

At the same time world scientists predict that there will be less rainfall in some of the world's great breadbaskets, including the centre of North America and parts of China and the Soviet Union.

Finally, acidic air pollution has become a serious problem in Canada and parts of the United States, Europe and Asia over the past two decades. Around the world 200 to 250 million t a year of sulphur and nitrogen gases are released into the atmosphere to form sulphuric and nitric acids.

A growing number of scientists and political leaders say that the world has to reduce its air pollution dramatically in order to save the atmosphere and the life which depends on it. But this will be a difficult challenge. About 90 per cent of global energy comes from carbon-based fuels: oil, coal, gas and wood. The burning of these fuels and smelting of millions of tonnes of metal ores supports industrial societies.

### State of the Water

When one looks at maps of the world it is hard to believe that there could ever be water problems. After all 70 per cent of the planet is bathed in blue.

But 97 per cent of that water is salt seas and cannot be used for drinking or growing crops. Most of the world's fresh water is locked up in polar icecaps or lies deep underground. Only one-hundredth of one per cent of the water on earth is both fresh and flowing on the surface, where it can be easily reached. For millions of years that was enough, but as population and industries have been growing, the amount of water available per person has been steadily shrinking.



Regis Bossu — Sigma

Water is also the universal solvent and thus the ultimate sink for most of the toxic chemicals that are released. In one part of the world after another, water is polluted with toxic chemicals, making it unfit for use. In other cases, people are pumping out shallow underground water supplies far faster than nature can replenish them.

Denuding the land of vegetation in many regions, such as sub-Saharan Africa, has altered the local water cycle, leading to a combination of flash floods, during the rainy seasons, followed by droughts.

Even the huge oceans are under siege as one oil spill after another fouls the productive near-shore regions inhabited by most of the world's marine life. At the same time, nations are over-fishing and over-hunting many fish and marine animal species as they seek more sources of food.

### State of the Land

On land the green mantle of vegetation is pushed back farther each year to make room for farms, grazing lands, cities and roads.

The ravages of acid rain are demonstrated in three photos taken in 1970, 1980 and today. What was once a green oasis now is a stark moonscape.

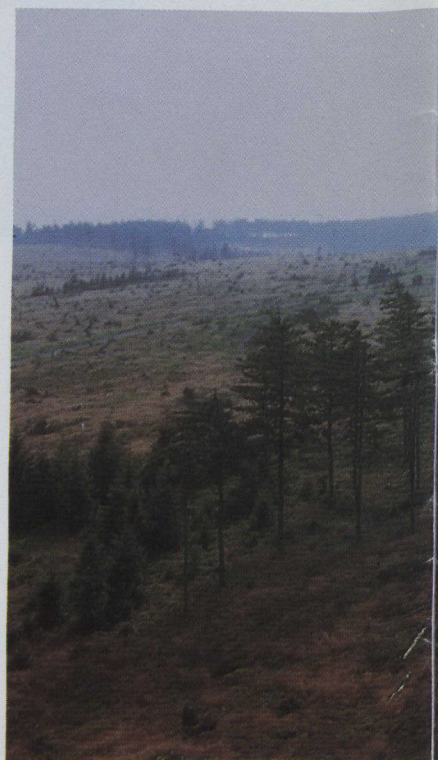
In the last few centuries, people have cut and burned one-third of the world's original forests, and the rate of loss has been accelerating rapidly in the past couple of decades. A century ago there were about 15 million km<sup>2</sup> of tropical forests, but now there are only 9 million. A common estimate is that every year the world loses as much as 150 000 to 200 000 km<sup>2</sup> of temperate and tropical forests. The Brundtland Commission has stated that if current trends continue, only the rain forests in parts of central Africa, South America and New Guinea will remain uncut by early in the next century.

In addition, acid rain and related air pollutants are attacking large forest areas. Large-scale damage first became apparent in West Germany in the early 1980s, and now half that country's forests are in decline. This decade has seen huge areas

of other forests in central Europe starting to decay, and similar damage is found in parts of eastern Canada and the northeastern United States.

Worldwide, 10 trees are being cut for every 1 planted; in Africa the ratio is 29 to 1. Environment experts suggest planting trees on an area the size of France every year in order to repair some of the damage to the biosphere and to cope with the needs of a growing world population.

As the forests are cut back and grasslands over-grazed or farmed too intensively, the deserts expand. One-third of the planet is already desert,



and these regions are growing at a rate of 60 000 km<sup>2</sup> a year, an area about the size of Sri Lanka. At the current rate, another 38 million km<sup>2</sup> of land in 63 countries, one-quarter of the land mass of the world, is in danger of becoming desert.

When the vegetation is removed, fertile soil built over millenia is blown or washed into rivers, lakes and seas. Around the world an estimated 24 billion t of soil are