

## Forum

### No new recipes for bushmeat

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Bushmeat is the new crisis in conservation. Work presented during the the 16th Annual Meeting of the Society for Conservation Biology in Canterbury, UK, in July 2002, outlined the scale and immediacy of the problem, and began to illustrate some of the driving economic factors. Although such cataloguing is necessary for advocacy, a lot of time has been spent eloquently demonstrating what is already fairly obvious. If you were looking for evidence at the conference that conservation science had focused on a new problem and derived a novel solution, you would have been disappointed. No clear framework for a solution was offered, other than protected areas and bans on hunting endangered species. This is hardly revolutionary – if anything it is counter-revolutionary.

But this is missing the point. The 'bushmeat crisis' is not a new problem, it is an old problem, a manifestation of the problem that has shaped the history of man's interaction with the environment: '... the commons, if justifiable at all, is justifiable only under conditions of low population density. As the human population has increased, the commons has had to be abandoned in one aspect after another.' (Hardin, 1968)

The key facts aired at the symposia were not new ones: there is a population density limit to subsistence hunting in tropical forests of about one person per sq km, and in a terrestrial source-sink system the source probably needs to be about seven times the size of the sink. Clearly hunting in natural ecosystems is only sustainable if it is both regulated and exclusive. There is no novel technical solution. The basic toolkit for changing behaviour has long been known: the stick, the carrot and the diversion, or in conservation terms, enforcement, direct payment and integrated conservation and development. What are needed are cross-disciplinary models for deciding which tools to apply in which situations, rather than a legion of anecdotes supporting a particular approach in a particular setting.

At the broad scale different sets of factors have been emphasized. Firstly, inexorable global processes: the increases in human populations, the reach of roads and market economies, and technology. Secondly, dysfunctional national or regional economies that, in the absence of market access or capital for agricultural alternatives, drive rural inhabitants to hunting. An exclusive focus on either can produce opposing conclusions. We must determine their relative influences and interactions in order to have a clear voice in the policy debate.

We also need a decision-making framework at the local level. It is impossible to maximize two properties, so we need to decide whether the needs of wildlife or local people are the priority or, more realistically, where each is pre-eminent. In the case of the former, we cannot ignore the need for pristine reserves and enforcement, or the need to remind donors of this. For the latter we must work more closely with development agencies and ensure that they understand the biological realities. Modern human populations cannot be sustained by the harvesting of wild animals. Open-access harvesting has not been sustainable in the planet's most productive ecosystems (Ludwig *et al.*, 1993), and will certainly not be in the case of the relatively low-productivity of large animals in tropical forests.

We have to rationally assess where different approaches are appropriate, and identify the data requirements for designing local conservation projects. We can only do this in the context of a sound theoretical framework that involves economics at least as much as it does biology. Honest assessment of the limitations and appropriateness of each of our tools must replace factional devotion to a single one, and we must be honest about the prospects for bushmeat harvesting being both sustainable and a major component of a regional economy. "The truth that is suppressed by friends is the readiest weapon of the enemy." (Robert Louis Stevenson, quoted by Hardin, 1968).

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