Almost everyone who ever lived was wretchedly poor. Famine, death from childbirth, infectious disease and countless other hazards were the norm for most of history. Humanity’s sad plight started to change with the Industrial Revolution, beginning around 1750. New scientific insights and technological innovations enabled a growing proportion of the global population to break free of extreme poverty.

Two and a half centuries later more than five billion of the world’s 6.5 billion people can reliably meet their basic living needs and thus can be said to have escaped from the precarious conditions that once governed everyday life. One out of six inhabitants of this planet, however, still struggles daily to meet some or all of such critical requirements as adequate nutrition, uncontaminated drinking water, safe shelter and sanitation as well as access to basic health care. These people get by on $1 a day or less and are overlooked by public services for health, education and infrastructure. Every day more than 20,000 die of dire poverty, for want of food, safe drinking water, medicine or other essential needs.

For the first time in history, global economic prosperity, brought on by continuing scientific and technological progress and the self-reinforcing accumulation of wealth, has placed the world within reach of eliminating extreme poverty altogether. This prospect will seem fanciful to some, but the dramatic economic progress made by China, India and other low-income parts of Asia over the past 25 years demonstrates that it is realistic. Moreover, the predicted stabilization of the world’s population toward the middle of this century will help by easing pressures on Earth’s climate, ecosystems and natural resources—pressures that might otherwise undo economic gains.

Although economic growth has shown a remarkable capacity to lift vast numbers of people out of extreme poverty, progress is neither automatic nor inevitable. Market forces and free trade are not enough. Many of the poorest regions are ensnared in a
poverty trap: they lack the financial means to make the necessary investments in infrastructure, education, health care systems and other vital needs. Yet the end of such poverty is feasible if a concerted global effort is undertaken, as the nations of the world promised when they adopted the Millennium Development Goals at the United Nations Millennium Summit in 2000. A dedicated cadre of development agencies, international financial institutions, nongovernmental organizations and communities throughout the developing world already constitute a global network of expertise and goodwill to help achieve this objective.

This past January my colleagues and I on the U.N. Millennium Project published a plan to halve the rate of extreme poverty by 2015 (compared with 1990) and to achieve other quantitative targets for reducing hunger, disease and environmental degradation. In my recent book, *The End of Poverty*, I argue that a large-scale and targeted public investment effort could in fact eliminate this problem by 2025, much as smallpox was eradicated globally. This hypothesis is controversial, so I am pleased to have the opportunity to clarify its main arguments and to respond to various concerns that have been raised about it.

**Beyond Business as Usual**

*Economists have learned* a great deal during the past few years about how countries develop and what roadblocks can stand in their way. A new kind of development economics needs to emerge, one that is better grounded in science—a “clinical economics” akin to modern medicine. Today’s medical professionals understand that disease results from a vast array of interacting factors and conditions: pathogens, nutrition, environment, aging, individual and population genetics, lifestyle. They also know that one key to proper treatment is the ability to make an individualized diagnosis of the source of illness. Likewise, development economists need better diagnostic skills to recognize that economic pathologies have a wide variety of causes, including many outside the traditional ken of economic practice.

Public opinion in affluent countries often attributes extreme poverty to faults with the poor themselves—or at least with their governments. Race was once thought the deciding factor. Then it was culture: religious divisions and taboos, caste systems, a lack of entrepreneurship, gender inequities. Such theories have waned as societies of an ever widening range of religions and cultures have achieved relative prosperity. Moreover, certain supposedly immutable aspects of culture (such as fertility choices and gender and caste roles) in fact change, often dramatically, as societies become urban and develop economically.

Most recently, commentators have zeroed in on “poor governance,” often code words for corruption. They argue that extreme poverty persists because governments fail to open up their markets, provide public services and clamp down on bribe taking. It is said that if these regimes cleaned up their acts, they, too, would flourish. Development assistance efforts have become largely a series of good governance lectures.

The availability of cross-country and time-series data now allows experts to make much more systematic analyses. Although debate continues, the weight of the evidence indicates that governance makes a difference but is not the sole determinant of economic growth. According to surveys conducted by Transparency International, business leaders actually perceive many fast-growing Asian countries to be more corrupt than some slow-growing African ones.

