

Poverty and mortality indicators: data for the poverty-conservation debate

Paul Matiku

We do not have the resources to conserve species one-by-one. Protected areas are thus a practical tool to halt species' declines, tackling extinctions by preserving natural habitats. In Africa the history of such areas is that of struggle between competing stakeholders and government policies. During colonial times areas were set aside to maintain the authorities' rights to valuable wildlife and timber, and in part to protect watersheds and ecosystems. These areas, and the protected area concept, were inherited by current African governments and have become the cornerstone of the protection of biodiversity, habitats, and ecological goods and services.

In the early years of protected area establishment the failure to recognize the needs of local people led to widespread lack of community support for parks. However, human population densities were relatively low and there was latitude for tolerance and compromise. But, as human populations increased, demand for land and resources grew and protected area authorities used the statutes to exclude local people, thereby significantly downgrading their customary rights.

Such actions failed to recognize that local communities live with wildlife daily and absorb many of the costs of doing so: loss of livestock to predators, food crops to elephants and primates, and access to plants for medicinal and other uses. In this issue of *Oryx*, for example, Graham & Ochieng and Jackson *et al.* look at the problems of crop-raiding elephants in Kenya and Botswana, respectively.

Recently both national and global conservation communities have realized that the set-aside of protected areas can be demonstrably unfair, and have started to engage local communities in co-management. There has also been development of income generating activities to help offset some of the local costs of protected areas. At Nature Kenya, for example, we have developed a butterfly farming project in Arabuko-Sokoke Forest that is now earning the local community c. USD 100,000 annually, a significant contribution to the local economy. However, little data are available on the economic balance between such benefits and any ecosystem costs incurred that would enable us to assess simultaneously the impacts of protected areas on both biodiversity and the people living nearby.

These and similar issues have coalesced within the last few years into the so-called poverty-conservation debate. With many of the poorest countries lying in the biodiverse tropics, there is an ongoing discussion regarding the global benefits of biodiversity versus the

costs incurred by local communities living in the vicinity of protected areas.

The two lead articles in this issue of *Oryx* take this debate a step further. Upton *et al.* ask whether poverty and protected area establishment are linked at the national scale, using both monetary and non-monetary indicators of poverty. The answer is equivocal. There are few significant relationships between national indicators of poverty and the extent of protected areas. De Sherbinin asks similar questions but by focusing at the regional scale in developing countries, and by using infant mortality as a measure of poverty. But again there are no unambiguous links. Infant mortality rates surrounding protected areas are not very different from national rates.

Where does this leave us? Protected areas were not established to provide economic pillars for neighbouring communities. They were gazetted for biodiversity conservation, and in this respect they generally do their job well, and more besides. Protected areas in Africa, for example, contain the only remaining good water catchments and provide invaluable, but undervalued, ecological services. But most of these benefits accrue nationally. People living around parks are generally left with few gains, given the costs and losses they incur, even if various poverty indicators reveal they are no worse off than people living elsewhere. It may be unrealistic to expect protected areas established for biodiversity to reduce rural poverty. Nevertheless, the opportunity costs incurred by neighbouring communities need to be part of protected area budgets so that at least local people do not lose out.

Although the analyses of Upton *et al.* and de Sherbinin do not provide any clear answers, they do provide a better understanding of the influence of protected areas on the lives of people living at their boundaries. The importance of areas conserved for biodiversity is of course clear, but their relevance for neighbouring communities remains less so. Looking to the future, de Sherbinin outlines the types of data and research that are needed for the setting of local priorities for any poverty alleviation interventions. Any such information also needs to be used to influence national and global institutions and mechanisms to help offset the costs incurred by people living around protected areas.

Paul Matiku
Nature Kenya, P O Box 44486, 00100, Nairobi
E-mail director_naturekenya@mitsuminet.com