.1) (Woo and others 2004).

In addition, China faces challenges in meeting the Goals for gender equality, HIV/AIDS, access to clean drinking water, and environmental sustainability. The sex ratio at birth in China increased from 111 males per 100 females in 1989 to 118 in 2000, reflecting the strong preference for boys (Woo and others 2004). The public health system is under severe stress, with rural health insurance coverage falling from 90 percent to less than 10 percent between the 1970s and 1998 (Bogg and others 1996; Liu, Rao, and Hsiao 2003). As a result, the vast majority of people in rural areas must pay out of pocket for all health services, which can result in financial catastrophe for those with serious illness and has been found to be a major contributor to rural poverty in China's villages (Liu, Rao, and Hsiao 2003). HIV prevalence rates have risen sharply; the number of people living with the virus is estimated to be 1 million, but estimates suggest it could increase to 10 million by 2010 without an immediate effective response (UNAIDS 2004). With China's rapid urban growth, urban poverty has risen from less than 1 percent in 1984 to 3.4 percent in 2000. Environmental degradation has been another serious consequence of economic growth. More than 90 percent of China's grasslands are degraded, more than 75 percent of the water in rivers in urban areas is unfit for human contact, and 6 of the world's 10 most polluted cities are in China (Woo and others 2004).

An MDG-based investment strategy for China would need to include four key elements:

Map 11.1
Per capita incomes
in provinces of
mainland China
2002 US\$

Source: National Bureau of Statistics of China 2003.



□ Less than 550 □ 551–750 □ 751–950 □ 951–1,150 □ 1,151–1,350 □ More than 1,350 □ No data

- *Rural investment strategies.* Rural areas require better roads and transport services, energy, sanitation, and water supply. Investments should also seek to increase agricultural productivity through increased research on improved seeds, biotechnology for agriculture, improved local livestock, better extension services, and support for agroprocessing technologies (as outlined in chapter 5). A central challenge across China is to contain rising water consumption by agriculture and industry through improved production techniques and better water management. Some of these interventions are already embedded in government programs

such as the Outline for Poverty Alleviation and Development in China's Rural Areas and the Western Development Strategy, but they need to be supported and expanded.

- *Health and education.* Resources are required to provide universal access to basic education and primary health services. The primary healthcare system requires support, particularly in rural areas, with special attention to reducing the out-of-pocket healthcare costs for access to services through increased government funding and rural cooperative health insurance. China needs to mount an urgent HIV prevention effort and to focus on the health needs of girls and women.
- *Urban development.* Continuing migration from rural areas is likely to increase pressure on China's cities, which in 2001 already had more than 175 million people living in slum-like conditions (UNDESA 2004). Current projections estimate that the urban population could increase from 36 percent to roughly 57 percent of the total population by 2025 (United Nations Population Division 2003a). Managing this increase will require significant investments in slum upgrading, low-cost public housing, such basic services as health and education, infrastructure, and environmental management for waste disposal, recycling, and wastewater treatment.
- *Environmental management.* Critical investments to combat pollution and environmental degradation include research, new technologies, regulatory capacity building, water treatment plants, mechanisms to monitor pollutants from private industries, and active conservation programs for degraded ecosystems. Investments in clean energy are particularly important given China's rapidly increasing consumption of fossil fuels.

Other East Asian countries

The countries of East Asia have, as a group, moved closer toward achieving the Goals, but progress has been uneven within the region, within countries, and across the Goals. Some countries have already come close to achieving most of the Goals and have even committed themselves to more ambitious, MDG-plus targets, but others remain significantly off track for meeting the original Goals.

Thailand and Cambodia illustrate some of the disparities. In Thailand poverty fell from 27.2 percent in 1990 to 9.8 percent in 2002, the proportion of underweight children dropped from 18.6 percent to 8.5 percent between 1990 and 2000, and progress has been significant on the other Goals (United Nations Country Team and government of Thailand 2004). By contrast, despite strong government commitment to the Millennium Development Goals, Cambodia is off track for most of the Goals. The under-five mortality rate actually increased between 1990 and 2000, TB prevalence is rising, and rapid deforestation continues (UNDP 2001). Although conditions vary

by country, Lao PDR, Indonesia, Myanmar, and the Democratic Republic of Korea are also struggling to meet the Goals, particularly those related to poverty, health, and gender equality.

Regional challenges include achieving targets for health, gender equality, and environmental sustainability, as many countries remain off track. For example, while the prevalence of HIV has fallen slightly in Cambodia and Thailand, it has risen in other countries, including Myanmar, Nepal, and Viet Nam (UNAIDS 2004). In many countries in the region, health systems are undergoing a transition, with more participation from the private sector in financing and service delivery. While this has in many cases improved quality, it threatens to reduce access for the poor who cannot afford user fees or copayments. In terms of gender equality, a majority of countries in the region have sizable male-to-female enrollment disparities at all levels of education. Meanwhile, 9 of 11 countries in Southeast Asia experienced declines in forest cover of more than 1 percent of land area between 1990 and 2000 (UN ESCAP 2003).

Investment priorities differ between strong performers and countries still struggling to make progress. For countries that are struggling to meet the Goals, such as Cambodia, Indonesia, Lao PDR, and Myanmar, the most urgently needed investments include:

- *Health and education.* Stagnant or worsening health and education indicators in Southeast Asia reflect financial and human resource constraints in social service delivery. Salaries in the social sectors are low, increasing absenteeism, impeding performance, and encouraging the charging of informal fees that pose a barrier to access, especially for the poor. Strategies to ensure that the poor have access to health services in the face of increasing privatization are essential. In the education sector, greater infrastructure investments are needed, as are investments in teachers' salaries and training, other recurrent costs, and demand-side interventions.
- *Rural investment strategies.* While urban poverty is rising rapidly, extreme poverty and hunger in Southeast Asia continue to be concentrated in rural areas. These regions require investments in basic infrastructure in addition to productivity-enhancing investments, such as improved agricultural inputs and agricultural extension services.

Investments needed in all the countries of the region, including such strong performers as Malaysia, Thailand, and Viet Nam, include:

- *Environmental management.* Deforestation and biodiversity loss remain critical in Southeast Asia, as do industrial waste and pollution. In combination they lead to an increasing degradation of terrestrial, marine, and coastal ecosystems. Investments in monitoring, regulatory capacity, and enforcement are required to prevent further degradation.
- *Science and technology.* While parts of East Asia have built technology-based industries, the region as a whole needs to invest in higher education

and infrastructure for science and technology development to develop higher value industry and provide employment opportunities for youth.

- *Public management.* Many of East Asia's economies remain highly vulnerable to external changes in the world economy. Strengthening the ability of domestic institutions to respond to adverse economic shocks will lay the foundation for sustained progress toward the Goals.

