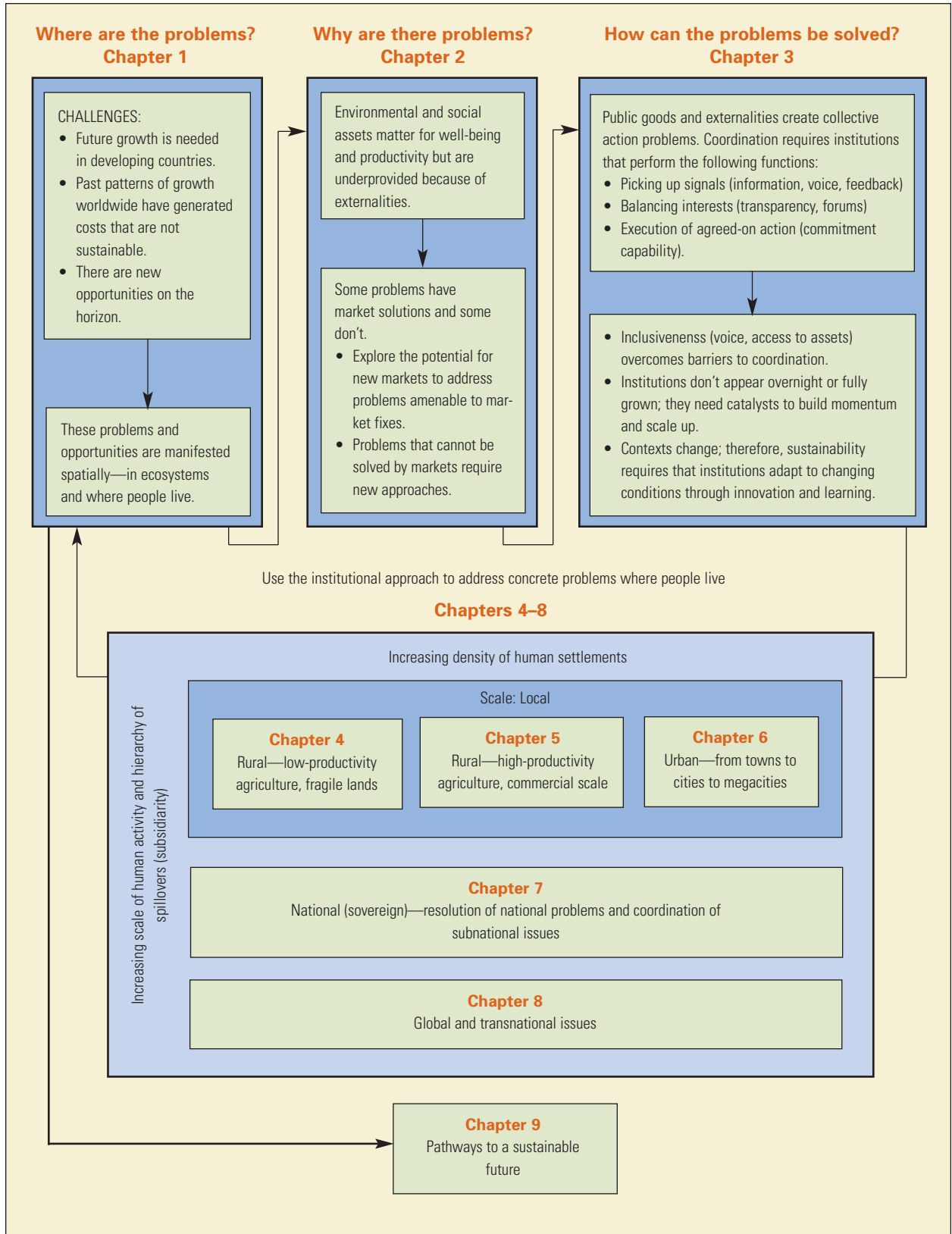


Roadmap to World Development Report 2003



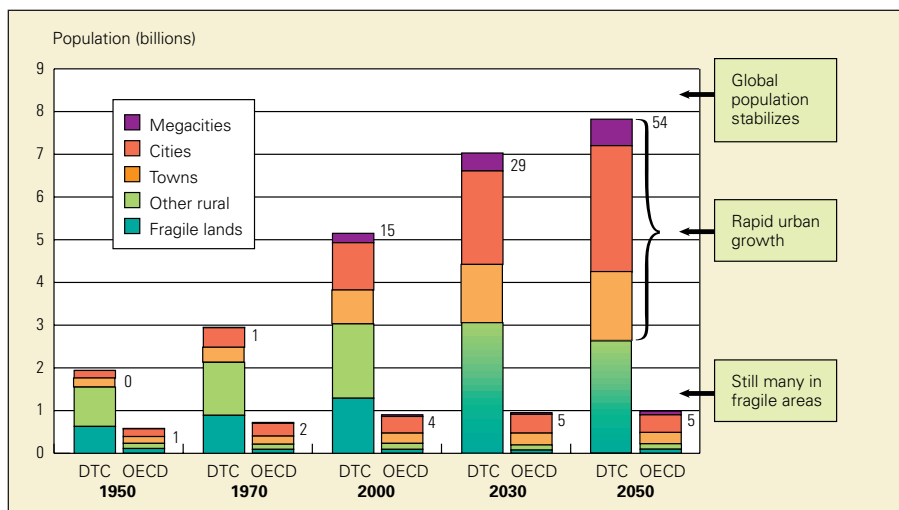
Roadmap to World Development Report 2003

How can productive work and a good quality of life be provided for the 2.5–3 billion people now living on less than \$2 a day—and the 3 billion people likely to be added to developing countries by 2050—in an environmentally and socially sustainable way? This report asks where problems and opportunities are likely to arise, why the problems arise, and how they can be solved (in fragile lands, relatively favored agricultural lands, and urban areas) and at different levels (local, national, and global). It argues that many appropriate policies are known but not implemented because of distributional issues and institutional weaknesses. Competent institutions pick up signals, balance interests, and execute agreed-on decisions. Inclusion of the poor and disenfranchised—giving them a stake in society through voice and access to assets—will enable more effective institutions to emerge.

Chapter 1 Achievements and Challenges

Provision of productive work and a better quality of life for current and future generations in developing countries will require substantial growth in income and productivity in these countries. This task will also require management of the social, economic, and environmental problems and opportunities accompanying the transition to a predominantly urban world (see figure 1); attention to the needs of the hundreds of millions of people living on fragile lands; reaping of the “demographic dividend” of declining depend-

Figure 1—Opportunities seized—or lost? Demographic and urban transitions



Note: DTC refers to developing and transition countries; OECD refers to high-income countries (and not all members of the Organisation for Economic Co-operation and Development). The numbers to the right of the columns show the number of megacities (cities in excess of 10 million people). Towns are classified as having a population of less than 100,000 and cities, a population of 100,000 to 10 million.
