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extreme poverty

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Abstract

Households living in extreme poverty face deprivations that cost millions of lives annually. Ending extreme poverty requires an understanding of poverty traps, including the effects of adverse biophysical and geographical factors, a lack of resources required for the investments needed to escape poverty, and poor governance. Policies must focus both on promoting market-oriented economic growth and on directly addressing the needs of the poor. Foreign aid will be required to finance interventions that poor countries cannot finance themselves, and aid to well-governed poor countries should be increased, consistent with the rich-country promise of 0.7 per cent of GNP as official development assistance.

Article

There are many definitions of poverty, as well as intense debates about the exact numbers of the poor, where they live and how their numbers are changing over time. As a matter of definition, it is useful to distinguish between three degrees of poverty: extreme (or absolute) poverty, moderate poverty and relative poverty. Extreme poverty can be thought of as 'poverty that kills', meaning that households cannot reliably meet basic needs for survival. Households living in extreme poverty are chronically undernourished, unable to access health care, lacking the amenities of safe drinking water and sanitation, unable to afford education for some or all of the children, and perhaps lacking rudimentary shelter – a roof to keep the rain out of the hut, a chimney to remove the smoke from the cooking stove – and basic articles of clothing such as shoes. Such deprivations cost lives, by the millions, every year. Life expectancy is considerably lower and mortality rates are considerably higher in countries in which large proportions of the population live in extreme poverty.

Unlike moderate and relative poverty, extreme poverty currently occurs only in developing countries. Moderate poverty generally refers to the conditions of life in which basic needs are met, but only barely. Relative poverty is generally construed as a household income level below a given proportion of average national income. The relatively poor, in high-income countries, lack access to cultural goods, entertainment, recreation, and to quality health care, education, and other perquisites of social mobility. They may also live outside of the 'mainstream' of social life, and thus without dignity and social respect.

In order to estimate the number of extreme poor, most analysts use a poverty line – a level of income below which the person is 'extremely poor' by some definition. Most countries set their own poverty lines, based on the per capita cost of a consumption basket that attempts to measure basic needs. Since the poorest people in poor countries spend most of their money on food, most of the basket used for national poverty lines consists of food, usually in terms of meeting a minimum intake of 2,000 calories (Deaton, 2004). These poverty lines are surely imperfect: they suffer from the measurement error inherent in household surveys; they are rarely updated with regards to spending on nutrition; they do not account for differences in rural versus urban calorie consumption; and they do not capture all dimensions of extreme poverty (for example, access to health care, safe water, sanitation, education or political voice).

Moreover, they can lead to undesirable policy results (a person just below the poverty lines could be treated very differently from someone just above the line, despite having almost equal incomes). Governments judged solely according to the number of people below the poverty line could choose to focus only on those closest to the line and ignore the poorest of the poor. Finally, as Nobel Laureate Amartya Sen has emphasized, poverty should be defined more broadly than having a low income; rather, it is the absence of basic capabilities to function in society. This could include not only income poverty (involving a lack of food, clothing, or shelter), but also lack of access to public goods, social standing, and political participation. Despite these shortcomings, most dimensions of extreme poverty that people would like to improve are correlated with household income, thus making a poverty line a helpful, though rough, first approximation of poverty rates. Measures that combined household income with provisions of public goods (disease control, public health, primary education) would surely be preferable.

In the late 1980s, and especially with the 1990 *World Development Report*, the World Bank introduced a single measure of extreme poverty – an income of one dollar per day or less (in 1985 purchasing power parity, PPP, dollars) – in order to compare rates of extreme poverty across countries and to track extreme poverty over time. The one dollar per day number was chosen since it corresponds roughly to the highest national poverty rate among low-income countries (around 360 dollars per year). In 2000, the World Bank used improved PPP estimates to adjust its global poverty line to 1.08 dollars per person per day (in 1993 PPP dollars). This global extreme poverty line has been criticized by some for not being high enough and thus undervaluing the needs of the poor (Pritchett, 2003) and by others for being too arbitrary and detached from the country-specific needs of the poor (Srinivasan, 2004). Nevertheless, it provides a useful, albeit highly imperfect, measuring tool to look at extreme poverty around the world.