South Asia

India

India has seen strong economic performance over the past decade. Per capita incomes have grown by almost 4 percent a year, fueled largely by strong agricultural growth, a rapidly expanding services sector, and an increase in export-based and other manufacturing activities (World Bank 2004c). Rapid growth has led to significant declines in poverty rates. The World Bank estimates that the percentage of people below the poverty line has dropped sharply to 35 percent in 2001, and national estimates show levels falling from 37.5 percent in 1990 to 26 percent in 2000 (Chen and Ravallion 2004; Bajpai, Sachs, and Volavka 2004). Remaining challenges include high rates of undernutrition, large numbers of children out of school, poor health indicators, and wide disparities in social and economic indicators, particularly for women, girls, and members of low-caste and tribal populations.

Regional disparities are wide. The northern states are among the weakest economic performers in the country, while the southern and coastal states are generally enjoying rapid economic growth. Since the waning of the growth spurt induced in Punjab and Haryana by the Green Revolution, rapid growth in India since the early 1980s has been driven largely by the big coastal urban centers and information technology-based cities, such as Bangalore and Hyderabad in the south.

India faces several challenges in meeting the Goals. In 2001 the government spent just \$4 per capita on health, while out-of-pocket private spending was \$24 per capita. Not only is the total expenditure likely insufficient to deliver a quality package of essential services, the high level of out-of-pocket spending is a major financial burden and a barrier to access to health services for the population, especially the poor (Bajpai, Sachs, and Volavka 2004; WHO 2001). While India has a well developed primary health system in theory, in practice access to services is compromised by high rates of health worker absenteeism and often inadequate supplies and poor infrastructure. This leads the majority of the population to turn to largely unregulated private providers.

India today has 4.6 million people with HIV, the second highest national number of HIV-positive people in the world, after South Africa (UNAIDS 2004). The infection is concentrated in groups at high risk of infection, such as injecting drug users and sex workers and their clients. But it could spread to the general population without significantly expanded HIV prevention efforts

and a concerted focus on battling stigma. India is also one of 22 TB high-burden countries that together account for 80 percent of global TB infections. Despite a strong effort to provide DOTS, only 31 percent of cases are detected in DOTS programs, so most people with TB do not have access to the most effective treatment (WHO 2004).

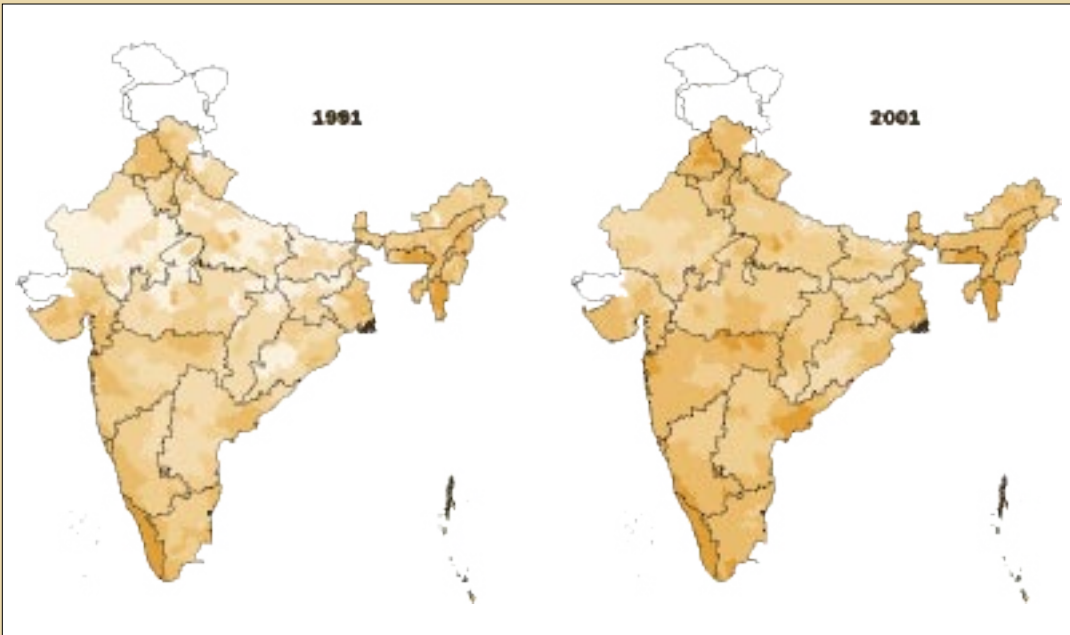
Discrimination against girls and women remains pervasive, reflected in the systematic underallocation of food and education to women and girls within households. Literacy rates among girls, though increasing, are much lower than among boys (map 11.2). Women have very limited access to sexual and reproductive health services, limiting their ability to make decisions about their own fertility. Minority groups (such as India’s scheduled castes and scheduled tribes) do not have equitable access to public services or infrastructure, restricting their ability to participate in the economy. Although most of the population

Map 11.2

Literacy rates for girls, though increasing, are much lower than for boys

Ratio of female to male literacy rates in India, 1991 and 2001

Source: Vanneman and Barnes 2000; ML Infomap 2003.



- Less than 0.41
- 0.41–0.55
- 0.56–0.70
- 0.71–0.85
- More than 0.85
- No data

now lives within one kilometer of a primary school, student completion rates remain very low due to systemic weaknesses, including teacher absenteeism, poor facilities, and low quality of instruction.

In a country where more than 60 percent of the labor force works in the agricultural sector, the scale of the rural poverty challenge remains high (World Bank 2004c). Despite the strong agricultural performance in recent years, agriculture remains dependent on the rains. Given the many constraints, India's most pressing challenge is a massive scaling up of public investments in the rural areas of the worst performing states, but concerted action is also required to achieve the other Goals. An MDG-based investment strategy for India needs to include the following elements:

- *Health.* Basic health infrastructure and services, especially sexual and reproductive health services, require scaling up, particularly in rural areas. Investments in health need to rise to strengthen human resource capacity, provide needed supplies, and build the infrastructure required to deliver essential health services. In addition, there must be a sharper focus on working with private providers on priority health programs, such as expanding DOTS, since those providers deliver most of India's health services but they are subject to little regulation or oversight to ensure quality services. India needs to make a large investment in HIV prevention to forestall further transmission to the general population—and to provide treatment to those requiring it.
- *Education.* Given the challenges in scaling up the quantity and quality of education services, a full complement of investments will be necessary, including demand-side interventions, improvements in systems of management and accountability, infrastructure, teacher training, and funding for other recurrent costs. Gender-parity targets will probably require extensive support through special subsidies targeted at girls.
- *Rural investment strategies.* India's economy remains highly agrarian, with comparatively poor infrastructure. Many areas require significant improvements in roads, transport, electricity, other energy, water and sanitation facilities, environmental management, and agricultural research and development. Falling water tables, a growing concern, should be addressed through harvesting rainwater, naturally recharging aquifers, and managing demand.
- *Urban management.* A growing number of India's poor live in urban slums. Using the range of policy reforms and interventions described in chapter 5, cities need to upgrade slums and strengthen urban infrastructure to promote the development of labor-intensive industries and services. Well organized civil society organizations throughout the country's cities can play a critical role in slum upgrading and urban management.
- *Public management.* Improvements in service delivery and accountability are needed to ensure that the investments reach intended recipients.

