

Saving the rainforest

Tropical forests need protection—and proper exploitation is the way to deliver it



USE it or lose it. The mantra is applied as much to the rainforest and the rest of the natural world as to the artificial. But exploitation does not have to involve destruction. And there are powerful reasons for seeking to avoid the destruction of wilderness and the concomitant extinction of species.

The strongest argument for conserving biodiversity is to protect the “ecosystems” on which humanity itself depends. Diversified ecosystems protect watersheds, local rainfall, food supply and soil. The Amazon ecosystem is so vast that it creates its own climate. Most rainfall is recycled, and the forest affects light reflection, cloud formation, regional rainfall and temperature. Most important, the rainforest is also a bulwark against global warming. You cannot chop it down or burn it without running large climatic risks.

From the American mid-west to Bangladesh to Mozambique, the costs of deforestation are now being felt in the form of altered climates, droughts, flash floods, landslides and soil erosion. The result can be human and economic suffering on a grand scale. Once created, such suffering is not easy to cure. In the long run, reforestation may be the only answer, but plantations do not function as well as a diversified forest that is the product of several thousand years of evolution.

Ten years ago, few people appreciated the effect of wide biodiversity on ecosystems. But it is not hard to grasp the case for keeping more species. Having more species in an ecosystem gives it more stability, allows it to retain more nutrients and makes it more productive. There is an analogy with the diversification gains to be had from spreading an investment portfolio. Species, like shares, differ from one another, and they respond differently to external events. The more species, therefore, the less volatile and unstable the ecosystem. Moreover, different species specialise in particular niches that make the best use of different resources and of changes in, say, soil acidity and temperature.

Some ecologists reckon that the rate at which species are being lost is so high that, if it continues, palaeontologists of the future will look at the fossil record now being laid down and liken it to earlier mass extinctions such as the one that killed the dinosaurs. Those previous extinctions are thought to have been triggered by external shocks such as an asteroid impact or a huge volcanic eruption. But how much of each previous extinction—in which around 95% of all species were lost—was caused directly by the shock, and how much by a subsequent unravelling of the ecosystem due to the loss of specific habitats and species, remains unknown. What seems certain is that finding out by repeating the experiment will be a risky and unpleasant experience: people, for all their artificial cushions, are part of the ecosystem too.

There is also opportunity cost to consider: the things extinction could make harder. All crops, garden plants and domestic animals have wild ancestors. Corn, rice and wheat alone provide 60% of the human food supply. Their continued viability

depends on the maintenance of the genetic diversity of their ancestors, which alone makes possible the breeding of new strains that are resistant to evolving diseases and pests.

For many rich-world conservationists the value of preserving biodiversity is more a matter of sentiment and aesthetics than of pragmatism. People do not burn Picassos or cathedrals, so why should they burn the Amazon rainforest? There is nothing wrong with this question—economic arguments sometimes come second to ethical or aesthetic ones—but it does need to be recognised that all such “external public goods” have to be paid for, even if the cost comes only in benefits forgone.

From greenery to greenbacks

Fortunately, the world's growing understanding of the value of biodiversity is coming at the same time as the discovery of ways to make it pay without destroying it. The new approach is, with fits and starts, being adopted in Brazil (see our special report on page 83). This has included the removal of subsidies and of perverse tax incentives that encouraged otherwise uneconomic forest destruction. It also identifies the forest as a sustainable resource that can yield a crop rather than being a one-off “mine” for timber that, when cleared, is largely unsuitable for farming. New systems of reduced-impact logging appear to be just as feasible as conventional reckless logging, while being far less damaging. The environmental sensibilities of western consumers are also being co-opted by selling, at a premium, forest products from areas that can be certified as following good management practices.

Another encouraging change arises because Brazil, though not exactly a rich country, is no longer a poor one. A conservationist movement is stirring among the new middle classes, and beginning to win some battles. One gram of patriotic pressure is often worth a tonne of well-meaning foreign meddling.

Ultimately, the new conservation boils down to a more sophisticated approach by private firms—from loggers to fruit distributors—to working out how a stretch of forest can be made into a long-term source of profitable business. It seems that Brazil is groping for ways of reconciling the interests of people who live in the forest (including those living in towns in the forest), those who live off the forest, those who depend on the forest for other services such as hydropower (see page 41)—and those who simply want to keep the forest as it is.

A report this week from the World Conservation Union and a Washington-based organisation, Future Harvest, says that biodiversity hotspots are often being threatened by the demands of agriculture. But the report also points to an emerging set of strategies it calls “ecoagriculture”, which show how to minimise conflicts between the demands of agriculture and those of biodiversity. Out of the woods, in short, come some new grounds for optimism. If Brazil can also deal with the problem of lawlessness and corruption, it can easily improve on the abysmal record of largely deforested first-world countries (from which Brazil is understandably unwilling to take hypocritical lectures). With luck, Brazil might even inspire other tropical countries to follow suit. ■