Geography—including natural resources, climate, topography, and proximity to trade routes and major markets—is at least as important as good governance. As early as 1776, Adam Smith argued that high transport costs inhibited devel-
opment in the inland areas of Africa and Asia. Other geographic features, such as the heavy disease burden of the tropics, also interfere. One recent study by my Columbia University colleague Xavier Sala-i-Martin demonstrated once again that tropical countries saddled with malaria have experienced slower growth than those free from the disease. The good news is that geographic factors shape, but do not decide, a country’s economic fate. Technology can offset them: drought can be fought with irrigation systems, isolation with roads and mobile telephones, diseases with preventive and therapeutic measures.

The other major insight is that although the most powerful mechanism for reducing extreme poverty is to encourage overall economic growth, a rising tide does not necessarily lift all boats. Average income can rise, but if the income is distributed unevenly the poor may benefit little, and pockets of extreme poverty may persist (especially in geographically disadvantaged regions). Moreover, growth is not simply a free-market phenomenon. It requires basic government services: infrastructure, health, education, and scientific and technological innovation. Thus, many of the recommendations of the past two decades emanating from Washington—that governments in low-income countries should cut back on their spending to make room for the private sector—miss the point. Government spending, directed at investment in critical areas, is itself a vital spur to growth, especially if its effects are to reach the poorest of the poor.
GLOBALIZATION, POVERTY AND FOREIGN AID

Average citizens in affluent nations often have many questions about the effects of economic globalization on rich and poor nations and about how developing countries spend the aid they receive. Here are a few brief answers:

**Is globalization making the rich richer and the poor poorer?**

Generally, the answer is no. Economic globalization is supporting very rapid advances of many impoverished economies, notably in Asia. International trade and foreign investment inflows have been major factors in China’s remarkable economic growth during the past quarter century and in India’s fast economic growth since the early 1990s. The poorest of the poor, notably in sub-Saharan Africa, are not held back by globalization; they are largely bypassed by it.

**Is poverty the result of exploitation of the poor by the rich?**

Affluent nations have repeatedly plundered and exploited poor countries through slavery, colonial rule and unfair trade practices. Yet it is perhaps more accurate to say that exploitation is the result of poverty (which leaves impoverished countries vulnerable to abuse) rather than the cause of it. Poverty is generally the result of low productivity per worker, which reflects poor health, lack of job-market skills, patchiness of infrastructure (roads, power plants, utility lines, shipping ports), chronic malnutrition and the like. Exploitation has played a role in producing some of these conditions, but deeper factors (geographic isolation, endemic disease, ecological destruction, challenging conditions for food production) have tended to be more important and difficult to overcome without external help.

**Will higher incomes in poor countries mean lower incomes in rich countries?**

By and large, economic development is a positive-sum process, meaning that all can partake in it without causing some to suffer. In the past 200 years, the world as a whole has achieved a massive increase in economic output rather than a shift in economic output to one region at the expense of another. To be sure, global environmental constraints are already starting to impose themselves. As today’s poor countries develop, the climate, fisheries and forests are coming under increased strain. Overall global economic growth is compatible with sustainable management of the ecosystems on which all humans depend—indeed, wealth can be good for the environment—but only if public policy and technologies encourage sound practices and the necessary investments are made in environmental sustainability.

**Do U.S. private contributions make up for the low levels of U.S. official aid?**

Some have claimed that while the U.S. government budget provides relatively little assistance to the poorest countries, the private sector makes up the gap. In fact, the Organization for Economic Cooperation and Development has estimated that private foundations and nongovernmental organizations give roughly $6 billion a year in international assistance, or 0.05 percent of U.S. gross national product (GNP). In that case, total U.S. international aid is around 0.21 percent of GNP—still among the lowest ratios of all donor nations.

—J.D.S.

The Poverty Trap

So what do these insights tell us about the region most afflicted by poverty today, Africa? Fifty years ago tropical Africa was roughly as rich as subtropical and tropical Asia. As Asia boomed, Africa stagnated. Special geographic factors have played a crucial role.

Foremost among these is the existence of the Himalaya Mountains, which produce southern Asia’s monsoon climate and vast river systems. Well-watered farmlands served as the starting points for Asia’s rapid escape from extreme poverty during the past five decades. The Green Revolution of the 1960s and 1970s introduced high-yield grains, irrigation and fertilizers, which ended the cycle of famine, disease and despair.