This requires increasing investments in information systems and modern management systems to track disbursements and to remove bureaucratic bottlenecks. It also requires the promotion of transparency in government procedures, and encouragement for local communities to participate in implementing public investments.

- *Targeting underprivileged populations.* Resources need to reach the least privileged groups, including women and girls in low-income families, the so-called low caste and outcaste communities, and tribal populations. Systematic targeted investments and educational campaigns are needed to provide these communities with basic social services, skills, and income-generating opportunities to enable them to benefit from the country's economic growth.

Other South Asian countries

For the other South Asian countries, the challenges of poverty remain great, even though the region as a whole has seen moderate economic growth, a diminishing disease burden, and rising food yields. Sri Lanka's development outcomes stand out for their success. It has achieved universal primary school completion, relatively low under-five mortality rates (19 deaths per 1,000 live births), low maternal mortality ratios (92 deaths per 100,000 live births in 2000), and relatively high access to water and sanitation (World Bank 2004c; UNDP 2004b; WHO and UNICEF 2004). Bangladesh has seen mixed success, having made enormous strides in education, infant mortality, and gender equality, but still has a high maternal mortality rate and very high levels of poverty and hunger. Rural areas in Bangladesh suffer from poor water quality and arsenic contamination. It is estimated that 46–57 million people in Bangladesh may be exposed to arsenic poisoning (PRB 2002). Since 1990 Pakistan has seen persistently high poverty and slow economic growth accompanied by modest declines in undernourishment and significant reductions in child mortality. Afghanistan meanwhile faces daunting development challenges in nearly every sector, together with postconflict reconstruction. Many other countries in the region, including Nepal and Sri Lanka, are pursuing the Goals in the context of political instability and insecurity.

The links between environment, infrastructure, and poverty are strong. Nearly all South Asian countries depend on agriculture for a large proportion of GDP, and most of them face problems of water scarcity, soil erosion, and salinization. The scale of urban problems is also immense, with more than 262 million people living in slums in South and Central Asia (UN-HABITAT 2003).

In general, MDG-based investment strategies in the region will need to include the following:

- *Health and education.* Basic education, nutrition, and health services (especially reproductive health) need to be extended to the majority of South Asia's population, especially to people in remote rural areas. Women and

girls need to be specifically targeted. As in India, demand-side interventions, infrastructure, and support for recurrent costs will be important.

- *Rural investment strategies.* Special investments are needed to address rural poverty and isolation. The full range of rural infrastructure investments is important, including roads, transport services, water, sanitation, and energy. A particular challenge is improving rural water supplies in Bangladesh to reduce the devastating impact of arsenic poisoning.
- *Slum upgrading.* With large shares of the urban population in the region continuing to live in informal settlements or slums, countries need to accelerate citywide slum upgrading programs in all cities.
- *Public management.* Many countries would benefit from greater transparency, better systems of management to track disbursements and the use of development assistance, and more community mobilization to monitor local implementation of social programs.
- *Environmental management.* Better environmental management is required where the extent of poverty is often the most severe and the vulnerability to natural hazards extreme, requiring investments in disaster prevention and management mechanisms (for example, in Nepal, Sri Lanka, and coastal Bangladesh). With climate change, these investments will take on an added importance over coming years, as discussed later in this chapter.
- *Conflict resolution and peace-building.* Social conflict afflicts nearly every country in the region, hampering development outcomes. Investments in conflict resolution and postconflict reconstruction are needed in the countries that suffer from ethnic, sectarian, or other divisive tensions (chapter 12).

Central Asia

Central Asian economies that were part of the Soviet Union have experienced a sharp deterioration in poverty and other social indicators. Under Soviet rule, massive subsidies supported inefficient and resource-intensive industries in poorer republics. Independence brought this support abruptly to an end. Although most economies of the Commonwealth of Independent States (CIS) have recovered from the deep recessions of the early 1990s and are now growing reliably, per capita GDP remains well below pre-independence levels. In Tajikistan, GDP per capita is less than 20 percent of the level before 1991 (UNDP 2003c). While human development indicators remain high relative to income, they are likely to decline without significant and well managed investments in social services and infrastructure. Indeed, significant investment will be needed just to replace the aging and often obsolete capital stock inherited from Soviet central planning.

Many of Central Asia's major challenges also stem from extreme geographical isolation. The region is landlocked, far from seaports and major world markets, and its larger countries are water-scarce. While Kazakhstan hopes its

oil wealth will become a centerpiece of economic recovery, most other Central Asian countries lack major natural resources and must depend on agriculture, manufacturing, and services. Perceptions of corruption and weak governance throughout the region remain high, depressing both foreign and domestic investment (Gray, Hellman, and Ryterman 2004).

As a result of economic regress and stagnation, social spending has declined significantly, and health indicators mirror this collapse. In Kyrgyzstan health financing per capita in 2001 was only 32.5 percent of the 1990 level. Not surprisingly, the number of TB patients increased more than threefold in the same period (UNDP 2003b). Kazakhstan and Tajikistan are both significantly off track to meet the child and maternal health Goals. All countries in the region face infectious disease problems, including mounting HIV transmission rates (UNDP 2003c; Government of Kazakhstan and UN Country Team 2002). Environmental degradation is also a major problem, particularly desertification and inadequate water supply.

To halt declines and achieve the Goals, major investment priorities in the Central Asian countries should include:

- *Urban and rural investment strategies.* Basic infrastructure systems, such as those for energy, transport, and water and sanitation, require expansion and support in both rural and urban areas. In Tajikistan, for example, only 23 percent of the population has access to sewage facilities (UNDP 2003c). In the region's mountainous and rugged terrain, these investments will be expensive, technically challenging, and likely to need external support.
- *Cross-border cooperation for infrastructure.* Regional transport and energy infrastructure is needed to help the landlocked countries of Central Asia overcome the barriers imposed by geographical isolation. Investment priorities are clearly defined in the Almaty Programme of Action for landlocked developing states (discussed further below) (UN 2003).
- *Cross-border cooperation for integration and government cooperation.* Given the geography of Central Asia, regional cooperation is essential to coordinate environmental and water resource management, develop transportation and communication networks, and deal with other transboundary issues (chapter 15). While Central Asia already has a plethora of institutions with these aims in mind, their impact has been limited. These institutions must be adequately resourced and encouraged to stimulate economic integration, transparent cross-border regulation, and better regional governance.
- *Public management.* Central planning during the Soviet era left little viable administrative capacity in its wake, and widespread corruption has filled the vacuum. Investments in human resources, incentives, institutional structures, and information systems are needed to rebuild the capacity to govern.

