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Common Wealth

ECONOMICS FOR A CROWDED PLANET

Jeffrey D. Sachs



PENGUIN BOOKS

Chapter 1

Common Challenges, Common Wealth

THE TWENTY-FIRST CENTURY WILL OVERTURN many of our basic assumptions about economic life. The twentieth century saw the end of European dominance of global politics and economics. The twenty-first century will see the end of American dominance. New powers, including China, India, and Brazil, will continue to grow and will make their voices increasingly heard on the world stage. Yet the changes will be even deeper than a rebalancing of economics and politics among different parts of the world. The challenges of sustainable development—protecting the environment, stabilizing the world's population, narrowing the gaps between rich and poor, and ending extreme poverty—will take center stage. Global cooperation will have to come to the fore. The very idea of competing nation-states that scramble for markets, power, and resources will become passé. The idea that the United States can bully or attack its way to security has proved to be misguided and self-defeating. The world has become much too crowded and dangerous for more “great games” in the Middle East or anywhere else.

The defining challenge of the twenty-first century will be to face the reality that humanity shares a *common fate on a crowded planet*. That common fate will require new forms of global cooperation, a fundamental point of blinding simplicity that many world leaders have yet to understand or embrace. For the past two hundred years, technology and demography have consistently run ahead of deeper social understanding. Industrialization and science have created a pace of change unprecedented in human history. Philosophers, politicians, artists, and economists must scramble constantly to catch up with contemporaneous social conditions. Our social philosophies, as a result, consistently lag behind present realities.

In the last seventy-five years most successful countries gradually came to understand that their own citizens share a common fate, requiring the active

role of government to ensure that every citizen has the chance and means (through public education, public health, and basic infrastructure) to participate productively within the society, and to curb society's dangerous encroachments on the physical environment. This activist philosophy, which holds that the self-organizing forces of a market economy should be guided by overarching principles of social justice and environmental stewardship, has not yet been extended robustly to global society.

In the twenty-first century our global society will flourish or perish according to our ability to find common ground across the world on a set of shared objectives and on the practical means to achieve them. The pressures of scarce energy resources, growing environmental stresses, a rising global population, legal and illegal mass migration, shifting economic power, and vast inequalities of income are too great to be left to naked market forces and untrammelled geopolitical competition among nations. A clash of civilizations could well result from the rising tensions, and it could truly be our last and utterly devastating clash. To find our way peacefully through these difficulties, we will have to learn, on a global scale, the same core lessons that successful societies have gradually and grudgingly learned within their own national borders.

It has not been easy to forge cooperation even within national boundaries. In the first century of industrialization, England and other early industrializing countries were characterized by harsh social conditions in which individuals and families were largely left to scramble in the new industrial age. Charles Dickens and Friedrich Engels left a lasting testimony to the harshness of the times. Gradually and fitfully, the early industrializing societies began to understand that they could not simply leave their own poor to wallow in deprivation, disease, and hunger without courting crime, instability, and disaster for all. Gradually, and with enormous political strife, social insurance and transfer schemes for the poor became tools of social peace and prosperity during the period from roughly 1880 onward. Around half a century ago, many nations began to recognize that their air, water, and land resources also had to be managed more intensively for the common good of their citizens in an industrial age. The poorest parts of town could not be the dumping ground of toxic wastes without jeopardizing the rich neighborhoods as well. Heavy industry was despoiling the air and the water. Industrial pollution in one region could be carried by winds, rains, and rivers hundreds of miles downstream to destroy forests, lakes, wetlands, and water reservoirs.

The forging of nationwide commitments was hardest in societies like the United States, which are divided by race, religion, ethnicity, class, and the native born versus immigrants. Social-welfare systems proved to be most effective and popular in ethnically homogenous societies, such as Scandinavia, where people believed that their tax payments were "helping their own." The United States, racially and ethnically the most divided of all the high-income countries, is also the only high-income country without national health insurance. Even within national borders of divided societies, human beings have a hard time believing that they share responsibilities and fates with those across the income, religious, and perhaps especially, racial divide.

