20.5 The Oasis Environment

What are the physical characteristics of oases?

How do you think people have adapted to living in oases?

20.6 Adaptations to Life in the Oases

How have people adapted to living in oases?

20.7 The Sahel Environment

What are the physical characteristics of the Sahel?

How do you think people have adapted to living in the Sahel?

20.8 Adaptations to Life in the Sahel

How have people adapted to living in the Sahel?

Cattle in the Sahel
Overgrazing by cattle is a major cause of desertification in the Sahel. When too many cattle graze in an area, they destroy its cover of plants. Without this protective cover, the soil is eroded by wind or water.

20.7 The Sahel Environment

A television ad in southern Niger begins by panning across a desert landscape. The next scene follows camels, donkeys, and trucks carrying firewood into towns. A quick cut shows a coal-mining operation. The ad ends by showing a woman cooking with coal in her smoke-free kitchen. The ad is intended to persuade people in Niger to switch from wood to coal for cooking. Such a switch could help to preserve Niger's trees. It might also prevent desertification.

The southern area of Niger is part of the Sahel. Other areas include Gambia and parts of Senegal, Mauritania, Mali, Burkina Faso, Nigeria, Chad, and Sudan. In good years, just enough rain falls in the Sahel to grow crops. During years of drought, life in the region becomes very difficult.

A Landscape Threatened by Drought and Desertification

The Sahel begins at the Sahara's edge. The land here is marginal for farming. The soil is not fertile, and water is scarce most of the year. The natural **vegetation** is a mix of grasslands, acacia trees, baobab trees, and small bushes. Farther south, where rain is more plentiful, vegetation is more varied.

Drought is a fact of life in the Sahel. One severe drought began in 1968. Little rain fell for the next six years. Since then, there has been some rain, but not enough for the land to recover fully.

As the drought continued, desertification began. In areas with little rain, few plants grew. Without plants to hold the dry soil in place, desert winds picked it up and carried it away. When this happened, marginal lands turned into desert. Experts aren't sure whether this desertification is a short-term problem or whether these marginal lands are lost forever to an expanding Sahara.

20.8 Adaptations to Life in the Sahel

Most people in the Sahel are farmers or herders. In the past, they adapted to the challenge of farming and herding on marginal land in many ways.

One **adaptation** was to plant crops like millet and sorghum. These are grains that will grow in dry places. Another was to use a farming system known as **shifting agriculture**. A farmer cleared a field and planted it with crops for a year or two. Then the farmer moved on to a new field. Herders used a similar system to feed their animals. They moved their herds from one grazing area to another throughout the year. Both systems gave worn-out fields a chance to rest.

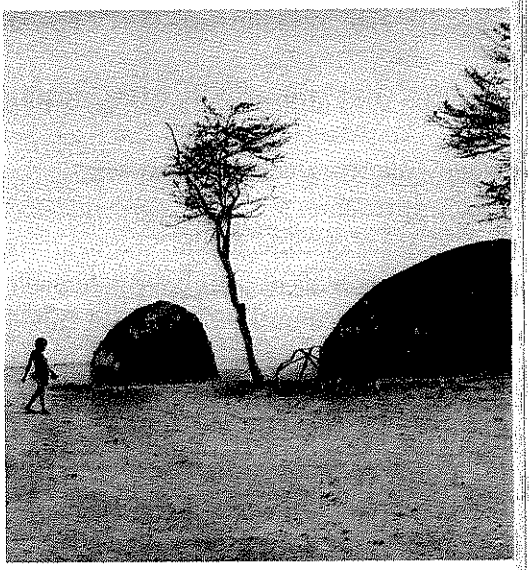
Human Causes of Desertification Changing ways of life in the Sahel may be contributing to desertification. Some farmers, for example, have begun to raise cash crops, like peanuts. These cash crops often wear out the soil faster than traditional crops. Once the soil is worn out, it may blow away before it can recover its fertility.

Similarly, some nomads have increased the size of their herds so that they have animals to sell for cash. The result is too many animals on limited grazing land. Loss of vegetation from overgrazing may also contribute to desertification.

Yet another problem is **deforestation**. Most people in the Sahel use wood as their fuel for cooking. In their search for firewood, they cut down trees. With the trees gone, soil **erosion** increases. That is why the government of Niger is promoting coal as a cooking fuel. "I think that with coal, our sparse forests could be saved," says a forestry expert in Niger.

Cooking with coal is only one change people are making to fight desertification. Farmers are testing new farming methods that save water and slow soil erosion. Many are working to keep desert sand from burying their fields by building windbreaks of trees and brush.

No one can say how successful this war against the desert will be. But for the people of the Sahel, it is a fight they cannot afford to lose.



Sahel Sandstorm
Sandstorms like this one in Mali are made worse by desertification. Winds pick up loose soil from worn-out land and blow it away. Dust from the Sahel is sometimes carried across the Atlantic Ocean. When this dust reaches Florida, it creates reddish sunsets.

20.9 Beginning to Think Globally

In this chapter, you learned how people have adapted to living in the Sahara and the Sahel. Pastoral nomads survive by staying on the move. Farmers adapt by settling around oases that serve as farming and trading centers in this arid land. You found out how people have learned to raise crops and animals on the marginal lands of the Sahel. And you have seen how drought and desertification have affected this region.

The Sahel is not the only area in the world threatened by desertification. About a third of Earth's land is arid or semiarid. And some of these desert regions are expanding. In China, the capital city of Beijing is sometimes blasted by sandstorms. The blowing sand comes from parts of China that are undergoing desertification. Think about this as you look at the world map of arid regions in the next section.