- *Health and education.* Declining health indicators reflect overstretched and poorly resourced health service delivery systems. These systems also suffer from the Soviet legacy of inattention to primary care. In many cases, primary care systems must be built almost entirely from the ground up. On the positive side, there are many trained health workers, though salaries must be dramatically increased to ensure retention and the quality of care. Limited financing in Kyrgyzstan, for example, meant that the government was able to finance only 18 percent of its National Program for HIV/AIDS for 1996–2000 (UNDP 2003b). While education indicators reflect high enrollments in some countries, investments are needed in modernizing and improving the curricula and the quality of education.

Latin America

Among developing regions Latin America has the highest per capita income, but significant disparities and pockets of severe poverty exist both within and between countries. The region is highly urbanized, with a majority of the extreme poor living in urban slums (see table 2.3). Much of the urban population is either unemployed or employed in the informal sector, lacking social safety nets and access to essential services.

In many Latin American countries, severe economic inequalities are linked to deep-rooted social divisions. The poorest communities remain the indigenous and the black populations, who form the majority of the rural and urban poor in Latin America's pockets of extreme poverty, such as northeast Brazil, the Central American highlands, and the Andean region. These regions' extreme levels of poverty are captured by the high infant mortality rates (map 11.3).

The inequalities have been compounded by Latin America's generally weak and unstable economic growth over the past decade. All too often, economic crises and natural disasters have wiped away years of hard-won gains. Structurally, Latin America remains largely a primary commodity exporter, leaving economies subject to the volatility of primary commodity markets and the long-term decline of prices for such exports. There has been a shift toward manufactured exports, which nearly quintupled from \$43 billion in 1990 to \$200 billion in 2000 (UNCTAD 2003). Still, the region's manufactured exports were less than half its merchandise exports in 2000, much lower than the 80 percent typical of high-income countries (World Bank 2004c). And nearly all that export growth is accounted for by Mexico's NAFTA-driven industrialization and a few key industries in Brazil.

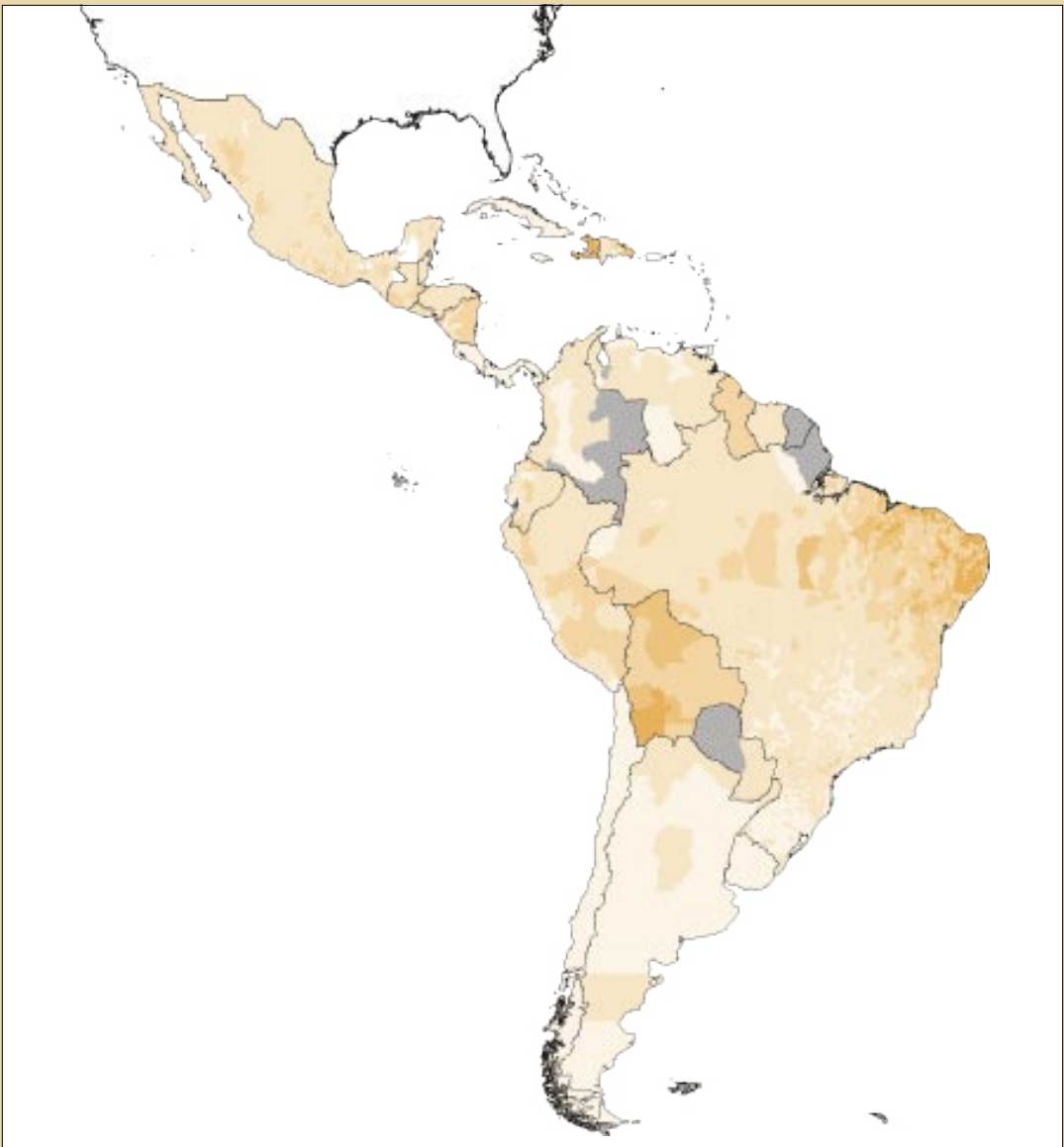
Subregions of Latin America have specific economic development features and concerns. On the positive side, NAFTA has spurred growth in Mexico, particularly in the north, and Chile has enjoyed consistent economic gains. And though Argentina and Brazil suffered from significant financial crises in the 1990s, they are rapidly beginning to recover.

Map 11.3

High infant mortality rates point to pockets of extreme poverty

Deaths per 1,000 live births

Source: CIESIN 2005a.