Yet now the recognition that we share responsibilities and fates across the social divide will need to be extended internationally so that the world as a whole takes care to ensure sustainable development in all regions of the world. No part of the world can be abandoned to extreme poverty, or used as a dumping ground for the toxic, without jeopardizing and diminishing all the rest. It might seem that such global cooperation will prove to be utopian. The prevailing unilateralism of the United States will seem for many people to be an inevitable feature of world politics in which politicians are voted in or out of office by their own populations rather than by a global electorate. A major theme of this book, however, is that global cooperation in many fields has been enormously successful in the past, in large part because well-informed national electorates support global cooperation when they understand that it is in their own enlightened self-interest and vital for the well-being of their children and children's children. Our challenge is not so much to invent global cooperation as it is to rejuvenate, modernize, and extend it.

AVOIDING THE CLIFF

The world can certainly save itself, but only if we recognize accurately the dangers that humanity confronts together. For that, we will have to pause from our relentless competition in order to survey the common challenges we face. The world's current ecological, demographic, and economic trajectory is unsustainable, meaning that if we continue with "business as usual" we will hit social and ecological crises with calamitous results. We face four causes for such potential crises:

- Human pressures on the Earth's ecosystems and climate, unless mitigated substantially, will cause dangerous climate change, massive species extinctions, and the destruction of vital life-support functions.
- The world's population continues to rise at a dangerously rapid pace, especially in the regions least able to absorb a rising population.
- One sixth of the world remains trapped in extreme poverty unrelieved by global economic growth, and the poverty trap poses tragic hardships for the poor themselves and great risks for the rest of the world.
- We are paralyzed in the very process of global problem solving, weighed down by cynicism, defeatism, and outdated institutions.

These problems will not solve themselves. A world of untrammelled market forces and competing nation-states offers no automatic solutions to the harrowing and increasing difficulties. Ecological conditions will be worsened, not improved, by the rapid economic growth that is under way in most of the world unless that growth is channeled by active public policies into resource-saving (or sustainable) technologies. The transition from high to low fertility (birth) rates, necessary for lower population growth, requires concerted public action to help guide private and voluntary fertility choices. Market forces alone will not overcome poverty traps. And the failures of global problem solving mean that we are failing to adopt even straightforward and sensible solutions lying right before our eyes.

By looking ahead, husbanding resources more sensibly, and maximizing the gains attainable from science and technology, we can find a path to prosperity that can spread to all regions of the world in the coming decades. Global prosperity need not be limited by dwindling natural resources; the world economy need not become an us-versus-them struggle for survival. The dire threats can be averted if we cooperate effectively. We can, indeed, secure four goals in the coming decades:

- Sustainable systems of energy, land, and resource use that avert the most dangerous trends of climate change, species extinction, and destruction of ecosystems
- Stabilization of the world population at eight billion or below by 2050 through a voluntary reduction of fertility rates

- The end of extreme poverty by 2025 and improved economic security within the rich countries as well
- A new approach to global problem solving based on cooperation among nations and the dynamism and creativity of the nongovernmental sector

Attaining these goals on a global scale may seem impossible. Yet there is nothing inherent in global politics, technology, or the sheer availability of resources on the planet to prevent us from doing so. The barriers are in our limited capacity to cooperate, not in our stars. We need agreements at the global level and attitudes throughout the world that are compatible with meeting our global challenges.

GLOBALIZATION WITHOUT TRUST

Despite the urgent need for increased global cooperation, such cooperation has been slipping away in recent years. Technological advances in transport, communication, and information have brought us closer together than ever economically. Market forces harnessed to those technologies have created a global division of labor of unsurpassed complexity and productivity and played a major role in lifting hundreds of millions of people out of extreme poverty. Yet even as the global economy has become more intertwined, global society has seemed to become more divided, acrimonious, and fearful. Fleets of jumbo jets ply the skies of our interconnected global economy, yet our fear of terrorism is so great that we are rationed in the toothpaste and shampoo that we can carry onto the planes.

The paradox of a unified global economy and divided global society poses the single greatest threat to the planet because it makes impossible the cooperation needed to address the remaining challenges. A clash of civilizations, if we survived one, would undo all that humanity has built and would cast a shadow for generations to come. We've actually been there before. The first great wave of globalization in the nineteenth century ended up in the blood-drenched trenches of Europe in World War I. It is especially sobering to realize that before August 1914, globalization and the march of science seemed assured, as they seem to many today. A best seller of the day, *Europe's Optical*

Illusion (by Norman Angell, 1909), had correctly emphasized that war as a tool of European policy was passé because no country could possibly benefit from outright conflict. Yet distrust and failed European institutions brought war just the same, with cataclysmic effects that reverberated for the rest of the century. The war itself was unmatched in ferocity and death. And in its wake emerged bolshevism, the 1919 flu epidemic, the Great Depression, the rise of Hitler, the Chinese civil war, the Holocaust, and consequences that extend till now. The world was truly torn asunder in 1914. In many ways, it still has not fully healed.

