

## Biological Conservation and Global Poverty

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THE LOSS OF BIODIVERSITY AND WILD HABITATS AFFECTS US ALL, but most immediately the world's poor who depend to a large degree on wildlife for basic goods such as food, shelter, and medicines. Given this link between poverty and biological resources, an important question in deciding conservation strategies is how much conservation can help the world's poor (Millennium Ecosystem Assessment 2005, United Nations Development Programme *et al.* 2005, DeClerck *et al.* 2006, Díaz *et al.* 2006, Kaimowitz & Sheil 2007). I argue here that becoming part of the wider commercial economy is and will be the main way out of poverty. For the vast majority of people this is accomplished in cities and not in the countryside, and entails becoming less dependent on wildlife. Given the massive scale at which urban economic development is reducing world poverty, the relative effect of biological conservation is likely to be very small. If we want our conservation efforts to best succeed in the long term perhaps we should already plan for a much wealthier and urbanized world.

According to the World Bank (2007a) the proportion of people living on less than \$1 (U.S.A. dollar) a day fell from 40.3 percent in 1984, when the World Bank started collecting this statistic, to 18.4 percent in 2004. The absolute numbers decreased from 1479 million people in 1984 to 985 million in 2004 despite a global population increase of 2 billion. In East Asia, extreme poverty declined from 58 percent to 9 percent during the same period. Health, education and other measures of well-being have improved in parallel (Table 1). The situation in Africa, which remained stagnant or deteriorated during most of the 1970s, 1980s, and early 1990s, has improved steadily in recent years (World Bank 2007b; Zimbabwe is the only African country with negative growth over the last decade). To the best of our knowledge, things will keep improving at an accelerating rate during the present century. The IPCC Special Report on Emissions Scenarios (Intergovernmental Panel on Climate Change 2001) envisions that at the end of the present century the per capita purchasing power of now developing countries will be ten times greater than that in 1990 and comparable to that of developed countries today.

Such massive reduction in poverty is probably related to a growing respect for property rights and individual freedom, as seen in the gradual elimination of hurdles to human enterprise and to the movement of people, goods, and ideas throughout the world. Most of the opportunities created by these reforms are occurring in cities. For example, several developing countries are becoming

wealthier largely by exporting goods whose production requires both intensive human labor and modern technology. Cities provide better conditions than the countryside for these factors to co-occur. Many of the rural poor have taken advantage of these opportunities, permanently leaving the countryside. In Asia, the urban population increased from 575 million in 1975 to 1483 million in 2003, while the rural population increased from 1823 million to 2341 million (United Nations 2006). The figures for Latin America are 197 million to 417 million urban population and 125 to 126 million rural population. Moving to cities improves access not only to jobs and enterprising opportunities but also to food, drinking water, sanitation, health and education services, and clean indoor environments (Ruel *et al.* 1998, FAO & UNESCO 2003, DeClerck *et al.* 2006, UNDP 2006). In addition to helping the poor, rural–urban migration apparently results in less tropical deforestation (Aide & Grau 2004, Wright & Muller-Landau 2006, Hecht & Saatchi 2007).

As the poorest in developing countries are those still living in the countryside, an understandable reaction to their predicament is to attempt to improve rural living conditions. Eliminating barriers to the international trade of agricultural and wildlife products, and to the spread of farming innovations (such as GM varieties), and respecting the property rights to the land are institutional reforms that would almost certainly improve the well-being in rural areas. On the other hand, government policies that transfer wealth created in cities to the countryside have generated artificial inequality within rural populations, have contributed to environmental degradation, and have probably destroyed more opportunities in cities than they have created in the countryside. Outsider initiatives to provide knowledge and ideas that were expected to unleash development or improve living conditions at no or low cost—as opposed to specific requests of expert advice by rural dwellers—have also often ended in disappointment. More often, rural dwellers escape poverty either by moving to cities or by local transformations driven by local enterprise or external market forces. As in the cases of the soy and palm-oil business booms, it is very difficult to plan for, or even foresee, these transformations.

The best way poor people can benefit from wild biological resources in the long term is by using them to join regional or global markets. This is the case of some successful ecotourism, trophy hunting, timber, fishing, and seafood harvesting industries. The development of wildlife-related industries requires both biological conservation and the same broad institutional factors that facilitate development in general. Ecotourism resorts, for example, have not developed in the best preserved or more biologically diverse places but in a few places with both sufficient wildlife resources and

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TABLE 1. *Well-being and demographic indicators of developing countries (United Nations 2006).*

	1990/1991	2004/2005
Population living below \$1 (PPP) per day	32%	19%
Mortality rate under age 5	11%	8%
Enrollment in primary education	80%	88%
Access to clean water	71%	80%
Access to sanitation	35%	50%
Urban population	35%	43%
Urban population living in slums	47%	37%

well-functioning institutions that protect investments and profits (Kruger 2005). In any case, even these successful industries have a relatively small role in lifting people from poverty. Nature-based tourism in seven countries in Southern Africa, which together comprise the largest nature-related tourist industry in the world, generated \$3.6 billion in revenues in year 2000 (Millennium Ecosystem Assessment 2005). To put this figure into perspective, workers living abroad also sent \$3.6 billion to those seven countries in 2006, and \$300 billion to developing countries worldwide (International Fund for Agricultural Development 2007). In one of those countries alone, South Africa, the whole economy grew by \$5 billion in 2000 and by \$25 billion in 2006 (Statistics South Africa 2007). In 2007 the economies of China and India will together grow by more than \$1.5 trillion (in purchasing power parity terms) in 2007, and will reach \$15 trillion by the end of the year.

Conserving wild nature is often a very good investment, but doing it specifically to help the world's poor will have a small effect. In the near future, and for reasons unrelated to biological conservation, the world will have far fewer poor people, and far fewer people living in the countryside. Perhaps conservation strategy should focus on this new kind of world.

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