

4.

Sustaining momentum



Much of the news about developing countries in recent decades has been positive, especially their accelerated progress in human development. But what of the future? Can these countries continue to advance human development at the same rapid pace, and can other countries in the South share in the benefits? Yes, with the right policies. These include enhancing equity, enabling voice and participation, confronting environmental pressures and managing demographic change. Policymakers will need to strive for greater policy ambition and to understand the high cost of policy inaction.

Over the next few years, policymakers in developing countries will need to follow an ambitious agenda that responds to difficult global conditions, notably the economic slowdown, which has decreased demand from the North. At the same time, they will need to address their own urgent policy priorities.

Policy priorities for developing countries

Four policy priorities stand out for developing countries over the next few years if they are to continue the gains of recent decades and if the benefits are to extend to countries still lagging behind:

- *Enhancing equity.* Equity and social justice, valuable in their own right, are important for expanding capabilities.¹ Progress in human development is difficult to sustain in the face of growing or persistent inequity.² Inequity in specific capabilities—for example, proxied and measured as disparities in health and education outcomes, as well as in income—also impedes progress in human development, though the effects may be less pronounced. At the core of these negative relationships is gender inequality: women’s health and education are crucial to addressing demographic and other human development challenges. Although some countries in Latin America and elsewhere have greatly reduced income inequality, not all countries recognize the importance of addressing inequality in health, education and income.³
- *Enabling voice and participation.* As education levels rise and access to information and communication technologies spreads, people are demanding more participation in political

processes, challenging decisionmakers to be more accountable and expand opportunities for open public discourse. Restricted opportunities for political participation, at a time when unemployment is rising and the economic environment is deteriorating, can fuel civil unrest. Expanded opportunities for political participation, along with greater government accountability in ensuring that basic human needs are met, can foster human freedoms and sustain human development. Strong political participation by the relatively deprived provides an important source of support for pro-human development policy change.

- *Confronting environmental pressures.* Climate change and local stresses on natural resources and ecosystems are increasing pressure on the environment in almost all countries, regardless of their stage of development. Unless action is taken urgently, future progress in human development will be threatened. Building on scenarios developed for *Human Development Report 2011*, this Report argues for aggressive action nationally and internationally to tackle these challenges.
- *Managing demographic change.* In some developing countries, mostly in Sub-Saharan Africa, large cohorts of young people are entering the workforce. In other countries, notably in East Asia, the share of working-age people in the population is falling as the share of elderly rises. New policy interventions are needed to generate sufficient productive employment while meeting the growing demand for social protection.

There will be other challenges to human development, including volatile commodity prices, especially for food and fuel. In an increasingly globalized world, these and other

concerns will make for a complex environment with attendant risks, including progress reversals, rising insecurity and greater inequality. Forecasting is difficult in such a complex environment because modelling may miss key variables, such as technological progress, that can dramatically change both production and personal possibilities. Nevertheless, modelling scenarios are helpful for illustrating policy choices and their implications.

Enhancing equity

Greater equity, including between men and women and across groups (religious, racial and

others), is not only valuable in itself, but also essential for promoting human development. One of the most powerful instruments for advancing equity and human development is education, which builds people's capacities and expands their freedom of choice. Education boosts people's self-confidence and makes it easier for them to find better jobs, engage in public debate and make demands on government for health care, social security and other entitlements.

Education also has striking benefits for health and mortality (see box 4.1 on differences in education futures in the Republic of Korea and India). Evidence worldwide establishes that

BOX 4.1

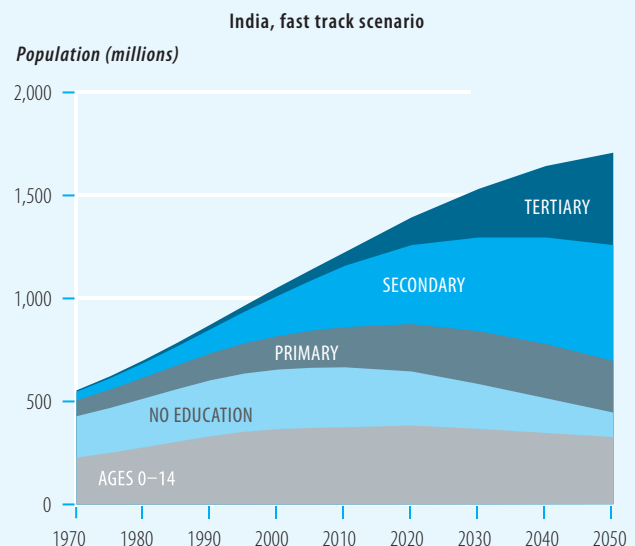
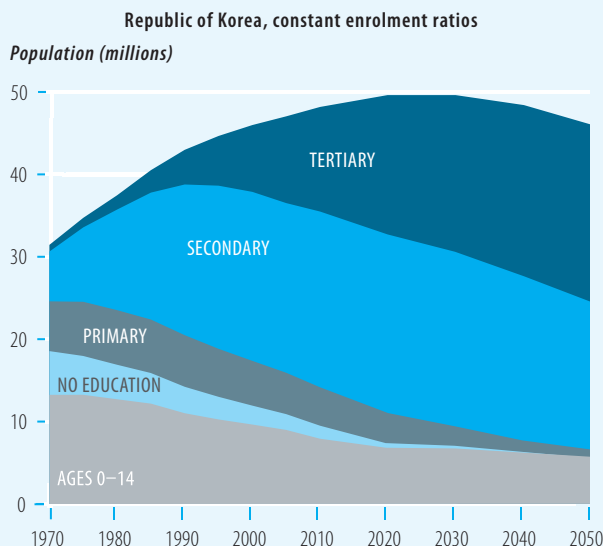
Why population prospects will likely differ in the Republic of Korea and India

Educational attainment has risen rapidly in the Republic of Korea. In the 1950s a large proportion of school-age children received no formal education. Today, young Korean women are among the best educated women in the world: more than half have completed college. As a consequence, elderly Koreans of the future will be much better educated than elderly Koreans of today (see figure), and because of the positive correlation between education and health, they are also likely to be healthier.

Assuming that enrolment rates (which are high) remain constant, the proportion of the population younger than age 14 will drop from 16% in 2010 to 13% in 2050. There will also be a marked shift in the population's education composition, with the proportion having a tertiary education projected to rise from 26% to 47%.

For India, the picture looks very different. Before 2000, more than half the adult population had no formal education. Despite the recent expansion in basic schooling and impressive growth in the number of better educated Indians (undoubtedly a key factor in India's recent economic growth), the proportion of the adult population with no education will decline only slowly. Partly because of this lower level of education, particularly among women, India's population is projected to grow rapidly, with India surpassing China as the most populous country. Even under an optimistic fast track scenario, which assumes education expansion similar to Korea's, India's education distribution in 2050 will still be highly unequal, with a sizeable group of uneducated (mostly elderly) adults. The rapid expansion in tertiary education under this scenario, however, will build a very well educated young adult labour force.

Comparative population and education futures in the Republic of Korea and India



Source: Lutz and KC 2013.

better education of parents, especially of mothers, improves child survival. Moreover, working women and more-educated women (who tend to complete their schooling before bearing children) are likely to have fewer children.⁴ Educated women also have healthier children who are more likely to survive (table 4.1), thus reducing the incentive to have a larger family.⁵ Educated women also have better access to contraception and use it more effectively.⁶

Drawing on Demographic and Health Surveys and micro-level surveys, research for this Report reinforces these arguments, finding mother's education to be more important to child survival than household income or wealth is. This has profound policy implications, potentially shifting emphasis from efforts to boost household income to measures to improve girls' education.

This relationship can be illustrated by data on child mortality (see table 4.1). Many African countries, most notably Mali and Niger, have a high under-five mortality rate. But in every country, the mortality rate is

lower among better educated mothers. In some countries, such as Nigeria, much lower child mortality is associated with primary education; in others, such as Liberia and Uganda, the decisive difference is associated with secondary education.

A modelling exercise conducted for this Report projects the impact of differences in education levels on child mortality over 2010–2050 under two scenarios. The “base case” scenario assumes that current trends in educational attainment at the national level continue without substantial new funding commitments or policy initiatives. Under this assumption, the proportion of each group of children—categorized by age and gender—advancing to the next education level remains constant (see *Technical appendix*).