Another important indicator for poverty is the Human Development Index (HDI), published by the United Nations Development Programme (UNDP) since 1990. The UNDP sought to incorporate the multidimensional aspects of poverty into a new indicator, and to emphasize that development should expand human capabilities, particularly those that are universally valued and basic to life: the capability to lead a long and healthy life, to be knowledgeable, and to have access to the resources needed for

a decent standard of living (UNDP, 2004). The result was the HDI, which averages normalized 0–1 indexes for income per capita, life expectancy, and education school enrolment and literacy. Countries classified as 'low human development' have a very strong overlap with those countries that have a high proportion of the population living under one dollar per day according to the World Bank.

Where are the poor?
Table 1 Number of poor people by region, 1981–2001

	\$1.08 per day (million)							
	1981	1984	1987	1990	1993	1996	1999	2001
East Asia	795.6	562.2	425.6	472.2	415.4	286.7	281.7	271.3
Of which China	633.7	425.0	308.4	374.8	334.2	211.6	222.8	211.6
Eastern Europe and Central Asia	3.1	2.4	1.7	2.3	17.4	19.8	29.8	17.6
Latin America and Caribbean	35.6	46.0	45.1	49.3	52.0	52.2	53.6	49.8
Middle East and North Africa	9.1	7.6	6.9	5.5	4.0	5.5	7.7	7.1
South Asia	474.8	460.3	473.3	462.3	476.2	461.3	428.5	431.1
Of which India	382.4	373.5	369.8	357.4	380.0	399.5	352.4	358.6
Sub-Saharan Africa	163.6	198.3	218.6	226.8	242.3	271.4	294.0	315.8
Total	1481.8	1276.8	1171.2	1218.5	1207.5	1096.9	1095.1	1092.7

Source: Chen and Ravallion (2004, p. 153).

The most recent estimates of extreme poverty around the world (using the one dollar per day estimate) were made by Shaohua Chen and Martin Ravallion at the World Bank (see Table 1). They estimated that roughly 1.1 billion people were living in extreme poverty in 2001, down from 1.5 billion in 1981 (Chen and Ravallion, 2004). The overwhelming share of the world's extreme poor, 93 per cent in 2001, live in three regions, East Asia, South Asia, and Sub-Saharan Africa. Since 1981, the absolute numbers of extreme poor have risen in Sub-Saharan Africa, but have fallen in East Asia and South Asia. In terms of proportions, nearly half Africa's population is judged to live in extreme poverty, and that proportion has risen slightly over the period. The proportion of the extreme poor in East Asia has plummeted, from 58 per cent in 1981 to 15 per cent in 2001; in South Asia the progress has also been marked, although slightly less dramatically, from 52 per cent to 31 per cent. Latin America's extreme poverty rate is around ten per cent, and relatively unchanged; Eastern Europe's rose from a negligible level in 1981 to around four per cent in 2001, the results of the upheavals of Communist collapse and economic transition to a market economy. It is worth noting that these numbers are debated heatedly; other researchers have relied on national income accounts, which tend to show somewhat faster progress in the reduction of Asian poverty, and sometimes very different estimates for the total amount of people living in extreme poverty (Sala-i-Martin, 2002; Bhalla, 2002). The general picture, however, remains true in all these studies: extreme poverty is concentrated in East Asia, South Asia, and Sub-Saharan Africa. It is rising in Africa in absolute numbers and as a share of the population, while it is falling in both absolute numbers and as a proportion of the population in the Asian regions.

There are some defining circumstances specific to the poorest of the poor. They are found mainly in rural areas (though with a growing proportion in the cities); the rural poor tend to have fewer opportunities to earn income, have less access to education and

health care, and are often more vulnerable to the forces of nature. The extreme poor face challenges almost unknown in the rich world today – malaria, famines, lack of roads and motor vehicles, great distances to regional and world markets, lack of electricity and modern cooking fuels. Women tend to be at a disadvantage compared with men, since they often have less access to property rights (land ownership, inheritance), and since they bear the physical burden of lack of infrastructure (collecting water and fuel wood at great distances). Girls have historically received less primary and secondary education than boys. Labour markets often discriminate against women, and women tend to work longer when one counts unpaid labour at home. Domestic violence continues to burden the lives of millions of women around the world (World Bank, 2001). Finally, large pockets of poverty exist within many countries due to racial and ethnic discrimination, or low social (for example, caste) status.