Source: Authors; global population projections are based on World Bank estimates; estimates of population shifts in urban and rural areas are based on United Nations data.

ency rates and slowing population growth; and avoidance of the social and environmental stresses—local and global—that might accompany achievement of the prospective, mid-century, approximately \$140 trillion world gross domestic product (GDP). Although these problems and opportunities will play out differently in different places—in the ecosystems where people live and the social systems where they interact, at scales that range from a small mountain valley to a coastal metropolis to the planetary biosphere—many of the issues and the mechanisms needed to tackle them are common to all places.

Chapter 2 Managing a Broader Portfolio of Assets

Social and environmental assets are critical—but underprovided. Policy solutions are understood—but not implemented.

Societies need to manage a broad portfolio of assets—not just human and physical capital, but also environmental assets (such as fresh water and fish stocks) and social assets (such as trust). These assets are not perfectly substitutable. The immediate gains of depleting or degrading them can be outweighed by costs in productivity and lost options, as illustrated by forest conversion in Madagascar.

Productivity growth in agriculture is critical to poverty reduction in Madagascar, where nearly three-quarters of the population live in rural areas and where three-quarters of that population is poor. But conversion of Madagascar's biodiversity-rich forests, the potential focus of a future ecotourism industry, to mostly unsustainable, low-yield agriculture has been costly. Much of the new cropland is degraded, and hillside erosion clogs downslope waterways. The country has experienced a decrease in its per capita GDP from \$383 (in 1995 dollars) in 1960 to \$246 today. Madagascar is not the only country that has depleted or degraded forest assets without realizing gains in other assets. On average, forest depletion in low-income countries lowers net savings by 1.5 percent of GDP.