The “fast track” scenario assumes much more ambitious education policy targets, similar to those achieved in recent decades by the Republic of Korea, for example, with the proportion of schoolchildren advancing to the next education level steadily increasing

A mother's education is more important to her child's survival than is household income or wealth

TABLE 4.1

Under-five mortality rate and total fertility rate by mother's education level

In selected countries, most recent year available since 2005

Country	Survey year	Under-five mortality rate (per 1,000 live births)				Total fertility rate (births per woman)			
		No education	Primary	Secondary or higher	Overall	No education	Primary	Secondary or higher	Overall
Bangladesh	2007	93	73	52	74	3.0	2.9	2.5	2.7
Egypt	2008	44	38	26	33	3.4	3.2	3.0	3.0
Ethiopia	2005	139	111	54	132	6.1	5.1	2.0	5.4
Ghana	2008	103	88	67	85	6.0	4.9	3.0	4.0
India	2005/2006	106	78	49	85	3.6	2.6	2.1	2.7
Indonesia	2007	94	60	38	51	2.4	2.8	2.6	2.6
Liberia	2009	164	162	131	158	7.1	6.2	3.9	5.9
Mali	2006	223	176	102	215	7.0	6.3	3.8	6.6
Niger	2006	222	209	92	218	7.2	7.0	4.8	7.0
Nigeria	2008	210	159	107	171	7.3	6.5	4.2	5.7
Rwanda	2007/2008	174	127	43	135	6.1	5.7	3.8	5.5
Uganda	2006	164	145	91	144	7.7	7.2	4.4	6.7
Zambia	2007	144	146	105	137	8.2	7.1	3.9	6.2

Note: Data refer to the period 10 years before the survey year.
Source: Lutz and KC 2013.

A greater emphasis on education can substantially reduce child deaths in all countries and regions

over the years. The results from the fast track scenario show substantially fewer child deaths as mother's level of schooling rises. The model also shows that a greater emphasis on progress in education would substantially and continually reduce child deaths in all countries and regions, as a direct result of improvements in girls' education (table 4.2).

India has the most projected child deaths over 2010–2015, almost 7.9 million, accounting for about half the deaths among children under age 5 in Asia.⁷ In the final projection period, 2045–2050, nearly 6.1 million children are projected to die under the base case scenario but just half that many (3.1 million) under the fast track scenario.

China has more people than India but is projected to have less than a quarter (1.7 million) the number of child deaths over 2010–2015. And due to China's advances in education, projections look optimistic under both scenarios. If China follows the fast track scenario, as

seems likely, child deaths will decline to about half a million by 2045–2050, less than a third of the current level.

Projections are less optimistic for some other countries. Under the base case scenario, child deaths in Kenya, for example, would rise from about 582,000 in 2010–2015 to about 1.6 million in 2045–2050. Under the fast track scenario, the number of deaths over 2045–2050 would drop to 371,000, much better, but not far below the level in 2010–2015.

The projected declines in child deaths reflect the combined effects of better educated women having fewer children and of fewer of those children dying. The projections also show that policy interventions have a greater impact where education outcomes are initially weaker.

These results underscore the importance of reducing gender inequality, especially in education and in low Human Development

TABLE 4.2

Projected number of deaths of children under age 5, by education scenario, 2010–2015, 2025–2030 and 2045–2050 (thousands)

Country or region	2010–2015	2025–2030		2045–2050	
	Base case	Base case	Fast track	Base case	Fast track
Country					
Brazil	328	224	177	161	102
China	1,716	897	871	625	526
India	7,872	6,707	4,806	6,096	3,064
Kenya	582	920	482	1,552	371
Korea, Rep.	9	8	9	7	7
Mali	488	519	318	541	150
Pakistan	1,927	1,641	1,225	1,676	773
South Africa	288	198	165	134	93
Region					
Africa	16,552	18,964	12,095	24,185	7,495
Asia	15,029	11,715	8,924	10,561	5,681
Europe	276	209	204	196	187
Latin America and the Caribbean	1,192	963	704	950	413
North America	162	160	155	165	152
Oceania	11	11	11	12	10

Note: See *Technical appendix* at the end of this Report for a discussion of the base case and fast track scenarios.
Source: Lutz and KC 2013.

Index (HDI) countries. Gender inequality is especially tragic not only because it excludes women from basic social opportunities, but also because it gravely imperils the life prospects of future generations.

Enabling voice and participation

In the 1995 *Human Development Report*, Mahbub ul Haq highlighted that unless people can participate meaningfully in the events and processes that shape their lives, national human development paths will be neither desirable nor sustainable.

Equitable and sustainable human development requires systems of public discourse that encourage citizens to participate in the political process by expressing their views and voicing their concerns. People should be able to influence policymaking and results, and young people should be able to look forward to greater economic opportunities and political accountability. Exclusion from this process limits people's ability to communicate their concerns and needs and can perpetuate injustices.

Autocratic regimes impose restrictions that directly counter human development by restraining essential freedoms. But even in democracies, poor people and poor groups often have limited access to information, voice or public participation. Poor people need to work together to effectively exercise their political voice. Yet in many countries, organizations representing the poor are not supported but discouraged. Democracies can also extend accountability from what is often a narrow constituency of elites to all citizens, particularly those who have been underrepresented in public discourse, such as women, youth and the poor.

Governments that do not respond to citizens' needs or widen opportunities for political participation risk losing their legitimacy. Dissatisfaction is on the rise in the North and the South as people call for more opportunities to voice their concerns and influence policy, especially on basic social protection. According to a recent International Labour Organization report, government dissatisfaction, measured by the Social Unrest Index, rose in 57 of 106 countries from 2010 to 2011. The

largest increases were in countries of the North, followed by those in the Arab States and Sub-Saharan Africa.⁹

People in the North have been protesting against austerity measures and reductions in public spending and jobs, as in France, Greece, Italy, Spain and the United Kingdom. Citizens have challenged governments to address the social consequences of their policies, pointing out that the burden of austerity is being borne disproportionately by the poor and socially disadvantaged.¹⁰ Other focuses of unrest have included food prices, unemployment and pollution:

- *Rising food prices.* Riots in response to high food prices in 2008 challenged stability in more than 30 countries in Africa and the Arab States.¹¹
- *Unemployment and low wages.* Workers are demanding that governments respond to their needs. The unemployed are voicing their dissatisfaction in many countries.¹² In Viet Nam strikes doubled in 2011 as workers struggled to gain higher wages in the face of inflation.¹³
- *Environmental pollution.* Mass protests against environmental pollution are also widespread. Protesters in Shanghai, China, for example, fought a proposed wastewater pipeline,¹⁴ and in Malaysia local residents have been opposing the construction of a rare earth metal refinery in their neighbourhood.¹⁵