Consequences of extreme poverty

When individuals suffer from extreme poverty and lack the meagre income needed to cover even basic needs, a single episode of disease, a drought, or a pest that destroys a harvest can be the difference between life and death. In households suffering from extreme poverty, life expectancy is often around half that in the high-income world, 40 years instead of 80 years. It is common that, in the poorest countries of Sub-Saharan Africa, of every 1,000 children born more than 100 die before their fifth birthday, compared with fewer than ten in the high-income world. An infant born in Sub-Saharan Africa today has only a one-in-three chance of surviving to age 65.

At the most basic level, the poorest of the poor lack the minimum amount of capital necessary to get a foothold on the first rung of the ladder of economic development. The extreme poor tend to lack six major kinds of capital:

- Human capital: health, nutrition, and skills education needed for each person to be economically productive.
- Business capital: the machinery, facilities, motorized transport used in agriculture, industry and services.
- Infrastructure: roads, power, water and sanitation, airport and seaports, and telecommunications systems, which are critical inputs into business productivity.
- Natural capital: arable land, healthy soils, biodiversity, and well-functioning ecosystems that provide the environmental services needed by human society.
- Public institutional capital: commercial law, judicial systems, government services and policing that underpin the peaceful and prosperous division of labour.
- Knowledge capital: the scientific and technological know-how that raises productivity in business output and the promotion of physical and natural capital.

Importantly, the poorest of the poor tend to have higher fertility rates, for several reasons. Infant mortality rates are high when there are inadequate health services, so high

fertility provides 'insurance' to parents that they will succeed in raising a child who will survive to adulthood. In rural areas, children are often perceived as economic assets who provide supplementary labour for the farm household. Poor and illiterate women have few job opportunities away from the farm, and so may place a low value on the opportunity (time) costs of bringing up children. In addition, women are frequently unaware of their reproductive rights (including the right to plan their families) and lack access to reproductive health information, services, and facilities, leading to high unmet demands for contraception in low-income countries and among poorer members of all developing countries. Finally, poor households lack the income to purchase contraceptives and family planning, even when they are available. For these reasons, high fertility rates are prevalent among families living in extreme poverty, resulting in very low investments in the health and education of each child (what is known as the quantity–quality trade-off).

Poor and hungry societies are much more likely than high-income societies to fall into violent conflicts over scarce vital resources, such as watering holes and arable land – and over scarce natural resources, such as oil, diamonds and timber (United Nations, 2004). This relationship between violence and high rates of extreme poverty holds with a high degree of statistical significance. A country with a civil war within its borders typically has only one-third of the per capita income of a country with similar characteristics but at peace. Moreover, poor countries – even those not in conflict – risk conflict in the future. A country with a per capita income of 500 dollars is about twice as likely to have a major conflict within five years as a country with an income of about 4,000 dollars per capita (UN Millennium Project, 2005). In addition, low economic growth rates are associated with higher risks of new conflict; one study finds that a negative growth shock of five per cent increases the risk of civil war by 50 per cent in the following year, and that economic conditions are probably the most important determinants of civil conflict in Sub-Saharan Africa (Miguel, Satyanath and Sergenti, 2004). The most comprehensive study of state failure, carried out by the State Failure Task Force established by the Central Intelligence Agency in 1994, confirms the importance of the economic roots of state failure (defined as revolutionary war, ethnic war, genocide, politicide, or adverse or disruptive regime change). The Task Force studied all 113 cases of state failure between 1957 and 1994 in countries of half a million people or more, and found that the most significant variables explaining these conflicts were the infant mortality rate (suggesting that overall low levels of material well-being are a significant contributor to state failure), openness of the economy (more economic linkages with the rest of the world diminish the chances of state failure), and democracy (democratic countries show less propensity to state failure than authoritarian regimes). The linkage to democracy also has a strong economic dimension, however, because research has shown repeatedly that the probability of a country's being democratic rises significantly with its per capita income level. In refinements of the basic study, the Task Force found that in Sub-Saharan Africa, where many societies live on the edge of subsistence, temporary economic setbacks (measured as a decline in gross domestic product per capita) were significant predictors of state failure (State Failure Task Force, 1999). Similar conclusions have been reached in studies on African conflict, which find that poverty and slow economic growth raise the probability of conflict.

Theories of extreme poverty

For decades, observers have tried to explain why extreme poverty persists. Many theories have looked for single-factor explanations for a lack of economic growth, often grounded in racist beliefs (poor countries do not grow because their cultures, races, or religions fail to promote economic growth). The increasing number of success stories of growth proved all these theories to be wrong. However, despite the complexity of an economy and the number of things that can go wrong, single-factor explanations persist. The most common is that poverty is a result of corrupt leadership, which impedes modern development.