Why are environmental and social assets particularly threatened and underprovided? Because of externalities: the actions of one person may impose environmental costs (such as pollution) and social costs (diminished trust in institutions) on other people—costs that the responsible party does not bear. Free riders have no incentive to contribute to the maintenance of public goods from which they cannot be excluded.

The solution to these problems is well known: policies that align individual and social incentives, either through taxes, subsidies, and regulation, or through the deliberate creation of new market mechanisms. Failure to adopt such policies—even when they appear to be “win-win”—is most often the result of distributional problems and society's inability to make credible long-term commitments.

Chapter 3 Institutions for Sustainable Development

Problems that require lasting solutions are often not susceptible to quick fixes. Such problems require the coordination of many actors. Inclusion in the form of voice and access to assets facilitates coordination: more inclusive processes lead to more sustainable outcomes; voice and wider ownership of assets lead to more inclusive processes.

Avoiding inflation and protecting investors, ensuring labor and service delivery, maintaining environmental assets and systems for using them, preventing crimes and maintaining peace are all coordination problems. Markets work well for addressing some kinds of coordination problems—matching suppliers and demanders of goods, services, and physical assets—if supporting institutions such as property rights are in place. Mechanisms for other kinds of coordination problems, especially those in the social and environmental sphere, are often lacking, undeveloped, faulty, or weak.

Coordination mechanisms typically fail in three ways. First, *they fail to take the long view*. Cities grow without adequate provision for transport right of way. Short-term political fixes evolve into constituencies for perverse subsidies. Second, *they fail to represent dispersed interests*. The voices of the many who are affected by pollution may be less audible than the voices of

those who pollute. Third, *they fail to commit to allow assets to thrive*. Wasteful destruction of forests, overexploitation of fisheries, plundering of people's savings through inflationary monetary policies—all reflect a lack of social mechanisms for restraint.

The collapses of the Newfoundland cod fisheries and of the U.S. energy and financial and risk management services company Enron illustrate these coordination failures—common problems in disparate realms. Potentially renewable assets—fish in one case, trust in the other—were depleted to the short-run benefit of some but the long-run loss of society (see figure 2).

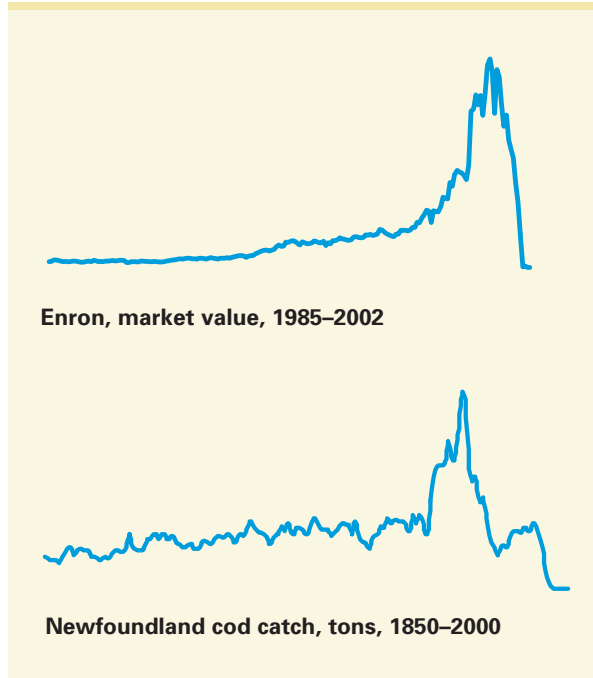
Effective coordination requires institutions (informal and formal rules and organizations) that undertake the following functions: picking up signals (information, feedback, anticipation of future prob-

lems), balancing interests (transparency, voice, forums for negotiation), and executing agreed-on decisions (commitment and enforcement mechanisms). Such institutions are often lacking or are flawed, when some interests are dispersed or when some groups in society are poor or in other ways disenfranchised. Groups that lack assets tend also to lack voice, security, and a stake in the larger society, hampering institutions' ability to perform needed coordination functions. The result is a vicious cycle in which biased institutions implement policies that lead to an increase in polarization and unequal asset distributions (see figure 3).

That policies affect institutions and asset distribution is widely understood; less well known is that asset distribution affects the quality of institutions and policies.