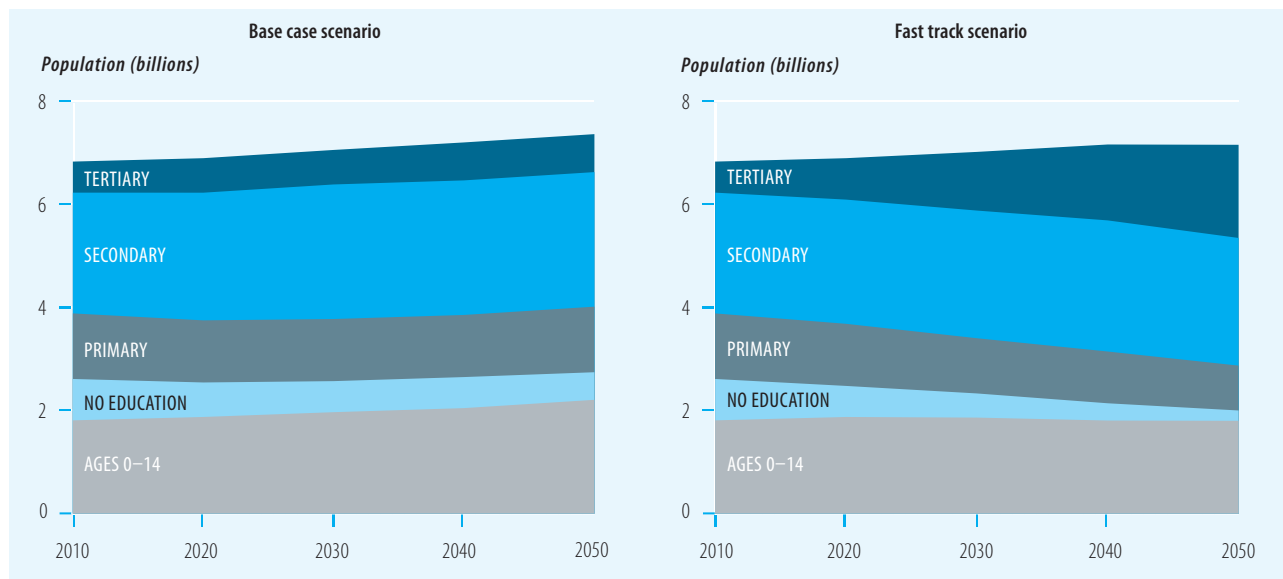
Among the most active protesters are youth, in part a response to job shortages and limited employment opportunities for educated young people. In a sample of 48 countries, youth unemployment was more than 20% in 2011, well above the 9.6% overall rate.¹⁶ Youth discontent in response to rising unemployment is even more likely in areas with an educated population.¹⁷ Education alters people's expectations of government and instils the political skills and resources needed to challenge government decisions. This is not to say that the educated have greater rights. But unless governments give greater priority to job creation, they are likely to face increasing youth dissatisfaction as education coverage expands (figure 4.1).¹⁸

At the same time, mobile broadband Internet and other modern technologies are opening

Dissatisfaction is on the rise as people call for more opportunities to voice their concerns and influence policy, especially on basic social protection

FIGURE 4.1

Under the fast track scenario, education outcomes are enhanced



Note: See *Technical appendix* for a discussion of the base case and fast track scenarios.
Source: HDRO calculations based on Lutz and KC (2013).

Participation and inclusivity, valuable in their own right, also improve the quality of policies and their implementation and reduce the probability of future upheaval

new channels through which citizens, particularly young people, can demand accountability. They are also enabling people in different countries to share values and experiences, bringing them closer together.

The Internet and social media, as “low-cost aggregators” of public opinion, are amplifying people’s voices. In China, for example, the post-1990 generation is highly educated, politically aware and outspoken on social media.¹⁹ Less than a week after the July 2011 high-speed train accident in Wenzhou, China’s two major microblogs (*weibos*) had distributed some 26 million messages commenting on the accident and expressing concerns about safety.²⁰

Social movements and media draw attention to specific issues, but this does not always result in political transformations that benefit the broader society. In India, for example, the Anna Hazare movement against corruption created pressure for change. Critics, however, point out that such movements can favour policies that may not be supported by the wider electorate. Thus, it is important to institutionalize participatory processes that can adjust the political balance by providing a platform for excluded citizens to demand accountability and redress of inequities, ranging from

systemic discrimination to unfair and unjust exclusion.²¹

Participation and inclusivity, valuable in their own right, also improve the quality of policies and their implementation and reduce the probability of future upheaval. Failure to build an accountable and responsive polity may foment discontent and civil strife. This can derail human development. History is replete with popular rebellions against unresponsive governments, as unrest deters investment and impedes growth and governments divert resources to maintaining law and order.

In recent years, countries in both the North and the South have faced escalating crises of legitimacy that have pitted citizens against their institutions. Millions of people in the Arab States have risen to demand opportunities, respect and dignity as well as fuller citizenship and a new social contract with those who govern in their name. As a result, Egypt, Libya and Tunisia have seen autocratic governments deposed, Yemen has embarked on an internationally brokered political transition, Jordan and Morocco have undertaken political reforms and Syrian Arab Republic is in the throes of civil war.

One way to foster peaceful change is to allow civil society to mature through open

practice. Even under autocratic governments, Egypt and Tunisia, for example, had fairly well developed associational structures and self-disciplined political opposition movements. By contrast, Libya lacked such experience, which contributed to an all-out civil war. Building political cohesion after conflict is difficult in countries that lack a tradition of civic participation. Diverse experiences show that changes in political regimes do not automatically enhance voice, participation, inclusion or accountability or make states work more effectively.

Accountability and inclusion are vital not only in the political sphere, but also in economic and social areas, through promoting job creation and social inclusion, especially in societies with a large and growing educated population. This requires effective mediating institutions; otherwise, modernization can be destabilizing.²² This is not to suggest that

people should be educated only if there are jobs for them—in the human development paradigm, access to knowledge and education is an end in itself—but recent social upheavals show that a mismatch between education and economic opportunity can lead to alienation and despair, especially among young people.

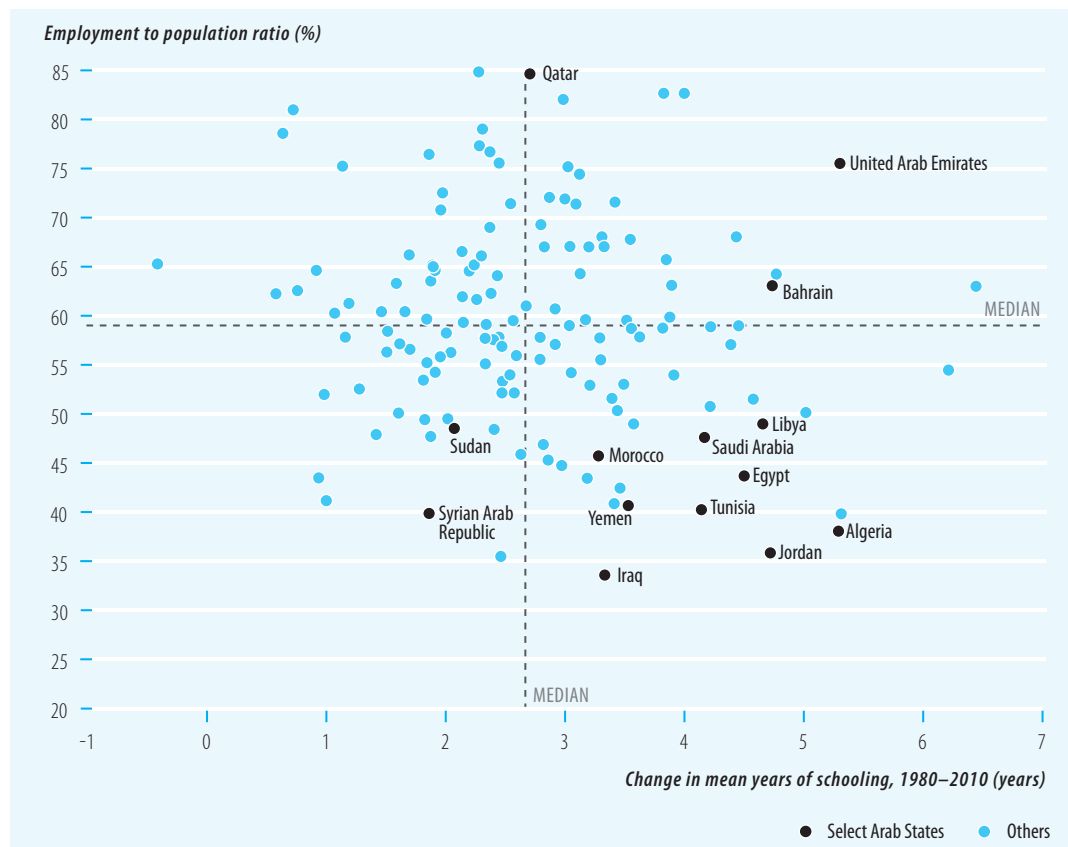
Of the 20 countries with the largest increases in mean years of schooling over 1980–2010, 8 were in the Arab States (figure 4.2). In most of these countries, employment opportunities failed to keep pace with educational attainment. Most countries that were part of the recent unrest in the Arab States are in the lower right quadrant of figure 4.2, because they had major gains in educational attainment but below-median employment to population ratios.²³

It is hard to predict when societies will reach a tipping point. Many factors precipitate demands for change. When educated

Accountability and inclusion are vital not only in the political sphere, but also in economic and social areas, through promoting job creation and social inclusion

FIGURE 4.2

In most countries, employment opportunities have not kept pace with educational attainment



Note: Analysis covers 141 countries. Employment to population ratios are for the most recent year available during 2006–2010. Source: Adapted from Campante and Chor (2012) using updated data.

young people cannot find work, they tend to feel aggrieved. Average years of schooling have risen over the past 30 years in all countries with data available.²⁴ Yet grievances alone do not trigger upheavals. The public can be angry, but if people believe that the cost in time and effort to engage in political action outweighs the likelihood of real change, they may not act.²⁵ Mass protests, especially by educated people, tend to erupt when bleak prospects for economic opportunities lower the opportunity cost of engaging in political activity. These “effort-intensive forms of political participation”²⁶ are then easily coordinated through new forms of mass communication.