It may seem impossible to conceive of such a cataclysm today, yet the widening arc of war and vituperation, often pitting U.S. foreign policy against global public opinion, reminds us daily of a growing threat to global peace. Today's worry is not only the violence itself but also the messianic fervor with which various combatants are waging their battles. President George W. Bush, Osama bin Laden, and the suicide bombers all claim God's guidance as they launch their attacks against their foes. The world edges closer to catastrophe. In future years the rising power of China and India could further wound U.S. pride and self-confidence, and further ratchet up global tensions.

LEARNING FROM THE PAST

For young people around the world, "history" is 9/11 and the Iraq War, a world of violence, terror, and division. History is the United States rejecting the Kyoto Protocol, trying to eliminate the Millennium Development Goals from international agreements, scrimping on foreign aid, and declaring, "You are either with us or against us." For increasing numbers of Americans, and most people around the world, this has been a time of dismay and growing fear. Yet there is another and longer history dating back to the end of World War II, which can give us much guidance and hope. After World War II, despite the perils of the Cold War, world leaders stirred to face common challenges of the environment, population, poverty, and weapons of mass destruction. They invented new forms of global cooperation, such as the United Nations, and global campaigns to eradicate smallpox, immunize children, spread literacy and family planning, and embark on global environmental protection. They proved, despite the odds and cynicism, that global cooperation could deliver the goods.

The Cold War nearly went hot in October 1962 when the Soviet Union positioned offensive nuclear weapons in Cuba, in part in response to a failed CIA-led invasion of Cuba the year before, the so-called Bay of Pigs invasion. After the United States and the Soviet Union reached the brink of nuclear Armageddon, the Soviets removed the weapons, as part of a secret agreement in which the United States would also remove its tactical nuclear weapons based in Turkey. The world trembled. Many Americans believed that war with the Soviet Union was inevitable, just as some Americans today believe that war with Islamic fundamentalism is inevitable. John Kennedy, in the finest hour of the American presidency after World War II, believed otherwise and helped to lead Americans, Soviets, and the world back from the brink by finding a new path of cooperation, starting with a partial nuclear test ban.

Having nearly been pushed to nuclear war by CIA covert operations, followed by Soviet nuclear provocation, and then by hotheaded U.S. generals eager to launch a first strike against Cuba in response to the Soviet nuclear missile placement, Kennedy was deeply shaken by the ease with which the world had slid toward an apocalypse and by the fragility of life itself.

Courageously, in his famous Peace Address at American University in June 1963, Kennedy urged a global quest to find solutions to human-made problems.

Too many of us think [that peace] is impossible. Too many think it is unreal. But that is a dangerous, defeatist belief. It leads to the conclusion that war is inevitable, that mankind is doomed, that we are gripped by forces we cannot control. We need not accept that view. Our problems are man-made; therefore, they can be solved by man. And man can be as big as he wants. No problem of human destiny is beyond human beings. Man's reason and spirit have often solved the seemingly unsolvable, and we believe they can do it again. I am not referring to the absolute, infinite concept of universal peace and goodwill of which some fantasies and fanatics dream. I do not deny the value of hopes and dreams, but we merely invite discouragement and incredulity by making that our only and immediate goal.

Let us focus instead on a more practical, more attainable peace, based not on a sudden revolution in human nature but on a gradual evolution in human institutions—on a series of concrete actions and effective agreements which are in the interest of all concerned. There is no single, simple key to this peace; no grand or magic formula to be adopted by one or

two powers. Genuine peace must be the product of many nations, the sum of many acts. It must be dynamic, not static, changing to meet the challenge of each new generation. For peace is a process—a way of solving problems.

Having come right to the edge of global destruction, and having peered over the edge, Kennedy, as had no other person on the planet at the time, mustered the eloquence to make vivid our precarious position and common fate:

So, let us not be blind to our differences—but let us also direct attention to our common interests and to means by which those differences can be resolved. And if we cannot end now our differences, at least we can help make the world safe for diversity. For, in the final analysis, our most basic common link is that we all inhabit this planet. We all breathe the same air. We all cherish our children's future. And we are all mortal.