☐ Fewer than 20 ☐ 20–40 ☐ 40–60 ☐ 60–80 ☐ 80–100 ☐ More than 100 ☐ No data

Less fortunate in recent years, the Central American countries are small and disaster-prone. Indeed, among all developing regions, Central America stands out for its susceptibility to natural hazards, hampering progress toward the Goals (table 11.1). Countries in Central America also have large and frequently excluded indigenous populations, and they are typically recovering from decades of political instability. For example, recent estimates suggest that the proportion of people in extreme poverty exceeds 50 percent in Nicaragua and 30 percent in El Salvador, and these trends are stagnant rather than improving (UNDESA 2004).

In the high-altitude Andean countries rural poverty—especially among the indigenous populations—is relatively high, in large part due to geographic isolation, high transport costs, and limited infrastructure. In Peru, for example, the population of the extremely poor has increased from 9 percent in 1994 to 18 percent in 2000 (UNDESA 2004). In Bolivia, nearly 55 percent of the population lacks access to improved sanitation (WHO and UNICEF 2004). UNDP projections suggest that several Central American and Andean countries are unlikely to meet the Goals on current trajectories.

In health, Latin America has made significant progress in reducing child mortality and infectious diseases, but it still faces a major challenge in reducing maternal mortality, despite high rates of attended deliveries. Though good overall, health status varies among social groups and geographic areas, indicating seriously unequal access to clean water, sanitation, and good health services. Approximately 1.6 million people live with HIV in Latin America (UNAIDS 2004). Brazil, with the largest HIV-positive population in the region, has made a major effort at both prevention and treatment and has dramatically reduced death rates from AIDS. In education there is a reverse gender gap, with more women than men enrolled in postprimary education. This gender gap both

Table 11.1
Mortality risks
due to natural
hazards, by region

Note: The index for each hazard is created based on the population distribution, the severity of each hazard, and the hazard mortality rate for 1981–2000. See Dilley and others (2005) for further explanation. The index is based on authors' calculations, by multiplying the country's percentage of population exposed to different severities of each hazard to create a 0–10 index, where a higher number indicates more severe hazard exposure or a larger percentage of the population exposed.

Source: Calculated from Dilley and others 2005.

	Drought index	Earthquake index	Landslide index	Floods index	Cyclones index	Volcanoes index	Average
Central Asia	3.94	1.76	0.66	2.19	0.00	0.00	1.43
East Asia and the Pacific	3.40	0.90	0.44	5.95	2.65	0.23	2.26
Europe	1.19	0.42	0.21	3.40	0.08	0.05	0.89
Latin America and the Caribbean	3.52	1.17	0.92	6.31	0.54	0.24	2.12
Central America and the Caribbean	2.60	3.17	2.29	7.58	2.45	0.95	3.17
Middle East and North Africa	3.89	0.71	0.19	2.50	0.00	0.00	1.22
North America	2.02	0.39	0.05	4.77	2.35	0.00	1.60
South Asia	6.54	0.34	0.17	6.30	0.51	0.00	2.31
Sub-Saharan Africa	3.96	0.17	0.09	3.22	0.33	0.01	1.30

reflects and reinforces a lack of economic opportunities for the young, as youth unemployment rates rise in the region.

One of the reasons for Latin America's slow economic growth, in contrast with fast-growing Asian economies, is that there has been little concerted effort at enhancing the region's technological and scientific capacities. Research and development expenditure as a percentage of GDP was significantly lower than that in East Asia and the Pacific in 1999 (0.52 percent, compared with 1.09 percent) (World Bank 2004c). In another key indicator East Asia had 17.9 patents per million population in 2000, compared with only 0.6 for Latin America (U.S. PTO 2001).

In the context of these challenges, national MDG-based strategies in Latin America will need to include:

- *Targeting marginalized regions and populations.* Integrating excluded indigenous groups and disadvantaged regions will require targeted investments in health, education, energy, water, and sanitation to enable them to participate more fully in the economy and society (chapter 5).
- *Urban investment strategies.* Latin America has some of the highest numbers for slum dwellers as a share of the population. Slum upgrading and the regularization of informal settlements must be a central priority. In addition to improving the security of tenure, cities must expand social services and urban infrastructure into informal settlements, with a focus on affordable mass transit systems.
- *Science and technology.* Though primary completion rates are generally high, especially in middle-income countries, the region should dedicate significantly more resources toward becoming a technological innovator. Investments in research and higher education are needed to shift the region from primary commodity-based growth to knowledge- and innovation-driven growth that is more broad-based and sustainable. Such a push would entail a major increase in spending on research and technology, up to around 2 percent of GDP (as in leading Asian innovators), partly through increased public support for laboratories and universities and partly through incentives for private research and development.
- *Cross-border cooperation.* Countries need to expand regional infrastructure for transport and energy, enhance economic cooperation, and strengthen regional political collaboration (chapter 15). While many MDG investment needs can be supported domestically, regional cooperation will bring enhanced financial and nonfinancial resources to bear on these important issues. Cross-border cooperation will be especially important for meeting the Goals and achieving sustainable economic growth in landlocked Bolivia and Paraguay.
- *Rural investment strategies.* Better regional transport links are needed to lower costs in rural landlocked and mountainous regions. Investments

in basic infrastructure such as water and sanitation need to be prioritized and are likely to have cross-sectoral benefits, such as better health outcomes.

- *Environmental management.* Latin American countries need to strengthen regulatory mechanisms and policy coordination to improve environmental management—with a particular focus on deforestation and biodiversity loss, which are accelerating across the region. Urban areas require major investments in water treatment, solid waste disposal, and measures to curb air pollution.
- *Investments in health.* Improvements in the quality of care will be needed to reduce maternal mortality in the region. For several countries, the healthcare infrastructure will have to expand to address the needs of geographically isolated populations. Expanding prevention and treatment of HIV/AIDS among socially excluded populations will also be essential.

Middle East and North Africa

The oil-rich states of the Middle East and North Africa have reasonably good infrastructure and social services. Meanwhile, the oil-poor states have much weaker infrastructure and social services. Poverty, high in several countries, increased significantly in Algeria, Djibouti, and Morocco in the second half of the 1990s (UNDP 2003a). Despite the presence of a few strong performers, overall economic performance in the region has been stagnant.

Health indicators reflect the stark differences in income. Maternal mortality ratios are well under 50 per 100,000 live births in the oil-rich states, but they exceed 500 in Djibouti, Mauritania, and Yemen, and are closer to 1,500 in Somalia (UNDP 2003a). Gender inequality and poor access to emergency obstetric care are the main contributors to the high maternal mortality. HIV surveillance is not strong in much of this region, but prevalence rates appear to be approximately 0.2 percent (UNAIDS 2004).