Around the world people are calling on governments to become more accountable to citizens and to expand public opportunities to influence policymaking. Such transformations have taken place in the past. For example, Karl Polanyi documented the Great Transformation of 1944, where governments in the North

responded to demands from civil society and labour unions to regulate the market and extend social protection so that the market served society rather than society being subservient to the market.²⁷ Many governments introduced regulations to constrain the activities of firms and improve working conditions and extended social services and social protection. Governments also assumed power over macroeconomic policy and introduced some restrictions on international trade. The time may be right again for a transformation, appropriate for 21st century concerns and conditions.²⁸

Around the world people are calling on governments to become more accountable to citizens and to expand public opportunities to influence policymaking

Confronting environmental pressures

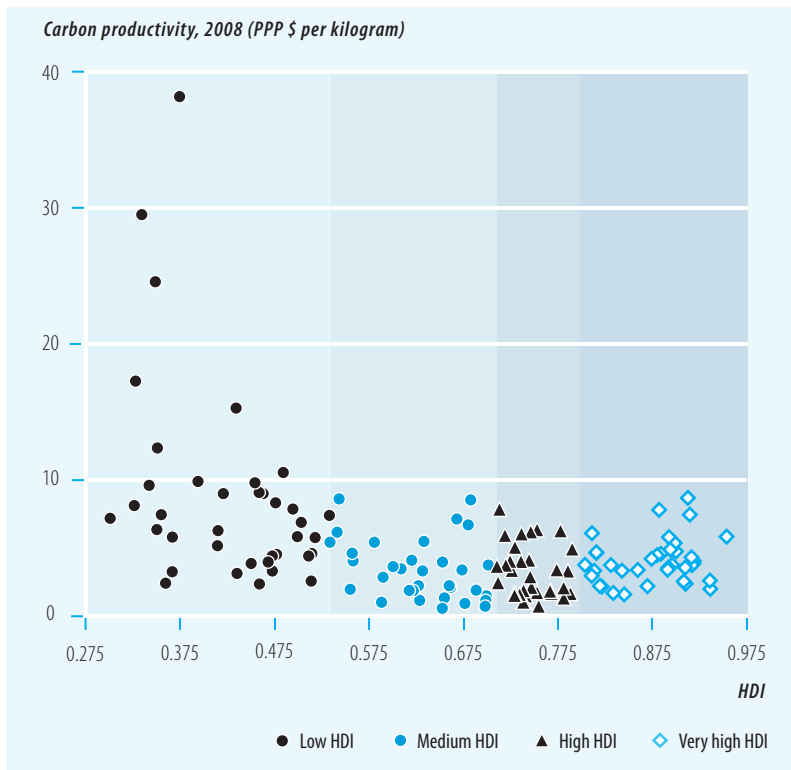
A major challenge for the world is to reduce greenhouse gas emissions. While it might seem that carbon productivity (GDP per unit of carbon dioxide) would rise with human development, the correlation is quite weak (figure 4.3). At each HDI level, some countries have greater carbon productivity than others.

Consider medium HDI Guatemala and Morocco, countries with nearly identical HDI values. Guatemala’s carbon productivity (\$5.00 per kilogram in purchasing power parity terms) is nearly twice that of Morocco (\$2.60). Differences can be just as great among provinces or states within countries, as in China.²⁹ These findings reinforce the arguments that progress in human development need not worsen carbon use and that improved environmental policy can accompany human development.

To sustain progress in human development, far more attention needs to be paid to the impact human beings are having on the environment. The goal is high human development and a low ecological footprint per capita (the lower right quadrant of figure 1.7 in chapter 1). Only a few countries come close to creating such a globally reproducible high level of human development without exerting unsustainable pressure on the planet’s ecological resources. Meeting this challenge on a global scale requires that all countries adjust their development pathway: developed countries will need to reduce their ecological footprint, while developing countries will need to raise their HDI value without increasing their ecological footprint. Innovative clean technologies will play an important part in this.

FIGURE 4.3

At each HDI level, some countries have greater carbon productivity than others



Note: Carbon productivity is GDP per unit of carbon dioxide. PPP is purchasing power parity. Source: HDRO calculations based on World Bank (2012a).

While environmental threats such as climate change, deforestation, air and water pollution, and natural disasters affect everyone, they hurt poor countries and poor communities most. Climate change is already exacerbating chronic environmental threats, and ecosystem losses are constraining livelihood opportunities, especially for poor people. A clean and safe environment should be seen as a right, not a privilege. The 2011 *Human Development Report* highlighted that equity and sustainability are inextricably linked. Sustainable societies need policies and structural changes that align human development and climate change goals through low-emission, climate-resilient strategies and innovative public-private financing mechanisms.³⁰

Most disadvantaged people contribute little to global environmental deterioration, but they often bear the brunt of its impacts.³¹ For example, although low HDI countries contribute the least to global climate change, they are likely to experience the greatest loss in annual rainfall and the sharpest increases in its variability, with dire implications for agricultural production and livelihoods. The magnitude of such losses highlights the urgency of adopting coping measures to increase people's resilience to global climate change.³²

Natural disasters, which are increasing in frequency and intensity, cause enormous economic damage and loss of human capabilities. In 2011 alone, natural disasters accompanying earthquakes (tsunamis, landslides and ground settlements) resulted in more than 20,000 deaths and damages totalling \$365 billion, including loss of homes for about a million people.³³ The impact has been severe for small island developing states, some of which have incurred losses of 1% of GDP—and some as much as 8% or even multiples of their GDP. St. Lucia, for example, lost almost four times its GDP in 1988 from Hurricane Gilbert, and Granada lost twice its GDP in 2004 from Hurricane Ivan.³⁴

The 2011 *Human Development Report* examined several environmental scenarios. The “environmental challenge” scenario factored in the anticipated adverse effects of global warming on agricultural production, access to clean water and improved sanitation, and pollution. Under this scenario, the average global

HDI value would be 8% lower by 2050 than under the “base case” scenario, which assumes a continuation but not a worsening of current environmental trends. Most dramatically, the average regional HDI value in both South Asia and Sub-Saharan Africa would be 12% lower under the environmental challenge scenario than under the base case scenario. Under a more severe “environmental disaster” scenario, the global HDI value in 2050 would fall 15% below that under the baseline scenario—22% below in South Asia and 24% below in Sub-Saharan Africa, effectively halting or even reversing decades of human development progress in both regions.

This Report looks more specifically at the impact of these environmental scenarios on the number of people living in extreme income poverty (figure 4.4). Some 3.1 billion more people would live in extreme income poverty in 2050 under the environmental disaster scenario than under the accelerated progress scenario (table 4.3). Under the base case scenario, by contrast, the number of people in extreme income poverty worldwide would decline by 2050.

Some 2.7 billion more people would live in extreme income poverty under the environmental disaster scenario than under the base case scenario, a consequence of two interrelated factors. First, the model shows an increase of 1.9 billion people in extreme income poverty due to environmental degradation. Second, environmental calamities would keep some 800 million poor people from rising out of extreme income poverty, as they would otherwise have done under the base case scenario (see *Technical appendix*).

These outcomes underscore a central message of this Report: environmental threats are among the most grave impediments to lifting human development, and their consequences for poverty are likely to be high. The longer action is delayed, the higher the cost will be.

