

Chapter4

Water is the only substance that occurs at ordinary temperatures as a solid, a liquid, and a gas. As a solid, it occurs as ice and it is usually found in glaciers and ice caps. As a liquid, water makes up three-quarters of the surface of the earth in the form of oceans, rivers, and lakes. As a gas, water vapor occurs as fog, steam, and clouds.

Water is very important to life. From 50 to 90 percent of the weight of living creatures is water. Water is an important part of all living cells. For example, the blood of animals consists mostly of water. Water is also important in breaking down foods for the body to use.

With so much water on the earth, how could there possibly be a water problem? The answer is simple. Of all the world's water, only 2.5 percent is not salty and can be used by human beings. Of that tiny percentage, two-thirds is frozen in ice caps and glaciers and so cannot be easily used. The rest, 90 percent is located in remote places. The rest of the unsalted water is used for agriculture, industry, and domestic use. A great deal of water is wasted. The problem, then, is that humans can use less than 1 percent of the water on earth.

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At the same time, people today are using more and more water. By the year 2020, water use will increase by 40 percent over the next twenty years. By then, 3 billion people will face a shortage of water. The shortage will have several causes. First, the human population is growing rapidly, so there will be more people who need water. But more important is the fact that people are becoming richer. As people get more money their lifestyles change, and they use more and more natural resources, including water. For example, the world population increased 300 percent in the last century, but water use increased 600 percent.

People use most water for agriculture. 70 percent of the water used today is for growing crops. However, up to 50 percent of that water is actually wasted. Moreover, modern ways of farming use more water. Another problem is pollution. Development not only increases the demand for water but also makes some water supplies unusable. Water from modern industries is often polluted. This means it cannot be reused, thus reducing the amount available for people.

Water shortages will likely be a disaster in the future, but they are already a major problem. 20 percent of the world's population does not have safe drinking water, and 50 percent has poor sanitation. As a result nearly 500,000 young children die every year. This could get much worse in the future. Because of serious water shortages, large numbers of people will have to leave arid areas and move to wetter regions. Another possibility is that there may be wars as governments try to control water resources.

One possible solution to the water shortage problem is technology. For example, salt could be removed from seawater in desalination plants. However, desalination is expensive, and it is poor people who need water most. A better solution is learning how to use water more efficiently and effectively. Better water use will also require international cooperation. This means developed nations will have to learn to use less water.