Gender inequality has sharply limited regional progress toward the Goals. The region has a total fertility rate of 3 children per woman, the third highest in the world after Sub-Saharan Africa and South Asia, contributing to an exploding youth population (World Bank 2004c). Despite recent progress in closing the gender gap, female participation rates in the economy remain very low.

Chronic underinvestment in higher education, science, and technology have limited the ability to sustain a robust and internationally competitive private sector and generate broader economic diversification. Highly bureaucratic management systems, clientelist political relationships, and social unrest also plague many countries in the region (Yousef 2004). At least eight countries in the region experience serious water scarcity. In nine countries rural access to safe water is less than 70 percent (UNDP 2003a).

Solutions to all these problems will require strong regional approaches as well as national programs of action:

- *Gender equality.* Priority interventions in gender inequality include guaranteeing women equitable access to education, income-generating opportunities, political rights, and sexual and reproductive health services, including family planning.
- *Health systems.* Investments in emergency obstetric care and skilled birth attendance will be required, along with efforts to improve gender outcomes, to bring down the extremely high maternal mortality ratios in several countries. Urgent investments are needed to strengthen health systems, beginning with village clinics and district referral hospitals.
- *Education.* New investments should focus on vocational and post-primary education to help young people acquire skills that can ease their entry into the labor force. Such programs need to be accompanied by interventions to expand private sector opportunities to absorb the growing numbers of job seekers.
- *Rural investment strategies.* Access to water remains a serious issue in both rural and urban areas. Given this region's generally arid climate, investments will be necessary to ensure sustainable management of water resources and to combat desertification. Particularly needed are research and extension services to address the needs of dryland agriculture.
- *Science and technology.* Investments in higher education and in research and development are critical for building a knowledge base that will allow countries to compete in higher value global markets. A particular focus must be on strengthening research and teaching capacities in engineering and the natural sciences.

Transition and CIS countries of Central and Eastern Europe

The transition and CIS countries of Central and Eastern Europe tend to receive insufficient attention from international efforts to achieve the Millennium Development Goals, largely because of the impression that decades of communism solved their development problems. It is true that effective reforms, favorable geography, and strong support by the European Union have helped the central European countries to become development success stories. They have moved from the collapse of state socialism to membership in the European Union in just over a decade.

But many European countries that were part of the Soviet Union have seen a deterioration in development indicators regress in the 1990s. Poverty and long-term unemployment, income inequality, declining access to public services, and the spread of diseases such as HIV and TB present greater challenges at the beginning of the new millennium than they did at the beginning of transition. For example, Moldova's GDP fell sharply after the collapse of the

Soviet Union, and despite strong growth since 2000, its GDP was less than 40 percent of its 1991 level (World Bank 2004c).

Health indicators also worsened significantly in many of the transition countries, in part due to worsening poverty and in part to crumbling post-Soviet health systems. HIV infection rates have climbed in nearly every transition country, with the highest adult prevalence rates in Ukraine at 1.4 percent, followed by the Russian Federation and Estonia, both at 1.1 percent (UNAIDS 2004). The main transmission route for HIV in the region is injecting drug use, which has increased tremendously since the demise of the Soviet Union. More than 80 percent of people infected with HIV are under 30 (UNAIDS 2004). TB incidence rates have risen as well. In Bulgaria, for example, incidence rates rose from 25 cases per 100,000 in 1990 to 48 in 2000 (United Nations Country Team and government of Bulgaria 2003).

Progress toward the Goals has been hampered in several countries by corruption and weakly governed public institutions, deteriorating service delivery systems, and inequitable internal distributions of resources. School curricula are often of poor quality and ill suited to current social and economic realities. Social and economic inequalities are high. In Romania the rural rate of severe poverty is at least twice the urban rate. In Albania the poverty headcount in rural areas is 50 percent higher than in urban areas (United Nations Country Team and government of Romania 2003; UNDP Albania 2004). Social exclusion of minority groups, such as the Roma, means that they are more likely to be poor and to lack access to education and health services.

Meanwhile, environmental issues remain largely unresolved, with countries experiencing industrial pollution, poor rural sanitation, insufficient regulation, and patchy oversight and enforcement. Armenia, for example, has identified the lack of a coordinated national strategy for sustainable development policy and regulation as an obstacle to achieving the environment targets of the Goals (UN 2001).

Several investment priorities follow from these observations:

- *Public management.* Governance capacity needs to be increased through the development of human resources, information systems, and appropriate institutional structures to implement and oversee public programs and interventions. Examples include improving financial control systems and overhauling the administration of educational systems to increase efficiency and adapt curricula to the demands of market-oriented economies and an informed civil society.
- *Health and education.* Given rapidly deteriorating health indicators, reinforcing health service delivery systems is an urgent priority, responding to existing institutional constraints. Reversing HIV transmission trends, with a focus on effective prevention strategies for injecting drug users, should be a priority given the rising threat of an epidemic.

Education outcomes have declined in the absence of increased investments to improve, or in many cases maintain, quality.

- *Environmental management.* Better water, sanitation, and waste management infrastructure and pollution abatement systems are needed, as is technical and financial support for monitoring, regulation, and enforcement.
- *Targeting excluded groups.* Investments to improve the social and economic status of marginalized groups and the rural poor are necessary to alleviate persistent poverty.

Special challenges

In addition to regions, some categories of countries experience specific challenges and constraints in pursuing the Millennium Development Goals. Here we highlight the special needs of four such groups: Least Developed Countries, landlocked developing countries, small island developing states, and countries vulnerable to natural disasters.

Least Developed Countries

This report outlines the investments for all developing countries to reach the Millennium Development Goals, but the needs of the Least Developed Countries lie at the very heart of the analysis. Least Developed Countries have per capita incomes of less than \$750, poor health and education outcomes, and economies vulnerable to shocks (UN OHRLLS 2004). In the Least Developed Countries of Sub-Saharan Africa, nearly 50 percent of the population lives on less than \$1 a day, and in Asia 30 percent. They face challenges on nearly every dimension of poverty. For example, the percentage of people in Least Developed Countries with less than the minimum daily caloric intake increased from 37 percent in 1990 to 38 percent in 2000.¹

Least Developed Countries require special and sustained assistance because they cannot meet their basic needs from domestic resources—regardless of the quality of their policies or governance. The Brussels Programme of Action for the Least Developed Countries suggests that they require greatly increased official development assistance, since private capital flows will not finance needed public investments. The Programme outlines several priority areas for cooperation including human and institutional resource development, removing supply-side constraints and enhancing productive capacity, protecting the environment, and attaining food security and reducing malnutrition. Progress on the Programme is fully consistent with achieving the Millennium Development Goals, so we urge all governments to support it.