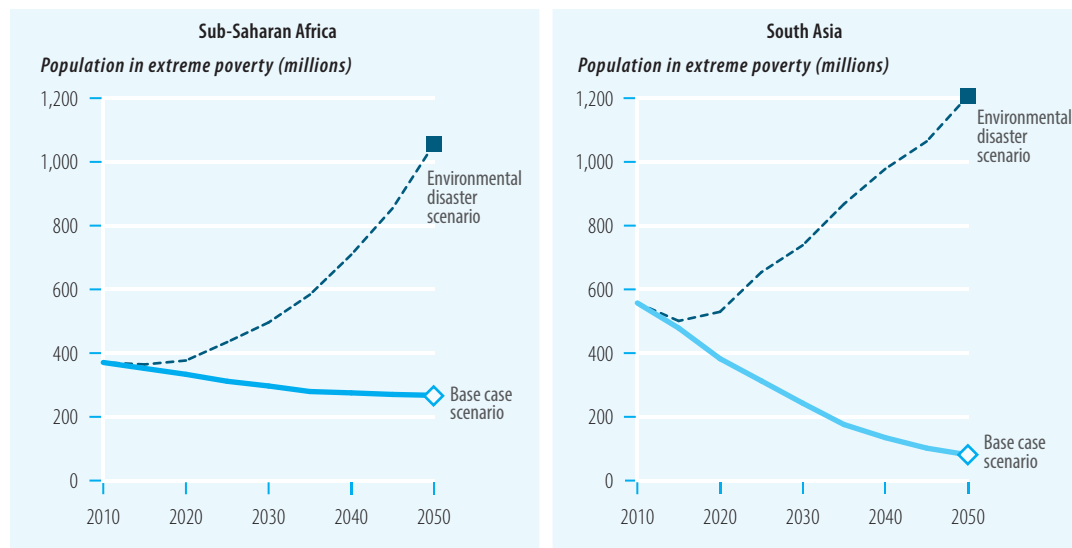
Managing demographic change

Between 1970 and 2011, the world population swelled from 3.6 billion to 7 billion. Development prospects are influenced by the age structure of the population, as well as its size.³⁵ Declining fertility rates and shifts in

Some 3.1 billion more people would live in extreme income poverty in 2050 under an environmental disaster scenario than under the accelerated progress scenario

FIGURE 4.4

Different environmental scenarios have different impacts on extreme poverty



Note: Extreme poverty is defined as \$1.25 a day in purchasing power parity terms. See *Technical appendix* for a discussion of the base case and fast track scenarios. Source: HDRO calculations based on Pardee Center for International Futures (2013).

TABLE 4.3

Population in extreme poverty under the environmental disaster scenario, by region, 2010–2050 (millions)

Region	2010	2020	2030	2040	2050	Increase, 2010–2050	Difference	
							From base case scenario, 2050	From accelerated progress scenario, 2050
Arab States	25	25	39	73	145	120	128	144
East Asia and the Pacific	211	142	211	363	530	319	501	522
Europe and Central Asia	14	6	17	32	45	30	41	44
Latin America and the Caribbean	34	50	90	138	167	134	135	155
South Asia	557	530	738	978	1,207	650	1,126	1,194
Sub-Saharan Africa	371	377	496	709	1,055	685	788	995
World	1,212	1,129	1,592	2,293	3,150	1,938	2,720	3,054

Note: Extreme poverty is defined as \$1.25 a day in purchasing power parity terms. See *Technical appendix* for a discussion of the base case and fast track scenarios. Source: HDRO calculations based on Pardee Center for International Futures (2013).

age structure can have considerable effects on economic growth.³⁶ Over 1970–2010, the dependency ratio (the ratio of younger and older people to the working-age population ages 15–64) declined sharply in most regions—most dramatically in East Asia and the Pacific, where it dropped 39.5%, followed by Latin America and the Caribbean and the Arab States, where it fell 34%.

Over 2010–2050, however, dependency ratios are likely to rise in medium, high and very high HDI countries, particularly in developed countries and in East Asia and the Pacific. In poorer regions, such as South Asia and Sub-Saharan Africa, dependency ratios will continue to fall, but more slowly.

Changing demography will profoundly affect most countries in the South in coming decades,

but in very different ways. Some poorer countries will benefit from a demographic dividend as the share of the population in the workforce rises.³⁷ Richer regions of the South, however, will confront the challenge of rising dependency ratios, with ageing populations and full school enrolment mirrored by a decline in the number of people earning incomes.

In the long term, both demographic challenges can be mitigated by raising educational achievement. First, education accelerates reductions in fertility rates where they are still high. Second, education can boost labour productivity in richer countries with smaller workforces. At the same time, governments will need to foster job creation more actively to expand opportunities for productive employment for younger and older workers alike.

The failure of economic opportunity and productivity to keep pace with these demographic changes can not only keep countries from benefiting from the demographic dividend, it can also threaten social stability, as seen in many countries in recent years.

Modelling demography and education

Demographic trends are not deterministic, however. They can be influenced, at least indirectly, by education policies and sometimes by migration policies.³⁸ Effective policy options can be identified by modelling demographic and education trends.³⁹ Two scenarios for 2010–2050 illustrate the impact of different policy responses: the base case scenario, in which enrolment ratios remain constant at each level of education, and a fast track scenario, in which countries with the lowest initial education levels embrace ambitious education targets.⁴⁰

The dependency ratio is an increasingly critical concern. A high dependency ratio can impoverish a country and lead to reversals in human development. The base case scenario projects a 9.7 percentage point decline in the dependency ratio over 2010–2050 for low HDI countries, a 9 percentage point increase for medium HDI countries, a 15.2 percentage point increase for high HDI countries and a 28.7 percentage point increase for very high

HDI countries (figure 4.5). Under the fast track scenario, the dependency ratio for low HDI countries drops 21.1 percentage points over 2010–2050, more than twice the decrease under the base case scenario. The dependency ratio rises more slowly under the fast track scenario than under the base case scenario for medium HDI countries (6.1 percentage points) and high HDI countries (4.9 percentage points); however, this rise is less pronounced for very high HDI countries.

Under the base case scenario, the share of the elderly in the population rises for all HDI groups: 3.9 percentage points for low HDI countries, 17.7 percentage points for medium HDI countries, 20.2 percentage points for high HDI countries and 22.3 percentage points for very high HDI countries.⁴¹ Over 2010–2050, the share of the young population is projected to fall in all HDI groups. For low HDI countries, the dependency ratio will decrease because the decline in the share of the young population is greater than the rise in the share of the elderly population.

In the Arab States, South Asia and Sub-Saharan Africa, the dependency ratio is projected to decline under the base case scenario and even faster under the fast track scenario. In Sub-Saharan Africa, for example, the dependency ratio falls 11.8 percentage points under the base case scenario and 25.7 percentage points under the fast track scenario.

In East Asia and the Pacific, Europe and Central Asia, and Latin America and the Caribbean, the dependency ratio is projected to increase. East Asia and the Pacific will see a striking increase in the share of the elderly—up 25.8 percentage points, which is an even greater rise than in very high HDI countries.