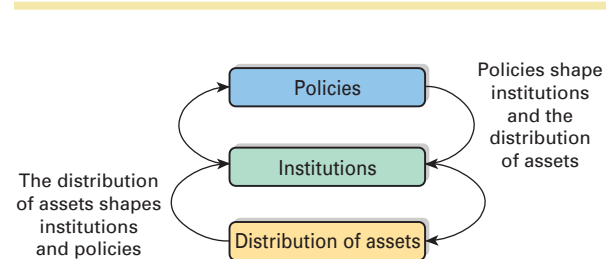
This cycle can be broken. Certain mechanisms for promoting transparency, feedback, accountability, commitment, and negotiation of interests have been successfully applied in fragile lands, rural areas, and urban areas. These mechanisms do not change institutions overnight but help to build momentum for lasting change. Over the long run, fostering inclusiveness is essential. South Africa and Malaysia, among other countries, demonstrate that societies can make decisive moves toward inclusiveness when it becomes clear that failure to do so will be unsustainable.

Figure 2—Failure of institutions to protect assets



Sources: Hannesson (2002); Center for Research in Security Prices, University of Chicago; New York Stock Exchange.

Figure 3—Policy-institutions-assets loop





A local school and teacher enable girls to attend primary school for the first time in their village's history. *Photo courtesy of Robert Clement-Jones*

Chapter 4 Improving Livelihoods on Fragile Lands

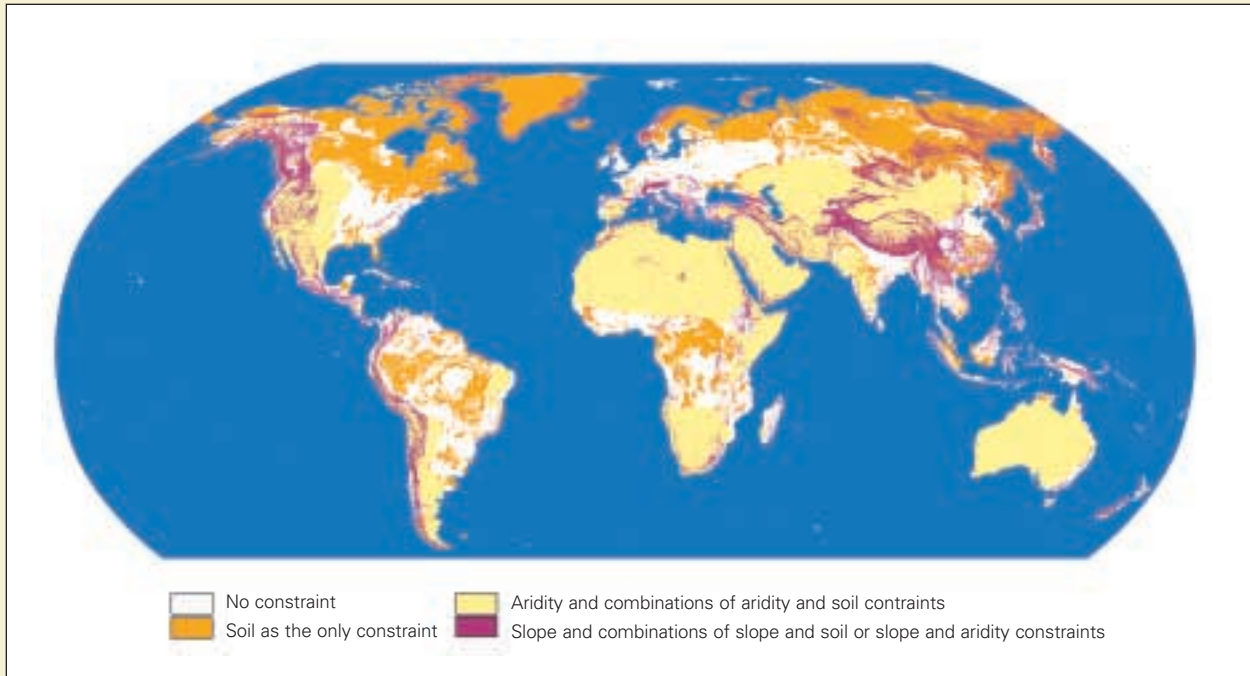
Living on fragile lands—in arid zones, on slopes and poor soils, or in forest ecosystems—are an estimated 1.3 billion people, (see figures 4 and 5) a number that has doubled over the past 50 years. The inhabitants of these fragile lands account for a large share of people in extreme poverty. Living in remote areas and working in the informal economy, these people are invisible to decisionmakers.

