



**THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY (TEEB)**

# Placing a value on nature

Deltas provide natural defence systems, fresh water and fish stocks, rich wildlife and a green environment for leisure activities. These ecosystem services are undervalued, they are not used sustainably, and they are threatened by global climate change. Ironically, in a world where everything is measured and under control, economic data on the loss of natural habitats and biodiversity is lacking.

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Mississippi Delta Louisiana.

Despite the improved conservation policies that EU member states have introduced, biodiversity is still under serious threat. Surveys have shown that over half of the freshwater fish species in the EU are threatened, along with over 40 percent of its native mammals, butterflies and reptiles, 30 percent of amphibians and 15 percent of birds. And a number of species are on the verge of extinction.

However, the EU is not alone: most of the world's prosperous regions show similar figures. Spawning grounds such as coral reefs are disappearing, melting ice caps are depopulating polar habitats, tropical rainforests are being transformed into farmland and a hitherto unknown disease is decimating bee colonies. The main causes of these losses are economic development, intensification of farming, and climate change.

#### Indispensable assets

Large organizations such as the EU and the UN are starting to recognize the need to value and nurture ecosystems as indispensable assets. The Economics of Ecosystems and Biodiversity (TEEB) was launched by Germany and the European Commission (EC) in 2007 to conduct a global study on the economic benefits of biodiversity and the costs of biodiversity loss. Inspired by the British Stern Review on the Economics of Climate Change, TEEB is hosted by the UN Environment Programme and receives financial support from the EC, Germany, the UK, Norway, the Netherlands and Sweden.

Without measuring tools we are now incapable of managing and nurturing nature in the way our ancestors did: through knowledge, tradition and instinct. "The irony is that rural communities would list nature as their key asset", TEEB study leader Pavan Sukhdev states in an interview in *The Ecologist*. "The level of awareness in the village is there. They know climate change is happening; that the flowers flowered at a different time last year than 10-20 years ago. They know that water is available to them only after they have drilled an extra 10-20 feet into the ground."

#### Natural capital

According to Sukhdev, an economist at Deutsche Bank, we should learn from rural communities and their ancient wisdom to find new ways to tackle climate change and biodiversity loss. The way forward is to incorporate the values of biodiversity and ecosystems services, our 'natural capital', into our national account systems. TEEB evaluates the costs of the loss of biodiversity and the associated decline in ecosystem services worldwide, and compares them with the costs of effective conservation and sustainable use. The recently published

## The benefits of conserving biodiversity can outweigh the costs by up to 100 times

TEEB report, *Mainstreaming the Economics of Nature*, estimates that the benefits of conserving ecosystems or biodiversity can outweigh the costs by anywhere between 10 and 100 times.

TEEB has produced separate reports tailored to different groups of end-users. The TEEB for local and regional policy makers states: "In the northern coastal regions of Vietnam, where more than 70 percent of the population is threatened by natural hazards, local communities have planted and protect mangrove forests, as a more cost-effective strategy than building and maintaining artificial barriers (sea dikes). An investment of 1.1 million USD has saved an estimated annual 7.3 million USD in dyke maintenance alone." This is just one example of the cases that illustrate the benefits of protecting ecosystems. Other end-user groups for which tailored TEEB reports have been produced are local and regional administrators, businesses and consumers. ■

The reports are available at [www.teebweb.org](http://www.teebweb.org)