Kennedy's speech, which first and foremost called on Americans to believe in the very possibility of cooperation with a seemingly implacable enemy, changed history. The Soviet leader Nikita Khrushchev called it the finest statement by an American president since Franklin Roosevelt and declared his intention to negotiate a nuclear test ban with Kennedy. Six weeks later the Partial Test Ban Treaty was signed in Moscow, and the Soviet Union and the United States established a *modus vivendi* that eventually led to the end of the Cold War itself and the reemergence of Russia and fourteen other former Soviet republics as sovereign nations.

There have long been two faces of U.S. foreign policy. Since the United States became a great global power after World War II, U.S. foreign policy has veered between the visionary cooperation of Kennedy's Partial Test Ban Treaty and the reckless unilateralism of the CIA-sponsored invasion of Cuba that preceded it. Great acts of U.S. cooperative leadership include the establishment of the UN, the IMF and World Bank, the promotion of an open global trading system, the Marshall Plan to fund European reconstruction, the eradication of smallpox, the promotion of nuclear arms control, and the elimination of ozone-depleting chemicals. Notorious acts of U.S. unilateralism include the CIA-led overthrows of several governments (Iran, Guyana, Guatemala, South Vietnam, Chile), the assassinations of countless foreign officials, and several disastrous unilateral acts of war (in Central America,

Vietnam, Cambodia, Laos, and Iraq). The United States has thrown elections through secret CIA financing, put foreign leaders on CIA payrolls, and supported violent leaders who then came back to haunt the United States in a notorious boomerang or "blowback" effect (including Saddam Hussein and Osama bin Laden, both once on the CIA payroll). As a recent and shocking history of the CIA terms it, militant and covert unilateralism is a "legacy of ashes."

The Bush administration's unilateralism therefore has deep roots in one facet of American foreign policy, but its crudeness and violence are unprecedented. Like the earlier excesses during the Cold War era, the Bush administration's excesses are rooted in a perverse belief system in which American goodness can and must be defended against foreign evil by violent, covert, and dishonest means. Both the Cold War and today's war against Islamic fundamentalism are born of a messianism that sees the world in black and white, and lacks the basic insight that all parts of the world, including the Islamic world, inhabit the same planet and breathe the same air. Indeed, as deeply ecologically stressed parts of the world, the Islamic drylands of the Sahel of Africa (just south of the Sahara), the Middle East, and Central Asia have a greater stake in international cooperation on the environmental challenges and extreme poverty than just about any other part of the world. Yet the United States has completely failed to recognize our common links with these regions, and instead has carried on an utterly destructive war on peoples and societies that we barely understand.

MODEST INVESTMENTS TO SAVE THE WORLD

A group of global public investments, undertaken by the nations of the world, is needed in order to avert the greatest risks facing the world. The costs of these investments—to fight climate change, loss of biodiversity, rapid population growth, and extreme poverty—will not be large, especially if the costs are shared equitably among the world's nations. The challenge lies not so much in the heroic efforts needed to avert catastrophe, but in the current difficulty of getting the world to agree on even modest efforts. We don't need to break the bank, we only need common goodwill.

As we will discuss, the conversion of our global energy system, which now

threatens devastating climate change, into a sustainable energy system in which climate change is brought under control, would likely cost well under 1 percent of annual world income. The adoption of a bold population policy to slow the runaway population growth in the poorest countries would cost less than one tenth of 1 percent of the annual income of rich countries. And the end of extreme poverty would also require less than 1 percent of the annual income of the rich world to finance the crucial investments needed in the poorest countries to extricate them from the poverty trap (and even that modest transfer to the poor would be temporary, perhaps lasting only until 2025). Yet despite the huge imbalance between the modest costs of action and huge consequences of inaction, the world remains paralyzed. The types of steps needed to avert the worst outcomes are clear to many specialists, though not to the public. The main problem, I shall suggest time and again, is not the absence of reasonable and low-cost solutions, but the difficulty of implementing global cooperation to put those solutions in place.