Governance is indeed important: economic development stalls when governments do not uphold the rule of law, pursue sound economic policy, make appropriate public investments, manage a public administration, protect basic human rights, and support civil society organizations – including those representing poor people – in national decision-making. Importantly, long-term poverty reduction in developing countries will not happen without sustained economic growth, which requires a vibrant private sector. Government, therefore, needs to provide the economic policy framework and the support that the private sector needs to grow.

However, many well-governed poor countries may be too poor to help themselves out of extreme poverty. Many well-intentioned governments lack the fiscal resources to invest in infrastructure, social services, environmental management, and even the public administration necessary to improve governance. Further, dozens of heavily indebted poor and middle-income countries have been forced by creditor governments to spend large proportions of their limited tax receipts on debt service, undermining their ability to finance vital investments in human capital and infrastructure. The reason these poor countries cannot grow is not poor governance, but a poverty trap. They lack the basic infrastructure, human capital, and public administration – the foundations for economic development and private sector-led growth. Without roads, soil nutrients, electricity, safe cooking fuels, clinics, schools, and adequate and affordable shelter, people are chronically hungry, burdened by disease and unable to save. As mentioned above, fertility rates tend to be high, preventing families from investing enough in each child. Without adequate public sector salaries and information technologies, public management is chronically weak. For all of these interlocking reasons, these countries are then unable to attract private investment flows or retain their skilled workers, and can therefore find themselves with low or negative growth. In short, they are stuck in a poverty trap.

The concept of a low-level poverty trap is a long-standing hypothesis in the theories of economic growth and development. The earliest mathematical formalization was by Nelson (1956), who put emphasis on demography. The theoretical possibility of poverty traps in the neoclassical growth model is covered briefly in the economic growth textbook by Barro and Sala-i-Martin (1998), which also discusses briefly the possible case for large-scale development assistance to overcome such traps. The connection of a

low-level trap to subsistence consumption needs is spelled out in Ben-David (1998), and connections to agriculture and education are described in the *World Economic and Social Survey* (UN, 2000). Two recent empirical studies claiming that such poverty traps exist in poor countries are UNCTAD (2002) and Bloom, Canning and Sevilla (2003). A close look at a poverty trap in Sub-Saharan Africa is in Sachs et al. (2004).

An often overlooked characteristic of poverty is that some countries and regions are clearly more vulnerable than others to falling into a poverty trap. While a history of violence of colonial rule or poor governance can leave any country bereft of basic infrastructure and human capital, physical geography plays special havoc with certain regions. Some regions need more basic infrastructure than others simply to compensate for a difficult physical environment. Some of the barriers that must be offset by investments include adverse transport conditions (landlocked economies, small island economies far from major markets, inland populations far from coasts and navigable rivers, populations living in mountains, long distances from major world markets, very low population densities); adverse agro-climatic conditions (low and highly variable rainfall, lack of suitable conditions for irrigation, nutrient-poor and nutrient-depleted soils, vulnerability to pests and other post-harvest losses, susceptibility to the effects of climate change); adverse health conditions (high ecological vulnerability to malaria and other tropical diseases, high AIDS prevalence); and other adverse conditions (lack of domestic energy sources, small internal market and lack of regional integration, vulnerability to natural hazards, artificial borders that cut across cultural and ethnic groups, proximity to countries in conflict). Adam Smith was acutely aware of the role of geography in hindering economic development. He stressed, in particular, the advantages of proximity to low-cost, sea-based trade as critical, noting that remote economies would be the last regions to achieve economic development. More recent studies have found statistical significance of these relationships between geography and economic outcome (Gallup, Sachs and Mellinger, 1999; Mellinger, Sachs and Gallup, 2000; Sachs and Gallup, 2001).