Remotely located communities in some of the most fragile areas have a modest portfolio of assets that can help bring them out of poverty, but these assets are seldom nurtured by local or national institutions. Deftly combining resources for research and cost-effective services could enable these communities to catch up with more prosperous, less remotely located communities. Indeed, managing land to improve livelihoods underscores the strong link between traditional know-how and outside technical advice, which results in recognition of the land's potential and limitations.

By listening to grassroots organizations and testing ideas, governments, civil society, and donors can promote creativity, adaptable institutions, relevant policies, and workable solutions to address the social, environmental, and economic problems affecting one-quarter of the people in developing countries.



A Mongolian family moves camp for the winter. Mobility reduces overgrazing pressures, promotes sustainable grassland management, and ensures acceptable livelihoods. *Photo courtesy of Robin Mearns*

Figure 4—Fragile and nonfragile lands

Nonfragile lands cover only a tiny fraction of the earth's surface, bear most of the world's population, and receive essentially all of the development attention. That the minority who live on fragile lands are nonetheless numerous, and are especially poor and voiceless, is a quintessential example of failure to balance interests.

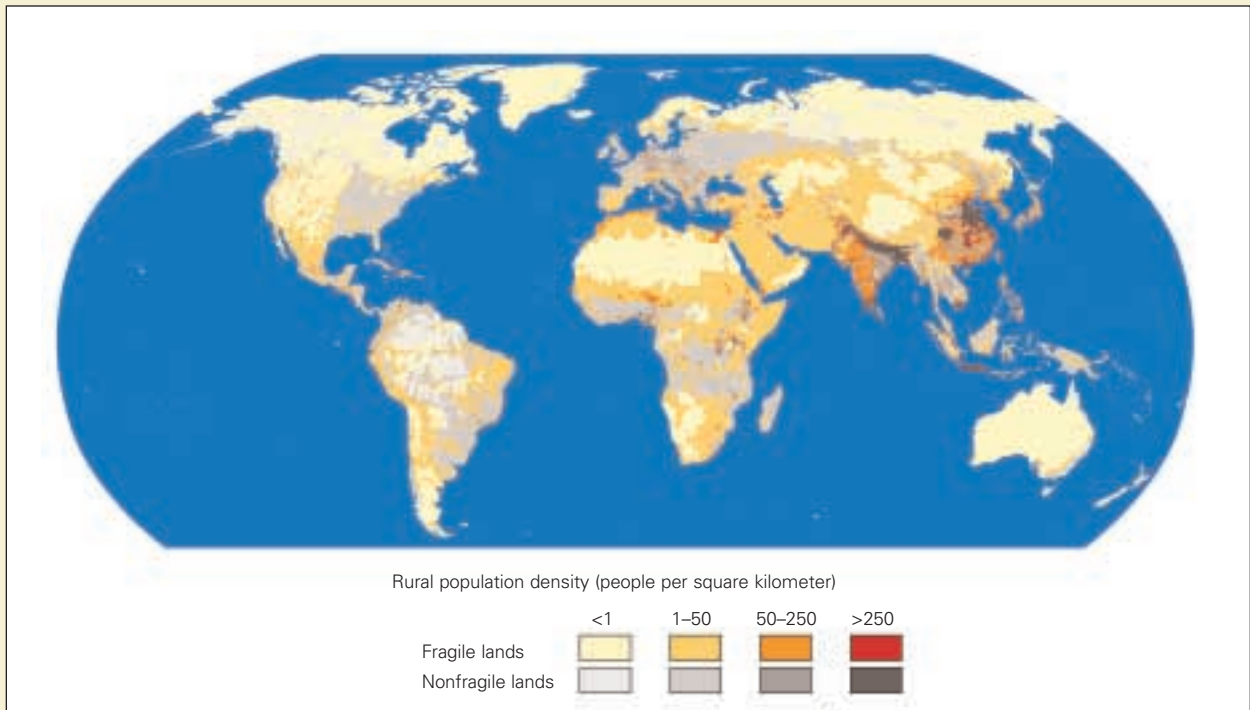
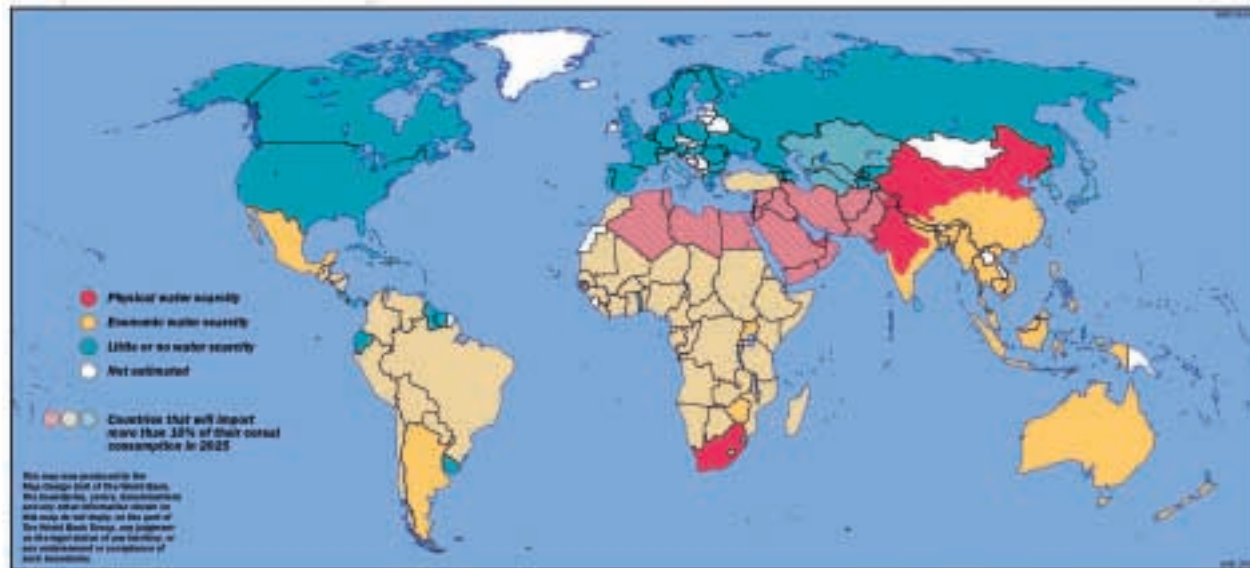
Figure 5—Rural population on fragile and nonfragile lands