OUR MILLENNIUM PROMISES

The greatest economic and political challenges of our time—the sustainability of the environment, the stabilization of the world's population, and the end of extreme poverty—have certainly not escaped worldwide notice. In the past twenty years, world leaders on occasion have groped for ways to cope with these challenges. In fact, they've achieved some important successes and with considerable public support. A framework of shared global commitments has actually been adopted that can provide a foothold for a sustainable future. The challenge is to turn those fragile—and as yet unfulfilled—global commitments into real solutions.

The new global scaffolding emerged during the decade 1992–2002, spurred in part by the awe-inspiring arrival of the new millennium. The Rio Earth Summit in 1992 brought us three crucial environmental treaties. The first was the United Nations Framework Convention on Climate Change (UNFCCC) to address the newly recognized and harrowing threats of man-made climate change. The second was the Convention on Biological Diversity (CBD) to address the growing evidence of massive and planetwide species extinction at the hands of human activity. The third was the United Nations Convention

to Combat Desertification (UNCCD) to put the world's policy focus on the drylands—areas such as Darfur and Somalia—which face hardships in food production and human health unrivaled in other ecological settings.

The new millennium also brought with it new global commitments to fight extreme poverty, hunger, and disease. In 1994, 179 governments came together in Cairo for the International Conference on Population and Development (ICPD) to build on earlier global progress in reducing mortality and fertility rates around the world. The governments adopted the ICPD Plan of Action, which emphasized the vital links of population-related policies (related to fertility, mortality, sexual and reproductive health services, education, gender equity, and more) with sustainable development. The Plan of Action, in addition to calling for universal primary education and steep reductions in infant and child mortality, put emphasis on “ensuring universal access by 2015 to reproductive health care, including family planning, assisted childbirth and prevention of sexually transmitted infections including HIV/AIDS.”

The global commitment to fighting extreme poverty in all its forms was deepened and sharpened at the United Nations in September 2000, when the world's leaders adopted the Millennium Declaration, which expressed the goals of the world on the eve of the new millennium. These commitments included eight Millennium Development Goals (MDGs), adopted as specific, time-bound objectives to improve the conditions of the poorest of the poor by the year 2015 in the areas of income, hunger, disease control, education, and environmental sustainability. The MDGs were subsequently given financial impetus in the Monterrey Consensus of 2002 and at several summits of the so-called G8, the eight richest large economies.

Taken together, the Rio treaties, the Plan of Action on Population and Development, and the Millennium Development Goals can be called our Millennium Promises for sustainable development. They are the promises that our generation made to itself and to future generations at the start of the new millennium. As a group, these treaties and commitments are broad reaching, inclusive, and inspiring. The scaffolding is impressive. If successfully implemented, the agreements will put the world on a trajectory of sustainable development. Yet these Millennium Promises might also do little more than join history's cruel dustbin of failed aspirations. Turning large goals into real results on the ground is always challenging. So too is the coopera-

tion needed to achieve them, but never more so than when the goals are global.

Most dangerously, the fragile scaffolding is shaken daily by the realities of global conflict. The new millennium, which began on January 1, 2001, had not yet seen one year before the world was thrust into great fear and discord by 9/11. The attack was harrowing, but the U.S. response was even more consequential. The Bush administration launched a new “war on terror” that crowded out all other aspirations. Even before 9/11, the United States had thumbed its nose at the Kyoto Protocol, which implements the UN Framework Convention on Climate Change. The Millennium Development Goals were met with stony silence and scorn within the corridors of the White House. And the administration launched initiatives for new nuclear weapons, seeming to challenge the rest of the world to a new arms race. Violent conflicts opened across the Middle East. The Oslo peace process between Israel and Palestine was shut down. The shared goals of sustainable development were nearly brushed aside in the process. Yet a single-minded pursuit of a war on terror was doomed to fail, undermining global cooperation, addressing symptoms rather than causes, and draining attention and resources away from the fundamental challenges of the new world economy.

A NEW APPROACH TO DEVELOPMENT PRACTICE

In addition to the problems of achieving global cooperation, we also neglect highly effective and low-cost solutions because our very methods of research and governance are not well suited to the challenges of sustainable development. Scientific research proceeds in intellectual silos that make far too little contact with one another; research in the physical sciences, biology, engineering, economics, and public health is rarely intertwined, even though we must solve problems of complex systems in which all of these disciplines play a role. The problems just refuse to arrive in the neat categories of academic departments.