It also freed a significant proportion of the labor force to seek manufacturing jobs in the cities. Urbanization, in turn, spurred growth, not only by providing a home for industry and innovation but also by prompting greater investment in a healthy and skilled labor force. Urban residents cut their fertility rates and thus were able to spend more for the health, nutrition and education of each child. City kids went to school at a higher rate than their rural cousins. And with the emergence of urban infrastructure and public health systems, city populations became less disease-prone than their counterparts in the countryside, where people typically lack safe drinking water, modern sanitation, professional health care and protection from vector-borne ailments such as malaria.

Africa did not experience a green revolution. Tropical Africa lacks the massive floodplains that facilitate the large-scale and low-cost irrigation found in Asia. Also, its rainfall is highly variable, and impoverished farmers have been unable to purchase fertilizer. The initial Green Revolution research featured crops, especially paddy rice and wheat, not widely grown in Africa (high-yield varieties suitable for it have been developed in recent years, but they have not yet been disseminated sufficiently). The continent’s food production per person has actually been falling, and Africans’ caloric intake is the lowest in the world; food insecurity is rampant. Its labor force has remained tethered to subsistence agriculture.
Compounding its agricultural woes, Africa bears an overwhelming burden of tropical diseases. Because of climate and the endemic mosquito species, malaria is more intensively transmitted in Africa than anywhere else. And high transport costs isolate Africa economically. In East Africa, for example, the rainfall is greatest in the interior of the continent, so most people live there, far from ports and international trade routes.

Much the same situation applies to other impoverished parts of the world, notably the Andean and Central American highlands and the landlocked countries of Central Asia. Being economically isolated, they are unable to attract much foreign investment (other than for the extraction of oil, gas and precious minerals). Investors tend to be dissuaded by the high transport costs associated with the interior regions. Rural areas therefore remain stuck in a vicious cycle of poverty, hunger, illness and illiteracy. Impoverished areas lack adequate internal savings to make the needed investments because most households live hand to mouth. The few high-income families, who do accumulate savings, park them overseas rather than at home. This capital flight includes not only financial capital but also the human variety, in the form of skilled workers—doctors, nurses, scientists and engineers, who frequently leave in search of improved economic opportunities abroad. The poorest countries are often, perversely, net exporters of capital.

**Put Money Where Mouths Are**

The technology to overcome these handicaps and jump-start economic development exists. Malaria can be controlled using bed nets, indoor pesticide spraying and improved medicines. Drought-prone countries in Africa with nutrient-depleted soils can benefit enormously from drip irrigation and greater use of fertilizers. Landlocked countries can be connected by paved highway networks, airports and fiber-optic cables. All these projects cost money, of course.

Many larger countries, such as China, have prosperous regions that can help support their own lagging areas. Coastal eastern China, for instance, is now financing massive public investments in western China. Most of today’s successfully developing countries, especially smaller ones, received at least some backing from external donors at crucial times. The critical scientific innovations that formed the underpinnings of the Green Revolution were bankrolled by the Rockefeller Foundation, and the spread of these technologies in India and elsewhere in Asia was funded by the U.S. and other donor governments and international development institutions.

We in the U.N. Millennium Project have listed the investments required to help today’s impoverished regions cover basic needs in health, education, water, sanitation, food production, roads and other key areas. We have put an approximate price tag on that assistance and estimated how much could be financed by poor households themselves and by domestic institutions. The remaining cost is the “financing gap” that international donors need to make up.

For tropical Africa, the total investment comes to $110 per person a year. To place this into context, the average income
At the United Nations Millennium Summit in 2000, the nations of the world promised to make the investments necessary to help today’s impoverished regions improve their residents’ welfare in key areas, including health, education, water, sanitation and food production. The U.N. specified eight broad Millennium Development Goals (MDG) to reduce extreme poverty substantially across the globe by 2015. The data on these two pages illustrate the challenges of meeting those goals. Measurement of progress is based on statistical levels that existed in 1990.

GOAL 1: ERADICATE EXTREME POVERTY AND HUNGER

Target: Halve the proportion of people living on less than $1 a day and the proportion of those who suffer chronic hunger.

Status: Between 1990 and 2001, the fraction of the populations in sub-Saharan Africa, Latin America and the Caribbean living in extreme poverty remained stagnant and, ominously, increased in Central Asia. Food intake is rising, but hunger is still widespread in several regions.

