

## FACTS ABOUT...

# Protecting Biodiversity and Natural Environments

### The Problem

Most economic activity requires some use of natural resources, and invariably leaves an imprint on the earth's ecosystems. Overuse of natural resources has reached the point where many ecosystems cannot repair or sustain themselves, and among the losers are the people who rely on them.

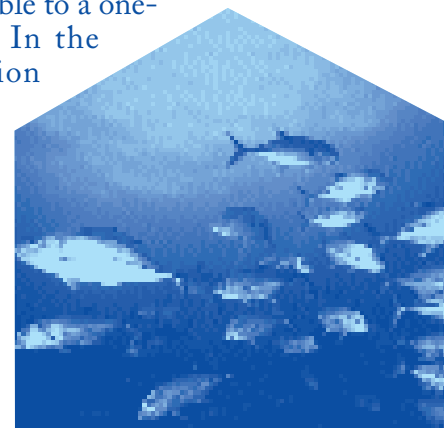
The knock-on impacts of environmental degradation are not always immediately recognizable, as when logging in mountain areas leads to flooding downstream. Often, the results are felt far from the source of the problem, just as increasing greenhouse gas emissions in industrial countries are causing concern about sea-level rise in the South Pacific.

Whether it is oceans that have fewer fish, farmlands that have lost their topsoil and yield insufficient food, or polluted streams and rivers that no longer provide safe drinking water, degraded ecosystems are a major source of impoverishment, natural disasters, hunger and disease around the world.

### Key Statistics

- Desertification affects almost a quarter of the total land area of the world, and almost 70 per cent of the world's drylands face further degradation. Often caused by overgrazing and overuse of marginal land, and closely linked with rural poverty and hunger, desertification threatens the livelihoods of over 1 billion people in 100 countries.
- Mountains provide freshwater for half of the world's people, yet mountain ecosystems are threatened by glacial melting, deforestation and unsustainable land practices.
- Over the last decade, the world lost a net total of some 94 million hectares of forest, an area larger than Venezuela. The rate of deforestation is highest in developing countries in tropical areas, where 4 per cent of the region's forests were lost over the last decade.
- Human activity has degraded more than half of the world's coastal ecosystems. For Europe, the figure is 80 per cent and for Asia, 70 per cent.

- About 80 per cent of marine pollution comes from land-based sources. In developing countries, more than 90 per cent of sewage and 70 per cent of industrial wastes are dumped untreated into surface waters.
- Fisheries provide direct and indirect livelihoods for some 400 million people. More than a quarter of the world's fisheries are over-utilized and half are exploited at full capacity. Overall, 75 per cent of the world's fisheries require immediate steps to freeze or reduce fishing to ensure a future supply of fish.
- Almost a quarter of the world's coral reefs have been completely destroyed, and another 20 to 30 per cent are threatened with destruction within the next 10 years. Coral reefs are a crucial element in the food chain of the oceans.
- The atmospheric concentration of carbon dioxide, the major greenhouse gas, has risen to over 360 parts per million from a pre-industrial level of about 270 parts per million. One third of the carbon dioxide generated by human activities in recent years will still be in the atmosphere 100 years from now.
- Sea level has risen 10–20 cm since 1900, most non-polar glaciers are retreating, and the extent and thickness of Arctic sea ice is decreasing in summer, according to the Intergovernmental Panel on Climate Change (IPCC). It found that about 46 million people per year experience flooding due to storm surges. A 50 cm sea-level rise would increase this number to about 92 million; a one-meter sea-level rise would increase this number to 118 million.
- The latest IPCC assessment, in 2001, said studies showed that small islands and delta areas are particularly vulnerable to a one-meter sea-level rise. In the absence of mitigation actions, such as building sea walls, land losses are projected to range from 1.0 per cent for Egypt, 6 per cent for the Netherlands,



and 17.5 per cent for Bangladesh, to about 80 per cent of the Marshall Islands, displacing tens of millions of people, and in the case of low-lying small island States, eliminating whole nations.

- More than 11,000 species are listed as threatened with extinction and more than 800 species have already become extinct, mostly due to the loss or degradation of their habitats. Another 5,000 species are potentially threatened unless major efforts are taken to protect them.

### **What Needs to Be Done**

On one level, environmental degradation may be caused by poverty, as poor people and nations are forced to put short-term survival needs ahead of long-term resource preservation. At the other end of the spectrum, in wealthy countries, the degradation of ecosystems is often the result of unsustainable consumption patterns that consume excessive amounts of natural resources and generate large quantities of waste.

Fighting poverty and protecting the environment go hand in hand, particularly in rural areas of developing countries. Better land management produces a stable supply of food. Since over half the wood collected in Africa goes for firewood, developing better energy sources would help preserve forests. Especially in poor

countries, ways must be sought so that people find value in protecting natural resources. They must be able to benefit from protecting endangered species — such as through tourism — instead of hunting them.

Many multilateral agreements have been negotiated to protect ecosystems, but implementation and enforcement have been limited. One of the most successful environmental agreements—the Montreal Protocol on ozone depletion—contains the threat of trade sanctions for non-compliance and also set up a fund to help developing countries stop using chlorofluorocarbons (CFCs), the prime ozone-depleting substance. Total consumption of CFCs has decreased from 1.1 million tons in 1986 to 156,000 tons in 1998, largely as a result of the implementation of the Montreal Protocol.

In contrast, most environmental agreements or conventions lack enforcement mechanisms or are severely under-funded. Effective regulation and enforcement is needed to prevent over-fishing and deforestation and international cooperation is required to limit the effects of climate change. Protecting natural ecosystems is a crucial area of sustainable development where action — rather than just more agreements — is needed, if we are to reverse the degradation of natural ecosystems on which the human species ultimately depends.