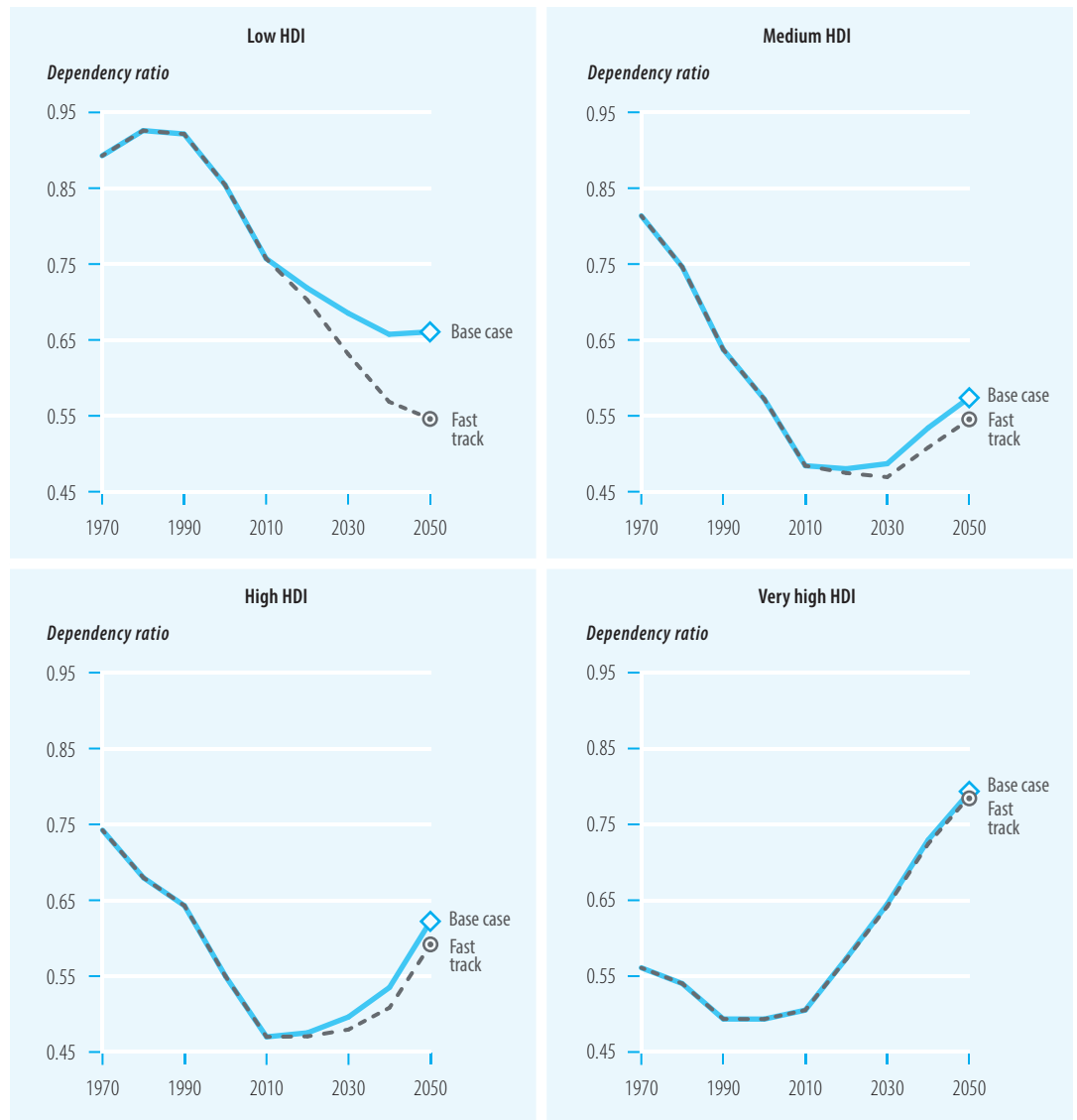
Brazil and Chile demonstrate the potential for ambitious education policies to alter dependency ratios. In Brazil, the dependency ratio rises 15.6 percentage points under the base case scenario but only 10.8 percentage points under the fast track scenario (table 4.4). Chile would see a similar increase, 20.2 percentage points and 17.3 percentage points.

The challenges differ considerably by country under the two scenarios. Under the base case scenario, China would experience a more rapid increase (27.3 percentage points) than, say, Thailand (23.9 percentage points) or Indonesia

Demographic trends are not deterministic. They can be influenced by education policies and sometimes by migration policies

FIGURE 4.5

Education policies can alter dependency ratios



Note: See *Technical appendix* for a discussion of the base case and fast track scenarios.
Source: HDRO calculations based on Lutz and KC (2013).

(8.7 percentage points), countries where even a more ambitious education policy would have only a limited impact on dependency ratios because education levels are already high.

Countries can respond to a declining labour force in various ways. They can reduce unemployment, promote labour productivity and foster greater labour force participation, particularly among women and older workers. They can also outsource work to offshore production and attract international migrants.⁴²

Without proper policy measures, demographic dynamics can increase inequality in

the short run, given that differences in the speed of the demographic transition across households give richer households an initial advantage. Declining fertility rates and shifts in age structures can affect economic growth.⁴³ Reinforcing the cross-country analysis conducted for this Report, a recent study finds that youth dependency ratios tend to be higher for poor households and lower for wealthier ones, especially in Latin America and Sub-Saharan Africa, and that differences in youth dependency ratios between rich and poor dissipate over time.⁴⁴ During demographic transitions,

TABLE 4.4

Trends in dependency ratios, selected countries, 1970–2050

Country	1970	1980	1990	2000	2010	Scenario	2020	2030	2040	2050
Bangladesh	0.929	0.946	0.859	0.704	0.560	Base case	0.462	0.434	0.433	0.481
						Fast track	0.457	0.422	0.418	0.465
Brazil	0.846	0.724	0.656	0.540	0.480	Base case	0.443	0.484	0.540	0.637
						Fast track	0.437	0.460	0.499	0.589
Chile	0.811	0.629	0.564	0.540	0.457	Base case	0.471	0.549	0.609	0.659
						Fast track	0.467	0.531	0.582	0.630
China	0.773	0.685	0.514	0.481	0.382	Base case	0.408	0.450	0.587	0.655
						Fast track	0.404	0.434	0.562	0.628
Ghana	0.934	0.946	0.887	0.799	0.736	Base case	0.704	0.656	0.643	0.645
						Fast track	0.686	0.595	0.548	0.532
India	0.796	0.759	0.717	0.638	0.551	Base case	0.518	0.496	0.491	0.511
						Fast track	0.510	0.474	0.463	0.480
Indonesia	0.868	0.807	0.673	0.547	0.483	Base case	0.452	0.457	0.504	0.571
						Fast track	0.451	0.454	0.501	0.567
Thailand	0.904	0.756	0.532	0.447	0.417	Base case	0.426	0.488	0.576	0.656
						Fast track	0.425	0.484	0.570	0.650
Turkey	0.850	0.787	0.671	0.560	0.478	Base case	0.458	0.467	0.504	0.585
						Fast track	0.450	0.443	0.473	0.547

Source: HDRO calculations based on Lutz and KC (2013). See *Technical appendix* for a discussion of the base case and fast track scenarios.

the wealthiest people tend to lead the decline in fertility, producing a short-term increase in income inequality as they capture the benefits of demographic change first. Then the middle class catches up as its members educate daughters and plan families, followed by the poor. Eventually fertility is lower across all income groups, and the economic benefits of the demographic dividend are spread more evenly.⁴⁵ This is consistent with previous studies for Latin America and Africa.⁴⁶

This short-term rise in inequality is not inevitable, however, and can be influenced by public policies, especially in education and reproductive health, that enable the benefits of the demographic transition to reach all income groups at the same time. Consider the three countries with the largest declines in child dependency ratios: Côte d'Ivoire (with a GDP per capita in 2011 of \$1,800), Namibia (\$6,800) and Peru (\$10,300). In Côte d'Ivoire, the dependency ratio fell most among the rich

and least among the poor; in Namibia, it fell most in the middle of the income range; and in Peru, it fell across the board in roughly equal amounts.⁴⁷ See box 4.2 for a discussion of the distribution of the benefits of the demographic dividend in China and Ghana.

In 13 of 18 countries with a declining dependency ratio and rising female education over 1970–2010, rising labour productivity over 1980–2008 and falling unemployment over 2005–2010, the female labour participation rate grew faster than the overall labour participation rate over 2000–2004 to 2005–2010, indicating greater gender balance in the labour market. Employment, however, did not necessarily become easier as education levels rose. Indeed, in some countries, the labour market situation became tighter for better educated female workers. Additional policy measures are needed to promote labour market conditions that offer productive opportunities for a more qualified and expanded labour force.

China and Ghana: who benefits from the demographic dividend?

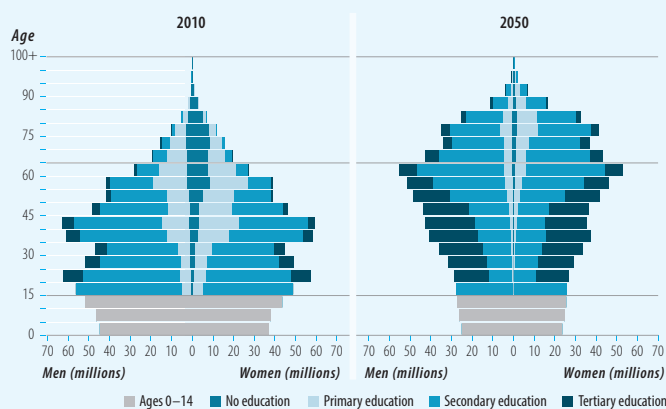
The global trend towards slower population growth and population ageing is driven partly by China, the world’s most populous country, which is going through a demographic transition. For Sub-Saharan Africa, a fast track education policy with incremental enrolment gains could accelerate the demographic transition and generate a demographic dividend for the region. The cases of China and Ghana illustrate what can happen.