In the rich countries of North America, Western Europe and East Asia, the process of massive investment in research and development, leading to sales of patentprotected products to a large market, stands at the core of economic growth. Advanced countries are typically investing two per cent or more of their gross national product directly into the research and development process, and sometimes more than three per cent. That investment is very sizable, with hundreds of billions of dollars invested each year in research and development activities. Moreover, these investments are not simply left to the market. Governments invest heavily, especially in the early stages of R&D. In most poor countries, especially smaller ones, the innovation process usually never gets started. Potential inventors do not invent because they know that they will not be able to recoup the large, fixed costs of developing a new product. Impoverished governments cannot afford to back the basic sciences in government laboratories and in universities. The result is an inequality of innovative activity that magnifies the inequality of global incomes. While the innovation gap is reduced in the case of some poor countries through technological diffusion, even diffusion is limited in the poorest countries, because they face distinctive ecological problems not addressed by 'rich-world science' (for example,

tropical diseases and tropical farming systems), because they cannot afford high-tech capital goods and because they fail to attract foreign businesses that would bring the technology with them.

Policy responses

Theories on how to tackle extreme poverty are varied and controversial. For the most part, they can be divided into two camps: strategies that focus on promoting market-oriented economic growth, and strategies that focus on directly addressing the needs of the poor. Of course the two approaches can be combined. The Washington consensus, a set of policy recommendations especially prevalent from 1980 to the late 1990s, embodies the first type, with its focus on macroeconomic stability, greater economic openness to trade and investment, and improved environment for private business. The idea was that these policies would lead growth of the private sector, thus increasing demand for labour and thereby improving the welfare of the poor.

A second set of strategies focuses instead on providing what the poor need in order to increase their productivity. These investments in 'human development' argued for directing health and education investments towards the poor, and providing social safety nets. Many of these strategies became popular in the 1990s as a reaction to the Washington Consensus. There were three kinds of critiques. One held that growth would not be achieved with market reforms alone, because of the poverty trap. A second held that growth must in any event be combined with increased public investments, for example for health and education. A third, and more extreme position, held that growth per se would have adverse effects on the poorest of the poor. For example, the 1996 *Human Development Report* warned that in some cases growth can fail to create jobs and provide benefits, and can even increase empowerment of the rich, wreck cultural identities and destroy the environment (UNDP, 1996).

Numerous studies have shown that growth *does*, in fact, tend to be good for the poor (Dollar and Kraay, 2002; Roemer and Gugerty, 1997; Gallup, Radelet and Warner, 1999). Yet growth may not be achievable for countries trapped in poverty, and growth may not be sufficient to enable the poorest of the poor to meet their basic needs. The emerging consensus is that *both* economic growth and direct investments for the poor are necessary, in order to break the poverty trap and to provide vital public goods. International institutions are paying more attention than before to the possibility of poverty traps, and to the non-income dimensions of extreme poverty (for example, health and education). Five of the eight Millennium Development Goals (the world's time-bound and quantified targets for addressing extreme poverty, discussed below) are about promoting health and education, and individual countries are giving more priority to these broader measures than ever before.

Another dimension of the fight against extreme poverty is referred to as the rights-based approach. The guarantee that all people can live in dignity and meet their basic needs is also a basic human right – the right of each person on the planet to health, education, shelter and security as pledged in the Universal Declaration of Human Rights

and various UN covenants, treaties, and inter-governmental documents (such as the UN Millennium Declaration). The human rights approach seeks to use national and international human rights accountability mechanisms to monitor action on behalf of a human right rather than a development target. Economic evaluations often measure whether a given policy action contributes to reaching a target. Conceived in terms of rights, the same evaluation would measure not only those reached by a given action, but several other considerations as well: (a) the numbers not being reached; (b) the empowerment of the poor to achieve their rights; (c) the protection of these rights in legislation; and so forth. To date, there has been insufficient effort to integrate development planning with a human rights framework, even though such integration has tremendous potential and relevance.

Since the creation of the United Nations in 1945, the international system has been working to reduce poverty around the world, but often with results that fall short of laudable rhetoric. In January 1961, the United Nations resolved that the decade of the 1960s would be the Decade of Development. US President Kennedy launched the decade at the UN in New York. Earlier, in his inaugural address as President, he had signalled a new sense of purpose in international affairs. He declared: 'To those peoples in the huts and villages of half the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves' (The History Place, 2007). The second Development Decade resolved to emphasize measures deliberately targeted at the poor – to help them meet their basic needs for food, water, housing, health and education. The UN held a series of international conferences; on environment (Stockholm, 1972); population (Bucharest, 1974); food (Rome, 1974); women (Mexico City, 1975); human settlements (Vancouver, 1976); employment (Geneva, 1976); water (Mar del Plata, 1977); and desertification (Nairobi, 1977). In 1978, the governments of the world came together to sign the Alma Ata Declaration that promised 'Health for All by 2000', a promise the world failed miserably in delivering. The 1980s – the third Development Decade – were very difficult for developing countries as they suffered from a worldwide recession that hit the developing world and debtor countries with special force. Nevertheless, important improvements were made in some areas, such as nutrition, access to safe drinking water, and reductions in child mortality. One result was the international conference held in 1990 under the auspices of UNDP, UNESCO, UNICEF and the World Bank in Jomtien (Thailand), which set the target of 'Education for All by the Year 2000', another goal not met.