GOAL 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION

Target: Ensure that by 2015 all children complete a full course of primary education.

GOAL 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

Target: Eliminate gender disparity in primary, secondary and tertiary education by 2015.

Status: Education is probably the best way to promote gender equality. The greatest challenges are in sub-Saharan Africa, where overall school completion rates have hovered around 50 percent. Women and girls fare even worse, as shown below by the ratio of literate females to males on the African continent.

GOAL 4: REDUCE CHILD MORTALITY

Target: Reduce by two thirds the mortality rate of children younger than five years.

Status: Child mortality rates fell in every region except the former Soviet republics in the Commonwealth of Independent States (CIS), but rates remain high in sub-Saharan Africa and in South Asia. For comparison, the child mortality rate in high-income countries in 2000 was about six per 1,000 births.

Causes of Death among Children Younger Than Age 5, from 2000–2003

- More than half are associated with malnutrition
- Neonatal causes
- Acute respiratory infections
- Diarrheal diseases (postneonatal)
- Measles
- Malaria
- AIDS
- Other

GOAL 5: IMPROVE MATERNAL HEALTH

Target: Reduce by 75 percent the maternal mortality rate by 2015.

Status: Maternal mortality rates remain shockingly high in every developing region of the world. Increasing the proportion of deliveries attended by skilled health workers will be critical to lowering maternal mortality.

Maternal deaths per 100,000 live births in 2000

Deliveries attended by skilled health care personnel

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GOAL 6 COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

Targets: Halt and begin to reverse the spread of HIV/AIDS. Slow the spread of malaria and other diseases.

Status: HIV, now affecting about 140 million people, is widespread in parts of sub-Saharan Africa and poses a serious threat to other developing regions. Meanwhile malaria kills around three million people a year, mostly in Africa, the vast majority of them children. In recent years, the distribution of mosquito nets has expanded, but hundreds of millions in malarious regions still need nets.

GOAL 7 ENSURE ENVIRONMENTAL SUSTAINABILITY

Target: Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation.

Status: With the exception of sub-Saharan Africa, access to drinking water in urban areas is generally relatively high, although rural access remains limited. Low availability of sanitation services in sub-Saharan African and South Asia contributes to widespread diarrheal disease.

GOAL 8 DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT

Target: Address the special needs of the least developed countries (including more generous development assistance).

Status: Rich countries have repeatedly pledged to give 0.7 percent of their national income as foreign aid, yet 17 of 22 donors have failed to reach that target. Some progress has occurred, however: European Union countries recently committed to attaining the 0.7 percent mark by 2015. Meanwhile other donors claim that poor countries are too corrupt to achieve economic growth. The table at the right helps to dispel that myth; in fact, many fast-growing Asian economies have higher levels of perceived corruption than some slow-growing African ones.

CORRUPTION AND ECONOMIC GROWTH

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank of perceived corruption levels (lower means less corrupt)</th>
<th>Average yearly percent growth in GDP per capita, 1980–2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>Ghana (70) Senegal (76) Mali (78) Malawi (83)</td>
<td>0.3 0.5 -0.5 0.2</td>
</tr>
<tr>
<td>East Asia</td>
<td>India (83) Pakistan (92) Indonesia (122) Bangladesh (133)</td>
<td>3.5 2.4 3.5 2.0</td>
</tr>
</tbody>
</table>
in this part of the world is $350 per annum, most or all of which is required just to stay alive. The full cost of the total investment is clearly beyond the funding reach of these countries. Of the $110, perhaps $40 could be financed domestically, so that $70 per capita would be required in the form of international aid.

Adding it all up, the total requirement for assistance across the globe is around $160 billion a year, double the current rich-country aid budget of $80 billion. This figure amounts to approximately 0.5 percent of the combined gross national product (GNP) of the affluent donor nations. It does not include other humanitarian projects such as postwar Iraqi reconstruction or Indian Ocean tsunami relief. To meet these needs as well, a reasonable figure would be 0.7 percent of GNP, which is what all donor countries have long promised but few have fulfilled. Other organizations, including the International Monetary Fund, the World Bank and the British government, have reached much the same conclusion.