Landlocked developing countries

The 30 landlocked developing countries face four kinds of dependencies. They rely on a neighboring country's infrastructure to access world markets, on

sound cross-border political relations, on peace and stability in neighboring countries, and on neighbors' administrative practices (Faye and others 2004). Many landlocked developing countries are further disadvantaged in other ways, with rugged terrain or high disease burdens that make investments costly and technically challenging. Many of the solutions will lie in regional integration strategies to simplify bureaucratic procedures, invest in regional infrastructure, and resolve political tensions. The UN General Assembly recently endorsed the Almaty Programme of Action for landlocked developing countries to address their special challenges. MDG-based strategies in landlocked countries should focus on the following recommendations, many of which are included in the initial roadmap for implementing the Almaty Programme and are discussed further in chapter 15:

- *Cross-border infrastructure.* Major investments in road and rail infrastructure are needed to reduce transportation costs to and from national borders. Donor assistance will need to cover both capital and maintenance expenditures. Regional investments in electricity generation, joint transmission networks, and communication technologies are also necessary to develop integrated regional trade links.
- *Cross-border government cooperation.* Cross-border agreements are needed to develop standardized border procedures, provide guarantees for access to transit routes, and set transit fees and other border costs. These arrangements can be coordinated through regional and sub-regional organizations, such as the Common Market for Eastern and Southern Africa (COMESA).
- *Trade facilitation.* Developed countries should emphasize special and differential treatment for landlocked developing countries in the trade facilitation negotiations at the World Trade Organization (chapter 14).
- *Private sector development.* Landlocked countries can benefit from industries that are less reliant on transport costs and from products that have high value-to-weight ratios. This may require investments that support a shift in private industrial activity away from primary products to service and manufactured export industries.

Small island developing states

Small island developing states face specific challenges of their own (UN 2002c). Because of their size and geographic exposure, the economy and ecology of the islands are closely interlinked. Nature-based tourism, production of primary commodities, export agriculture, mineral extraction, or some combination of these activities form the base of many of their economies. They are threatened by global climate change, which is projected to lead to rising sea levels, increased salinization, coral bleaching, and increased incidence of vector-borne diseases (IPCC 2001a). The islands are also highly susceptible to natural disasters, including hurricanes and cyclones, which

will likely become more frequent and severe as a result of climate change (see table 11.1). And they face deep structural epidemic challenges. Their distance from global markets creates high transaction costs, and small local populations hinder specialization and economies of scale, making development even more challenging. Moreover, many Caribbean islands suffer from high external debt burdens.

We urge the implementation of the Programme for Action for Sustainable Development of Small Island Developing States, adopted in Barbados in 1994. The Programme was the first intergovernmental policy initiative to integrate the small islands into the world economy and address their specific development problems, setting out actions and measures in 14 priority areas at the national, regional, and international levels.² A decade after the 1994 Barbados conference, the Programme has yet to be implemented because of the lack of external resources. Drawing on the Barbados Programme for Action, an MDG-based investment strategy will need to address the specific challenges of small island developing states, but also include strategies to meet the universal challenges of disease, hunger, and poverty. In particular, it would need to include the following elements:

- *Science and technology.* New technologies, including information and communications technology, can help small island developing states overcome barriers of scale and isolation and integrate with global markets. Focusing on technological development will also contribute to service-based industries (tourism, financial services), enabling a move away from primary commodity dependence and providing more productive employment for young people.
- *Urban and rural investment strategies.* Investments in airports, seaports, roads, clean water, and sanitation are crucial to encourage economic growth, particularly in the tourism industry. In addition investments in sustainable energy infrastructure, including renewable energy systems, are needed to serve energy needs while minimizing the environmental impact on fragile island ecosystems.
- *Climate change interventions.* Small island developing states require investments to respond and adapt to global climate change. Interventions could include sea walls, antistorm systems to predict and prepare for hurricanes, and infrastructure and housing to cope with resettlement. However, success in responding to climate change depends in large part on industrial countries taking the lead in stabilizing greenhouse gas emissions.
- *Environmental management.* Interventions are needed to preserve and manage fragile island ecosystems, assess and monitor fish stocks and coral reefs, and maintain traditional knowledge and bioresources. In many countries, water services, sanitation, and waste disposal systems are in short supply, particularly in rural regions and outer islands.

- *Strengthening management systems for natural disasters.* As discussed at the end of this section several types of investments are required to improve the detection and prevention of natural disasters, as well as postdisaster management.
- *Regional goods.* Small island developing states are particularly reliant on improved regional goods, such as economic cooperation or regional infrastructure (chapter 15).

In addition to these recommendations that apply across small island developing states, the major regional clusters of island countries have their own specific needs. In the Caribbean these include:

- *Health services.* At 2.3 percent and rising, HIV prevalence in the Caribbean is second only to Sub-Saharan Africa (UNAIDS 2004). Maternal mortality remains high in many countries, reaching 680 deaths per 100,000 births in Haiti, and disease and malnutrition remain severe problems in some (UNDP 2004a). Priorities include improved training of health personnel and assistance in meeting high treatment costs for communicable diseases.
- *Education.* Given the Caribbean dependence on external trade, the erosion of trade preferences for bananas and the final implementation of the Agreement on Textiles and Clothing will require adjustment to develop new industries to replace declining ones. Job training and skills development will be particularly important to improve human capital across the Caribbean and to support workers displaced by global market adjustments.

Many of the Pacific small island developing states are widely dispersed archipelagos that are far from world markets. In several of these countries, national averages mask striking developmental disparities between inner and outer islands, and between rural and urban areas. The countries' special MDG investment needs include:

- *Health investments.* Though many countries feature strong health indicators, others face damaging resource shortages. The government of the Solomon Islands, for example, has been unable to pay doctors and other health workers regularly, causing declines in health service delivery (Asian Development Bank 2003).
- *Education and science and technology.* Many Pacific countries have had difficulty generating productive employment opportunities for young people and consequently have seen increases in the number of women turning to prostitution. Investments in vocational training, advanced education, and technology development will help these islands diversify and expand the range of available opportunities.

Countries vulnerable to natural hazards

Many developing countries experience frequent natural hazards, including drought, floods, cyclones, earthquakes, and landslides. The countries most

vulnerable lie in the Caribbean, Central America, Oceania, southern and eastern Africa, and Southeast Asia (map 11.4). Many are vulnerable to several types of disaster, often several times a year. As indicated above, many small island developing states have especially high disaster risks.

A large number of the highest-risk countries are in the low-income category, with droughts and floods particularly prominent among their risks.³ In Sub-Saharan Africa, disaster risks related to drought are particularly high. Meanwhile, flood-related risks are especially high in Asia, Central America, and Andean and Southeastern South America. In the tropics and subtropics, heavy rainfall events that lead to flooding can also be accompanied by outbreaks of infectious disease, including malaria. Earthquakes, prevalent at tectonic plate boundaries around the Pacific Rim and across Central Asia, are particularly destructive to low-income countries, where infrastructure is seldom built to appropriate seismic safety standards or to deal with related risks like tsunamis.