The 1990s also became a decade in which the response of the UN system to the flagging development movement was to embark on a series of global conferences. The UN Conference on Environment and Development (Rio de Janeiro, 1992) was followed by conferences on nutrition (Rome, 1992); human rights (Vienna, 1993); population and development (Cairo, 1994); social development (Copenhagen, 1995); women (Beijing, 1995), human settlements (Istanbul, 1996). The decade ended with the landmark Millennium Summit in 2000, which resulted in the Millennium Development Goals (MDGs), and the Financing for Development Conference in Monterrey in 2002, where rich countries renewed their pledge to provide 0.7 per cent of their GDP in foreign aid. Also relevant was the Brussels Programme of Action for the Least Developed Countries,

which suggests that they require greatly increased official development assistance, since private capital flows will not finance needed public investments. The programme outlines several priority areas for cooperation including human and institutional resource development, removing supply-side constraints and enhancing productive capacity, protecting the environment, and attaining food security and reducing malnutrition.

As the UN Millennium Project has pointed out, the Millennium Development Goals are the most broadly supported, comprehensive, and specific poverty reduction targets the world has ever established, so their importance is manifold. For the international political system, they are the fulcrum on which development policy is currently based. For the billion-plus people living in extreme poverty, they represent the means to a productive life (UN Millennium Project, 2005). Besides aiming to reduce the 1990 proportion of people in extreme poverty by half by 2015, the MDGs tackle poverty in its many dimensions – income poverty, hunger, disease, lack of adequate shelter, and exclusion – while promoting gender equality, education and environmental sustainability. Thus, while supporting the need for economic growth, the MDGs emphasize that the growth needs to be pro-poor. In 2005, the UN Millennium Project presented the Secretary General with 'A Practical Plan to Achieve the Millennium Development Goals', which outlined specific interventions to address the multiple causes of poverty traps in poor countries around the world (UN Millennium Project, 2005). Moreover, it emphasized that foreign aid will be needed to finance the interventions that the poor countries cannot finance themselves. In the case of well-governed poor countries, the report recommended that foreign assistance should be scaled up immediately, significantly, and on a sustained basis, consistent with the promise of 0.7 per cent of GNP as official development assistance.

Prospects

There are reasons to be optimistic about the elimination of extreme poverty on the planet. Economic development has lifted more than 100 million people out of extreme poverty since the mid-1990s, and the pace is probably accelerating in Asia. While the population of developing countries rose from about four billion people to about five billion, average per capita incomes rose by more than 21 per cent. With 130 million fewer people in extreme poverty in 2001 than a decade before, the proportion of people living on less than one dollar a day declined by seven percentage points, from 28 to 21 per cent.

Despite the good news, however, Africa remains mired in seemingly intractable extreme poverty. Africa faces difficult structural challenges (very high transport costs and small markets, low-productivity agriculture, very high disease burden, a history of adverse geopolitics, and slow diffusion of technology from abroad), but, in countries where governments are committed, these challenges can be overcome if addressed through an intensive programme that directly confronts them (Sachs et al., 2004). Ending the poverty trap in Africa and meeting the MDGs will require a comprehensive strategy for public investment in conjunction with improved governance. The good news is that the amount of investment required, although out of reach of African governments alone,

is within the amount already promised in foreign aid by the rich countries (UN Millennium Project, 2005).

One final point is that a sustained reduction in extreme poverty requires tackling long-term challenges that the human family faces, in particular environmental challenges. Raising the incomes of billions of people around the world is surely desirable. Nevertheless, the increased income will come with increased demand for food, energy, and consumer goods, which may push our planet's already stressed ecosystems beyond what they can support. As the world works towards eliminating extreme poverty, it must do so with a conscious plan to limit the environmental burden that humanity places on the planet. Moreover, in many cases, the environmental challenges (such as water stress) may prove to be the biggest barriers to poverty reduction even in the short term.