We believe these investments would enable the poorest countries to cut poverty by half by 2015 and, if continued, to eliminate it altogether by 2025. They would not be “welfare countries to cut poverty by half by 2015 and, if continued, to eliminate it altogether by 2025. They would not be “welfare payments” from rich to poor but instead something far more important and durable. People living above mere subsistence levels would be able to save for their futures; they could join the virtuous cycle of rising incomes, savings and technological inflows. We would be giving a billion people a hand up instead of a handout.

If rich nations fail to make these investments, they will be called on to provide emergency assistance more or less indefinitely. They will face famine, epidemics, regional conflicts and the spread of terrorist havens. And they will condemn not only the impoverished countries but themselves as well to chronic political instability, humanitarian emergencies and security risks.

The debate is now shifting from the basic diagnosis of extreme poverty and the calculations of financing needs to the practical matter of how assistance can best be delivered. Many people believe that aid efforts failed in the past and that care is needed to avoid the repetition of failure. Some of these concerns are well grounded, but others are fueled by misunderstandings.

When pollsters ask Americans how much foreign aid they think the U.S. gives, they greatly overestimate the amount—by as much as 30 times. Believing that so much money has been donated and so little has been done with it, the public concludes that these programs have “failed.” The reality is rather different. U.S. official assistance to sub-Saharan Africa has been running at $2 billion to $4 billion a year, or roughly $3 to $6 per African. Most of this aid has come in the form of “technical cooperation” (which goes into the pockets of consultants), food contributions for famine victims and the cancellation of unpaid debts. Little of this support has come in a form that can be invested in systems that improve health, nutrition, food production and transport. We should give foreign aid a fair chance before deciding whether it works or not.

A second common misunderstanding concerns the extent to which corruption is likely to eat up the donated money. Some foreign aid in the past has indeed ended up in the equivalent of Swiss bank accounts. That happened when the funds were provided for geopolitical reasons rather than development; a good example was U.S. support for the corrupt regime of Mobutu Sese Seko of Zaire (now the Democratic Republic of the Congo) during part of the cold war. When assistance has been targeted at development rather than political goals, the outcomes have been favorable, ranging from the Green Revolution to the eradication of smallpox and the recent near-eradication of polio.

The aid package we advocate would be directed toward those countries with a reasonable degree of good governance and operational transparency. In Africa, these countries include Ethiopia, Ghana, Mali, Mozambique, Senegal and Tan-

### FOREIGN AID: HOW SHOULD THE MONEY BE SPENT?

Here is a breakdown of the needed investment for three typical low-income African countries to help them achieve the Millennium Development Goals. For all nations given aid, the average total annual assistance per person would come to around $110 a year. These investments would be financed by both foreign aid and the countries themselves.

<table>
<thead>
<tr>
<th>Investment Area</th>
<th>Average per Year between 2005–2015 ($ per capita)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ghana</td>
</tr>
<tr>
<td>Hunger</td>
<td>7</td>
</tr>
<tr>
<td>Education</td>
<td>19</td>
</tr>
<tr>
<td>Gender equality</td>
<td>3</td>
</tr>
<tr>
<td>Health</td>
<td>25</td>
</tr>
<tr>
<td>Water supply and sanitation</td>
<td>8</td>
</tr>
<tr>
<td>Improving slum conditions</td>
<td>2</td>
</tr>
<tr>
<td>Energy</td>
<td>15</td>
</tr>
<tr>
<td>Roads</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Calculated from data from Investing in Development [U.N. Millennium Project, Earthscan Publications, 2005]. Numbers do not sum to totals because of rounding.
The money would not be merely thrown at them. It would be provided according to a detailed and monitored plan, and new rounds of financing would be delivered only as the work actually got done. Much of the funds would be given directly to villages and towns to minimize the chances of their getting diverted by central governments. All these programs should be closely audited.

Western society tends to think of foreign aid as money lost. But if supplied properly, it is an investment that will one day yield huge returns, much as U.S. assistance to western Europe and East Asia after World War II did. By prospering, today’s impoverished countries will wean themselves from endless charity. They will contribute to the international advance of science, technology and trade. They will escape political instability, which leaves many of them vulnerable to violence, narcotics trafficking, civil war and even terrorist takeover. Our own security will be bolstered as well. As U.N. Secretary-General Kofi Annan wrote earlier this year: “There will be no development without security, and no security without development.”
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