Figure 6—Projected water scarcity in 2025

For countries with physical water scarcity, no reallocation of water or construction of water supply structures will satisfy all water needs. These countries will have to transfer water from agriculture to other sectors and import food, or invest in costly desalinization. Countries with economic water scarcity will have to increase their primary water supply by more than 25 percent through additional storage and conveyance facilities.

Source: Prepared by the International Water Management Institute as input for the World Water Vision, The Hague, March 2000.

Chapter 5

Transforming Institutions on Agricultural Lands

Over the next 30 to 50 years, the key development challenges for rural transformation are to eliminate rural poverty and strengthen rural-urban linkages, intensify agricultural production and sustainably manage land and water to feed a growing population, control wasteful land conversion, and create off-farm economic opportunities. In rural areas with potential for commercial agriculture, getting ahead of the “scarcity frontier” for both water and land is crucial. Many areas will experience physical or economic water scarcity by 2025 (see figure 6). Governments must establish institutions to equitably allocate water rights and ensure adequate stream flows to maintain aquatic ecosystems.

Similarly, governments must intervene to protect the environmental values of land before economic scarcity emerges. Mobilizing support for land management interventions, and implementing them, presents a host of institutional challenges. A promis-

ing new deforestation control program in Mato Grosso, Brazil, provides hope that these challenges can be met. An environmental licensing system uses satellite imagery and ground inspection to regulate land use by large landowners on five million hectares in the state of Mato Grosso. Through this system, the product of political will and technological and institutional innovation, Mato Grosso enhances enforcement of land use laws and deters wasteful conversion of Amazonian forest.

In the case of both water management and land management, two principles should apply. First, governments must anticipate and attempt to prevent resource management problems before those problems lead to severe environmental degradation. Second, where possible, allocation of rights to land and water should favor poor people. These principles ensure that non-market environmental values are protected as the economic frontier advances and that economic assets are put in the hands of poor people, developments that are good for the environment and for the evolution of local, regional, and national institutions.