Bibliography

Barro, R. and Sala-i-Martin, X. 1998. Economic Growth. Cambridge, MA: MIT Press.

Ben-David, D. 1998. Convergence clubs and subsistence economies. *Journal of Development Economics* 55, 155–71.

Bhalla, S. 2002. *Imagine There's No Country – Poverty, Inequality and Growth in the Era of Globalization*. Washington, DC: Institute for International Economics.

Bloom, D., Canning, D. and Sevilla, J. 2003. Geography and poverty traps. *Journal of Economic Growth* 8, 355–78.

Chen, S. and Ravallion, M. 2004. How have the world's poorest fared since the early 1980s? *World Bank Research Observer* 19, 141–70.

Deaton, A. 2004. Measuring poverty. Working paper, Research Program in Development Studies, Princeton University.

Dollar, D. and Kraay, A. 2002. Growth is good for the poor. *Journal of Economic Growth* 7, 195–225.

Gallup, J., Radelet, S. and Warner, A. 1999. Economic growth and the income of the poor. CAER II Discussion Paper No. 36, Harvard Institute for International Development.

Gallup, J.L., Sachs, J.D. and Mellinger, A.D. 1999. Geography and economic development. *International Regional Science Review* 22, 179–232.

Mellinger, A., Sachs, J.D. and Gallup, J. 2000. Climate, coastal proximity, and development. In *Oxford Handbook of Economic Geography*, ed. G. L. Clark, M. P. Feldman and M.S. Gertler. New York: Oxford University Press.

Miguel, E., Satyanath, S. and Sergenti, E. 2004. Economic shocks and civil conflict: an instrumental variables approach. *Journal of Political Economy* 112, 725–53.

Nelson, R. 1956. A theory of the low-level equilibrium trap in underdeveloped economies. *American Economic Review* 46, 894–908.

Perkins, D. H., Radelet, S. and Lindauer, D. L. 2006. *Economics of Development*, 6th edn. New York: W. W. Norton.

Pritchett, L. 2003. Who is *not* poor? Proposing a higher international standard for poverty. Working Paper No. 33, Center for Global Development.

Roemer, M. and Gugerty, M. K. 1997. Does economic growth reduce poverty? CAER II Discussion Paper No. 5, Harvard Institute for International Development.

Sachs, J. D. 2005. The End of Poverty. New York: Penguin.

Sachs, J.D. and Gallup, J.L. 2001. The economic burden of malaria. *American Journal of Tropical Medicine and Hygiene* (supplement) 64, 85–96.

Sachs, J. D., McArthur, J. W., Schmidt-Traub, G., Kruk, M., Bahadur, C., Faye, M. and McCord, G. 2004. Ending Africa's poverty trap. *Brookings Papers on Economic Activity* 2004(1), 117–240.

Sala-i-Martin, X. 2002. The world distribution of income. Working Paper No. 8933. Cambridge, MA: NBER.

Srinivasan, T. N. 2004. The unsatisfactory state of global poverty estimation. In *In Focus: Dollar a Day: How Much Does it Say?* Brasilia: International Poverty Centre, UNDP.

State Failure Task Force. 1999. *Environmental Change and Security Project Report*, No. 5. Washington, DC: Woodrow Wilson Center.

The History Place. 2007. Great Speeches Collection: John F. Kennedy Inaugural Address. Online. Available at http://www.historyplace.com/speeches/jfk-inaug.htm. Accessed 25 April 2007.

UN (United Nations). 2000. World Economic and Social Survey 2000. New York: United Nations.

UN. 2004. A More Secure World: Our Shared Responsibility. Report of the Secretary-General's High-Level Panel on Threats, Challenges and Change. New York: United Nations.

UNCTAD (United Nations Conference on Trade and Development). 2002. *The Least Developed Countries Report 2002: Escaping the Poverty Trap.* Geneva: UNCTAD.

UNDP (United Nations Development Programme). 1996. *Human Development Report* 1996. New York: UNDP/Oxford University Press.

UNDP (United Nations Development Programme). 2004. *Human Development Report* 2004: Cultural Liberty in Today's Diverse World. New York: UNDP/Oxford University Press.

UN Millennium Project. 2005. *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*. New York: Earthscan.

World Bank. 1990. World Development Report 1990: Poverty. Washington, DC: World Bank.

World Bank. 2001. Engendering Development. New York: Oxford University Press.

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