China

In 1970, youth constituted the largest share of China’s population, resulting in a high dependency ratio of 0.770, with 1.08 boys for each girl among infants ages 0–4 (figure 1). By 2010, China’s population pyramid looked completely different. As fertility rates fell, the share of the working-age population rose faster than the share of the youth population, lowering the dependency ratio to 0.382. The gender imbalance became more pronounced among infants, with 1.18 boys for each girl. The productive-age population (ages 35–50), currently the largest population share, will reach retirement in 15–25 years. By 2030, China will thus face the challenge of an ageing population, putting more pressure on the social sector and raising the dependency ratio. At retirement, this cohort will have a higher educational attainment than its predecessors 40 years ago.

Under the fast track scenario, with strong education policies, the age structure of China’s population in 2050 will be transformed, with the population ages 60–64 becoming the largest cohort. The education level of the working-age group will rise considerably, contributing to a more productive workforce. A more skilled and productive workforce could offset some of the negative effects of a high dependency ratio and a large share of older people. In this scenario, the ratio of boys to girls will fall to 1.06, close to the global average.

Figure 1 Demographic prospects for China



Source: Lutz and KC 2013. See *Technical appendix* for a discussion of the base case and fast track scenarios.

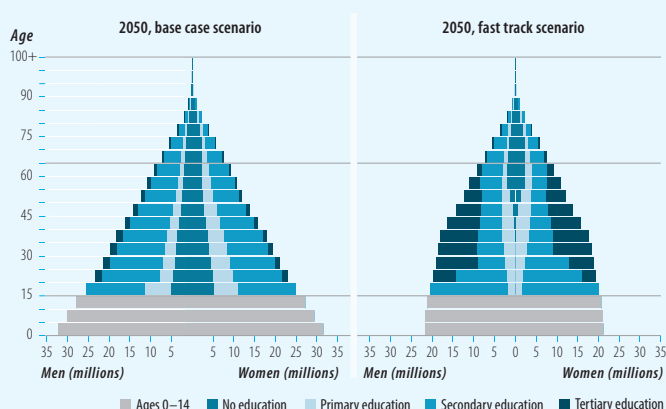
Ghana

In 1970, Ghana had a population of 8.7 million. The largest share of the population was young people, resulting in a high dependency ratio (0.934). The share of the population without formal education was also high, especially among women. By 2010, Ghana’s population had nearly tripled, to 24.4 million. Its age structure had changed little, although improvements in life expectancy rounded out the middle of the pyramid. The youth population, though smaller than in 1970, remained large, and the dependency ratio was still high, at 0.736. Education levels, however, had improved considerably, and the share of people with primary and secondary education had increased.

Ghana’s prospects for 2050 differ markedly under the two education policy scenarios. In the base case, which assumes constant enrolment ratios over 2010–2050, Ghana’s population pyramid would remain triangular, with a large share of young people and a high dependency ratio (0.645; figure 2). The population is projected to reach 65.6 million in the base case scenario, but just 48.2 million in the fast track scenario.

Under the fast track scenario, the demographic outlook would change considerably as falling fertility rates lower the dependency ratio to 0.532, mainly because of the decrease of the youth as a share of Ghana’s total population. The share of working-age people with no education would also fall, implying a rise in productivity and improved capacity for benefiting from the demographic dividend, provided that job creation matches the labour supply of these new cohorts.

Figure 2 Demographic prospects for Ghana



Source: Lutz and KC 2013. See *Technical appendix* for a discussion of the base case and fast track scenarios.

Impact of the rate of population ageing

Populations are ageing faster than in the past, as fertility rates decline and life expectancy rises.⁴⁸ For example, for the share of the elderly population to double from 7% to 14% took

more than a century (from 1865 to 1980) in France, 85 years in Sweden, 83 in Australia and 69 in the United States. Ageing is progressing faster still in developing countries. In eight of a sample of nine developing countries, the share of the elderly population is projected to reach 14% in 30 years or less (figure 4.6). The only

exception is Ghana, where it is expected to take 50 years or more.

The rate of population ageing matters because if developing countries are still poor after the demographic transition, they will struggle to meet the needs of an older population. Many developing countries have only a brief window of opportunity to reap the full benefits of the demographic dividend of a larger working-age population.⁴⁹

The need for ambitious policies

To accelerate and sustain development progress, countries need to adopt ambitious policies that expand women’s education and that have cross-cutting benefits for human development. Timing is critical. Countries that act promptly to take advantage of the demographic dividend and avoid further environmental damage can reap substantial gains. Countries that do not could face high costs that would be compounded over time.

The importance of bold, prompt policy action can be demonstrated through two more scenarios that show the impact of different policy measures on projected HDI and its components in 2050. The base case scenario assumes continuity with historical trends and policies in recent decades. The accelerated progress scenario sets some of the choices and targets along 12 policy dimensions for aggressive but reasonable interventions to reduce poverty, expand infrastructure and improve governance. Examples of ambitious targets are a doubling of lending by international financial institutions over 10 years, a 50% increase in migration over 20 years,⁵⁰ a 20% increase in health spending over 10 years, a 20% expansion in infrastructure over 30 years and a 20% improvement in governance over 10 years.

The projections of the base case scenario are fairly optimistic in that they carry forward the momentum of advances over recent decades, including dramatic improvements in human development. Countries do much better under the accelerated progress scenario, with progress most rapid in low HDI countries (figure 4.7). Aggregate HDI rises 52% in Sub-Saharan Africa (from 0.402 to 0.612) and 36% in South Asia (from 0.527 to 0.714). Low HDI

FIGURE 4.6

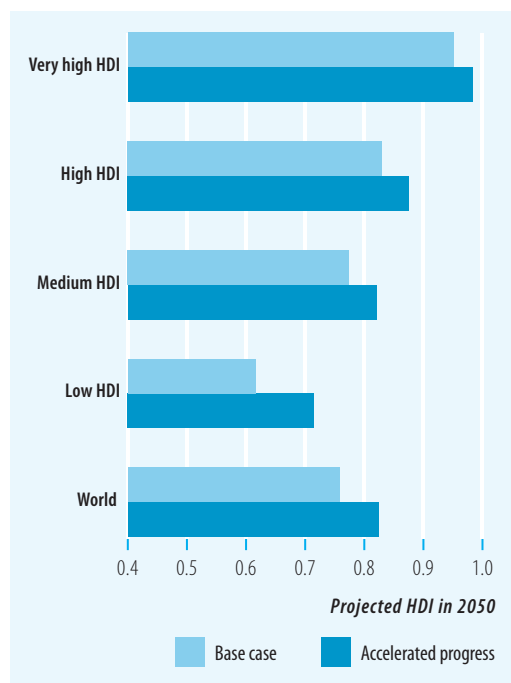
Populations are ageing more rapidly in developing countries



Source: HDRO calculations based on Lutz and KC (2013). See *Technical appendix* for a discussion of the base case and fast track scenarios.

FIGURE 4.7

Human development prospects for 2050 are greater under the accelerated progress scenario, especially for low HDI countries



Note: See *Technical appendix* for a definition of the base case and accelerated progress scenarios.

Source: HDRO calculations based on Pardee Center for International Futures (2013).