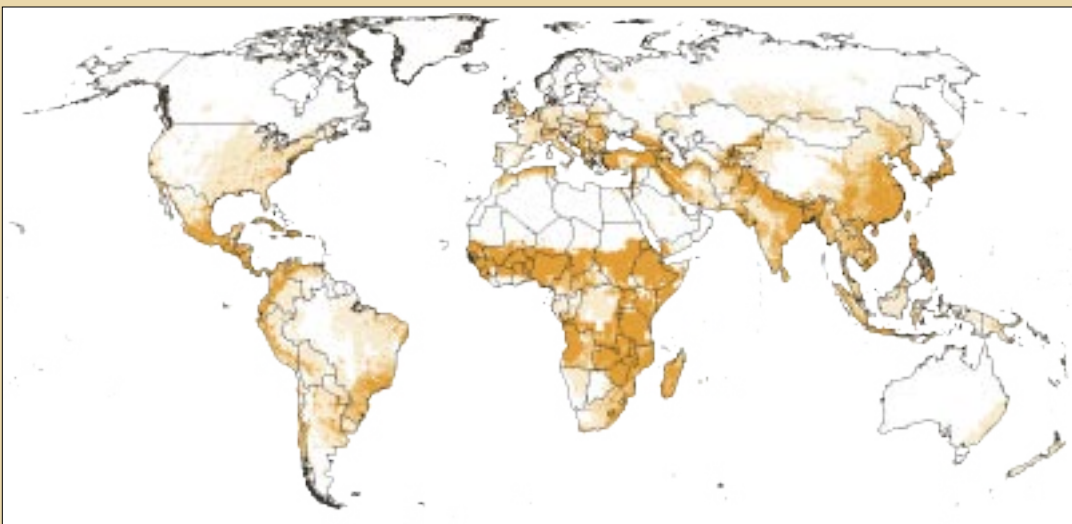
Natural disasters cause enormous damage. They leave large proportions of the population at risk of losing their livelihoods, their homes, and often their lives. But smaller, more frequent disasters also have significant impacts,

Map 11.4

Areas at highest natural disaster-related mortality risk

Mortality decile, all causes

Source: Dilley and others 2005.



□ 1st–4th deciles

□ 5th–7th deciles

■ 8th–10th deciles

□ Low population density

especially in developing countries with poor infrastructure and weak response capacities. Population groups that are typically most at risk include smallholder farmers, rural landless poor, fishers, and the urban poor. Apart from the direct economic loss, vulnerability to natural disasters also contributes to economic volatility, which in turn contributes to higher risks and higher costs of investments. Evidence suggests that in some cases natural disasters and the ensuing environmental stress, such as drought-induced crop failures, can fuel conflict (chapter 3).

It is important to stress that the furies of nature systematically claim the lives of the poor in much greater numbers than they do the rich. When disasters strike regions that include both developed and developing countries, as the devastating 2004 hurricanes in the Caribbean and Southeast United States did, it is in poor countries where most lives are lost. People in low-income countries are four times as likely to die in a natural disaster as people in high-income countries, and in developing countries disasters cause annual economic losses of 2–15 percent of GDP (Kreimer, Arnold, and Carlin 2003).

What the rich world suffers as hardships, the poor world often suffers as mass death. The rich, unlike the poor, can afford to live in fortified structures away from floodplains, riverbanks, and hillsides. They have early warning systems, such as seismic monitors, weather forecasts, and disease surveillance systems. And they have cars and trucks that enable them to leave on short notice when natural disaster threatens. Moreover, rich countries, unlike poor ones, can quickly mobilize food, drinking water, backup power generators, and doctors and emergency medical supplies in the aftermath of a disaster.

In recent decades, population and economic growth have been higher on average in coastal regions that are highly exposed to cyclones and floods. Losses per event will rise in the future, particularly in rapidly growing urban areas, unless systematic efforts are made to reduce vulnerability. Climate change is further expected to affect rainfall and temperature patterns, altering the frequency, severity, and location of climactic hazard events. Climate changes may result in rising sea levels, which would contribute to storm surges and flooding and enhance the hydrologic cycle, altering patterns of extreme events such as drought (IPCC 2001a).

For countries at risk, strategies to reduce losses associated with natural disasters need to be mainstreamed into MDG-based poverty reduction strategies and fall under four broad categories: infrastructure investments, investment in safety nets, early warning systems, and emergency and contingency plans.

First, in places at risk of natural disasters, investments in infrastructure are necessary to minimize the damage from natural disasters. These can include earthquake-proof buildings, emergency shelters, and protective embankments. Such preemptive planned investments can minimize not just the loss in lives and incomes, but also the disruption of strategies for achieving the Millennium Development Goals. They are particularly important in rapidly growing

cities since uncontrolled urban growth increases vulnerability to disasters. For this reason urban planning must include systematic risk assessments, design appropriate land use plans, and set construction standards.

Second, ongoing investments in social safety nets are necessary to safeguard lives during times of crisis. Governments need to make these investments during noncrisis periods in order to establish an institutional presence capable of effectively delivering services when shocks or disasters occur. During drought, for instance, employment guarantees, microfinance schemes targeted at the hungry, and the protection of livestock-based livelihoods can all play a role in protecting communities exposed to crisis.

Third, governments should invest in building and strengthening national and local early warning systems to monitor conditions and provide advance warning of potential disasters. Few natural disasters can be prevented, but their impacts can be mitigated by advance planning, advance notice, and a comprehensive response. Surveillance systems can include field monitoring, remote sensing, and meteorological forecasting. Properly designed early warning systems can provide a critical window of opportunity to act before a crisis strikes. Public information campaigns are important for raising awareness of the risks of natural disasters and adequate responses. Early warning capabilities for managing climate hazards have been greatly enhanced in recent years through seasonal-to-interannual climate forecasting.

Fourth, precrisis emergency and contingency plans need to be drawn up so that early warning systems can yield an early and effective response. Plans should include strategies for evacuation, emergency safety zones, insurance schemes, and the prelocation and financing of humanitarian resources for rapid distribution. As part of contingency plans, governments must establish mechanisms for delivering emergency services after a disaster has occurred, especially immediate healthcare to prevent the outbreak of disease amongst displaced populations. Developed countries should establish a far more systematic financial mechanism for disaster response, including contingent credit investments for individual countries. Once triggered, responses need to be more rapid, and disbursement decisions need to be made more flexible than they are at present. For example, the UN's Immediate Response Account has recently been funded at only \$35 million, which would cover only two weeks' worth of food in a large operation. A level of \$300 million would be more appropriate to facilitate rapid response at the outset of a food crisis (UN Millennium Project 2005d).