A nationwide program to upgrade kampongs (slum settlements) in urban areas of Indonesia has provided basic infrastructural investments (water supply and sanitation, drainage, access roads and footpaths, lighting and other community service facilities) and security of tenure, dramatically improving living conditions for kampung residents and integrating their neighborhoods into cities. In this kampung in Banjarmasin in Kalimantan province, storm drainage works corrected chronic flooding. *Photos courtesy of James Fitz Ford, the World Bank*

Chapter 6 Getting the Best from Cities

Urban areas are expected to grow significantly in the next 30 years. The number of urban residents in developing countries and countries in economic transition will almost double through a combination of rural-to-urban migration, natural population increases in cities, and reclassification of adjacent rural areas as urban areas. The growth of urban areas will require physical expansion of the urban periphery as well as redevelopment and densification within cities.

The increase in share of national populations that will be living in urban areas (cities and towns) is one of the main forces of social and economic transformation. The massive new investment in the capital stock of cities required for the doubling of urban population by 2030 will be critical to environmental outcomes. Urban land use patterns, right of way arrangements, and building standards will affect energy and water use.

Some key urban development challenges are anticipating urban growth and guiding new settlements to prevent future slums, empowering the poor and excluded by providing access to assets (security of

tenure), stimulating urban investment and job creation, and building informed constituencies to address environmental and social issues and anticipate risks. Institutions for urban governance need to link informal networks of social capital to formal structures so that together they can address the increasing scale and complexity of environmental and social assets in cities, while promoting a well-integrated labor market and improvements in the investment climate.

Often the urban poor have been left to fend for themselves, leading to the proliferation of large informal settlements without services (slums) where residents face serious environmental hazards. This neglect creates high private as well as social costs. These costs can be mitigated through corrective measures such as upgrading of investments through programs that involve slum residents in arranging their own resettlement when necessary to increase their safety and protect environmentally fragile areas. A more promising approach to upgrading of investments is to confirm the rights and responsibilities associated with the occupation and use of land, regularizing tenure

status and thereby removing a major source of economic and political insecurity for households and communities. Tenure reduces some of the risks that discourage residents from investing in their houses and shops—and gives residents a stronger stake in urban society and an incentive to work with local officials to obtain services.

Chapter 7

Strengthening National Coordination

Because many externalities spill outside municipalities and regions, the nation is often the level at which interests can be balanced—directly or through facilitation of negotiation among localities. National actors help to create a framework and solve problems that cannot be resolved at local levels and are better placed than local actors to organize the provision of nonlocal public goods and to take advantage of scale economies when beneficiaries are spread among many subnational regions.

National concerns requiring coordination at different levels include the following: promoting inclusiveness (by fostering access to assets and voice), generating a sound investment climate (attending to macroeconomic fundamentals, strengthening governance, providing basic infrastructure), managing the environment (for instance, by regulating pollution and husbanding forests and fisheries), using aid and natural resources effectively (by avoiding natural resource depletion and degradation), and averting conflict.