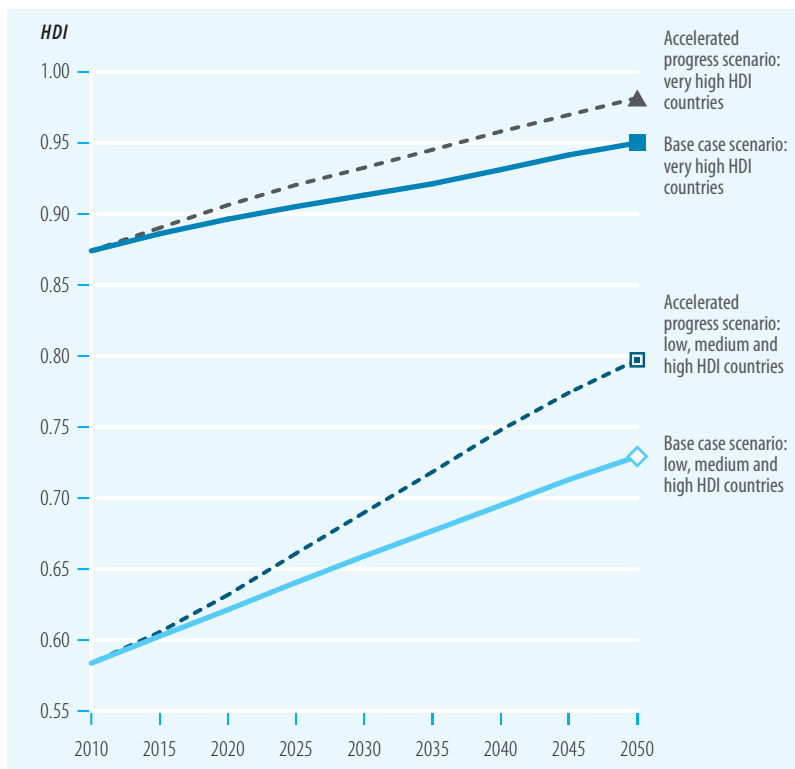
countries thus converge towards the levels of human development achieved by high and very high HDI countries.

Ambitious, fully integrated policies can thus provide strong leverage for advancing human development (figure 4.8). The effects are strongest for Sub-Saharan Africa and South Asia, followed by the Arab States and Latin America and the Caribbean. The impacts are weaker in Europe and Central Asia and in East Asia and the Pacific.

Across all regions, the greatest impacts result from policy interventions in health and education. In Sub-Saharan Africa, for example, ambitious policies raise HDI value in 2050 from 0.612 under the base case scenario to 0.651. In most regions, improving governance has the next greatest impact through progress on reducing corruption, strengthening democratic institutions and empowering women. In South Asia and Sub-Saharan Africa, however, infrastructure investment is even more important.

FIGURE 4.8

Human development outcomes through 2050 improve more under the accelerated progress scenario



Note: See *Technical appendix* for a definition of the base case and accelerated progress scenarios.
Source: HDRO calculations based on Pardee Center for International Futures (2013).

The two scenarios show notable differences in the individual dimensions of the HDI. In Sub-Saharan Africa, life expectancy rises from 53.7 years in 2010 to 69.4 in 2050 under the base case scenario, partly in response to sustained progress against HIV/AIDS and other communicable diseases, but to 72.9 under the accelerated progress scenario. Over the same period, the average years of formal education in Sub-Saharan Africa are projected to rise from 4.3 to 6.7 under the base case scenario, but to 8.1 under the accelerated progress scenario.

The gains under the accelerated progress scenario are even larger for GDP per capita (figure 4.9). This is true for all HDI groups, where differences across scenarios are considerable in both cases. Globally, GDP per capita would rise from \$8,770 in 2010 to \$17,873 in 2050 under the base case scenario and to \$27,995 under the accelerated progress scenario. The largest differential gains would be in Sub-Saharan Africa and South Asia. In Sub-Saharan Africa, GDP per capita would rise from \$1,769 in 2010 to \$5,730 in 2050 under the base case scenario and to an impressive \$13,210 under the accelerated progress scenario—more than double the level under the base case scenario. Under the accelerated progress scenario, South Asia would see a stunning rise from \$2,871 to \$23,661.

The differential rise in income directly influences poverty reduction. Under the base case scenario, income poverty almost disappears in China but decreases only marginally in Sub-Saharan Africa, as the population continues to grow, and remains high in India, which would still have more than 130 million poor people in 2030. Under the accelerated progress scenario, the number of poor people falls much more rapidly, nearly disappearing in some countries and regions (table 4.5).

Substantially reducing poverty by 2050 depends on ambitious policy measures. Failing to act boldly to avert the environmental disaster scenario, for instance, would severely inhibit poverty reduction.

Seizing the moment

Greater progress in human development is both possible and imperative. But accelerating

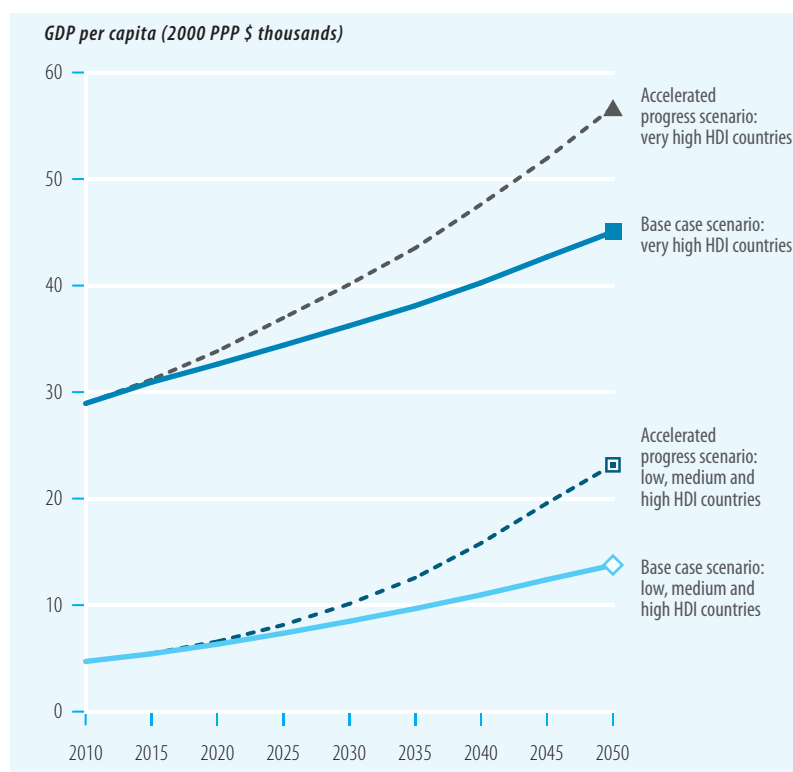
progress will require coordinated policy measures across development fronts. One of the most important of these is equity, because more-equitable societies fare better in most aspects of well-being and are more sustainable. Another is reducing child mortality: rapid progress is possible in all countries through education, particularly of women.

Policies also need to consider other forces that will influence development, especially people's meaningful participation in the processes that shape their lives. Demand for participation grows as people become more educated and more connected. Other major issues are environmental and demographic change; countries need to act during brief windows of opportunity to avoid high costs in forgone human development.

Most of the opportunities for sustaining and even accelerating the momentum in human development lie in the hands of national governments. In an increasingly globalized world, however, governments do not act alone. The final chapter considers the complex web of international arrangements with which national governments need to engage and how regional and global institutions can work more effectively for sustainable human development.

FIGURE 4.9

Advances in GDP per capita through 2050 are especially strong under the accelerated progress scenario



Note: See *Technical appendix* for a definition of the base case and accelerated progress scenarios. Source: HDRO calculations based on Pardee Center for International Futures (2013).

TABLE 4.5

Number of people in extreme poverty by region and selected countries, base case and accelerated progress scenarios, 2010–2050 (millions)

Region or country	2010	2020	2030	2040	2050, base case	2050, accelerated progress
Arab States	25	19	17	16	17	1
East Asia and the Pacific	211	74	42	29	29	9
China	94	13	5	1	1	0
Europe and Central Asia	14	2	3	3	4	1
Latin America and the Caribbean	34	29	26	27	32	13
South Asia	557	382	243	135	81	13
India	416	270	134	53	21	2
Sub-Saharan Africa	371	333	297	275	267	60
World	1,212	841	627	485	430	96

Note: Extreme poverty is defined as \$1.25 a day in purchasing power parity terms. See *Technical appendix* for a discussion of the base case and fast track scenarios.

Source: HDRO calculations based on Pardee Center for International Futures (2013).