Moreover, the problems can only be solved through an interactive approach that combines general principles with the details of a specific setting. Academic studies too often begin and end on the basis of general principles without due regard for ground-level complexities. The challenge of ending ex-

treme poverty in Mali, or combating desertification in Darfur, or reducing population growth in India, or overcoming economic isolation in Afghanistan, is akin to the challenge that a medical doctor faces in treating a patient. A successful clinician needs to understand both the general principles of physiology and disease control and the unique circumstances of the patient, including her symptoms, lab tests, medical history, and family circumstances. In *The End of Poverty* I called for a new “clinical economics” that combines theory and practice, general principles, and specific context. Thirty years ago, in two beautiful books, MIT professor Donald Schön wrote in a related way about “reflexive practice,” meaning the combination of general training and specific problem solving. More generally, we need a new clinical approach to sustainable development, and new methods of training the next generation of development leaders.

My professional home, at The Earth Institute at Columbia University, is an unalloyed gift and joy in the opportunity to engage in complex problem solving and clinical economics. The Earth Institute brings together physical scientists, ecologists, engineers, economists, political scientists, management experts, public health specialists, and medical doctors in an extraordinarily exciting and fruitful common search for solutions to the global challenges of sustainable development. Much of the scientific information in the pages that follow comes from the extraordinary research and teaching of my colleagues. I hope that as an economist I have been able to do at least some justice to the richness and wondrous insights of the partner disciplines. This book is written with my profound admiration for and gratitude to my colleagues.

IPCC	Intergovernmental Panel on Climate Change
MDGs	Millennium Development Goals
MENA	Middle East and North Africa
MVP	Millennium Village Project
N ₂ O	nitrous oxide
NGO	nongovernmental organization
NRR	net reproduction rate
PAI	Population Action International
ppm	parts per million
PPP	purchasing power parity
PPPs	public private partnerships
R & D	research and development
RD & D	research, development, and demonstration
TFR	total fertility rate
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund (formerly UN Fund for Population Activities)
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WTO	World Trade Organization

Notes

Chapter 1: Common Challenges, Common Wealth

- 4 social insurance and transfer schemes: Peter Lindert, *Growing Public: Social Spending and Economic Growth since the Eighteenth Century*, vol. 1 (New York: Cambridge University Press, 2004).
- 10 "For peace is a process"; John F. Kennedy, Spring Commencement Address, American University, June 10, 1963. <http://www.american.edu/media/speeches/Kennedy.htm>.
- 10 "And we are all mortal"; *Ibid.*
- 11 "Legacy of ashes": Tim Weiner, *Legacy of Ashes* (New York: Random House, 2007).
- 13 "ensuring universal access by 2015"; United Nations, Summary of the International Conference on Population and Development (ICPD) Program of Action. www.unfpa.org/icpd/icpd_pos.htm.
- 13 G8, the eight richest large economies: The G8 countries are: Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and United States.
- 14 Note: The goals for the new millennium were also reflected in commitments on arms control, particularly the control of chemical weapons and nuclear arms mentioned below; this book, however, will not discuss these commitments in detail. The Chemical Weapons Convention (CWC), signed in 1993 and entered into force in 1997, outlaws the stockpiling, production, and use of chemical weapons. The Nuclear Non-Proliferation Treaty (NPT), first signed in 1968, was extended indefinitely in 1995. A year later, the Comprehensive Test Ban Treaty (CTBT) was opened for signatures. Yet these steps marked the apogee of nuclear arms control. Since the mid-1990s, three states have become nuclear powers, and the treaties themselves are threadbare if not torn asunder entirely. The United States has signed the CTBT treaty but not ratified it, while India and Pakistan have not even signed. The chance to restrain the nuclear arms race could easily disappear altogether if the NPT and CTBT are not reinforced by the political and operational support of the major powers.
- 15 "reflexive practice"; Donald Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983).
- 15 new methods of training: I am pleased to cochair the Commission on the Education of International Development Practitioners, a MacArthur Foundation initiative that is recommending a new approach to professional training in sustainable development. The commission believes that effective professional training in sustainable development should include a focus on cross-disciplinary knowledge; a combination of classroom learning and fieldwork; and skill development that includes the policy sciences, the Earth's physical systems, and management expertise.

Chapter 2: Our Crowded Planet

- 17 \$60 trillion of output each year: Unless otherwise noted, I report measured national and global incomes in purchasing-power-parity (PPP) prices. This approach measures each country's na-