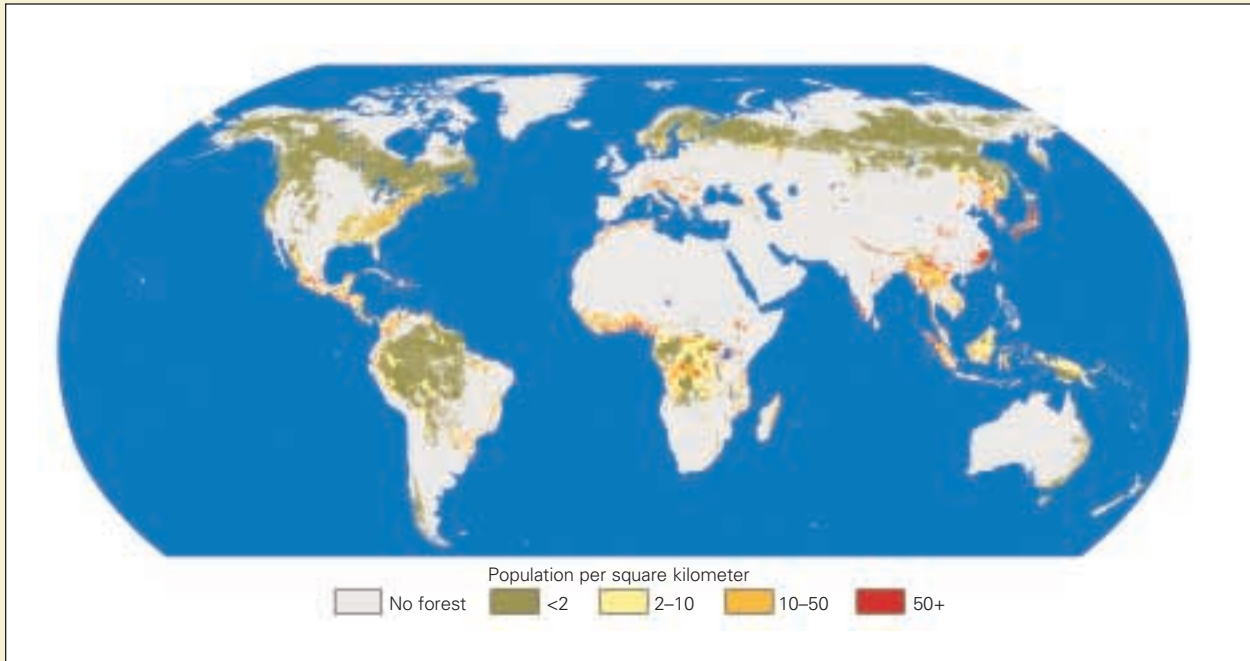
Heavy reliance on natural resources (whether renewable, like forests, or nonrenewable, like minerals) for public revenues can, in many cases, retard the emergence of strong institutions (important for both economic performance and sustainable development) because this reliance weakens government accountability. Ensuring that development aid does not have a similar effect is a major focus in current efforts to improve the effectiveness of such aid.

The tragedy of violent conflict is more likely to visit countries with lootable natural resources and extreme poverty than countries without such resources and poverty. Poverty reduction and other forms of conflict prevention are essential, because the risk of conflict increases with poverty, economic stagnation, and a history of political turmoil. Providing public goods, reducing negative externalities, and avoiding conflict will require improved coordination at the national level by promoting inclusiveness and participation (through voice and improved access to assets) as well as creating the framework to foster partnerships among stakeholders from government, civil society, and the private sector.

Chapter 8

Global Problems and Local Concerns

Many local environmental and social problems spill over national borders. How can air pollution, water pollution, armed conflict, infectious disease, and other problems be addressed without a global authority? Some institutions are finding ways to align interests within and across borders to address the problems of stratospheric ozone depletion and transboundary acid rain. Other institutions are emerging to facilitate international coordination, including broader use of standards and certification and of “coupling institutions” that link policymakers and scientists, nurturing the development of creative new solutions to problems.

Figure 7—Population density in forests

Source: Authors' construction based on Columbia University's Center for International Earth Science Information Network's Gridded Population of the World dataset (version 2) and Global Land Cover Characterization. Mapped forests include deciduous broadleaf, deciduous needle leaf, evergreen broadleaf, evergreen needle leaf, and mixed forest; not mapped are savannas, shrublands, wooded wetlands, and tundra.

Two important global sustainability issues are deeply connected to local land, water, and energy use and have proven difficult to resolve: conserving biodiversity and maintaining ecosystems, and mitigating and adapting to climate change. Strategies for biodiversity conservation must operate at the level of entire ecosystems. The ecological and social issues related to sustainable forest management, for instance, will be quite different for vast, unpopulated forests than they will be for highly fragmented and densely populated forests (see figure 7).

Climate change, if unchecked, could have severe consequences. Long lead times, and concerted action at the required scale, are necessary to effect changes in both economic systems and the global climate system.

Chapter 9 Pathways to a Sustainable Future

Lack of assets and lack of an effective voice for large segments of the population block the emergence of competent institutions that can pick up signals early, balance interests, and commit to implementation of decisions. As a result, policies to avoid wasting of assets, particularly environmental and social assets, are not adopted and implemented. The more people heard, the fewer the assets that are wasted. These messages of *World Development Report 2003* inform a variety of recommendations and suggest some issues requiring further research and dialogue, including a global vision and accord on sustainable development.

