

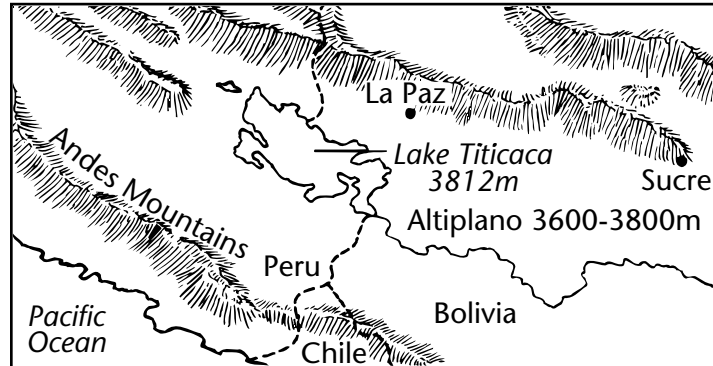
## Chapter 13

Use with Section 2

## ENRICHMENT

## ● Using Land

## A return to the old days?



Some farmers near Lake Titicaca in Bolivia are trying to feed their own people by using a very old technology that had been forgotten for centuries. About 500 A.D., the Tiahuanaco civilization dominated the highland plateau of Bolivia (called the Altiplano). The civilization disappeared about 1200 A.D. for unknown reasons. Its successful system of farming was never used again. About 750 years later, archaeologists uncovered the remains of the system and determined how it worked. In the middle 1980s, a group of scientists from Bolivia and the United States began to work with Aymara farmers to rebuild part of the system.

The system is called raised-bed agriculture. Growing platforms 1.5 meters deep and about 15 by 180 meters in width and length are constructed with thick rock bases. The rock is covered with a layer of clay and a layer of fine

gravel or sand to provide drainage. Fertile topsoil is added. A carefully planned system of canals carries water to the crops. In times of heavy rain, the canals divert the rain from the beds. The canal water is heated by the sun during the day and radiates enough warmth at night to protect the crops from frost. Decaying plants are scooped out of the canals and used for fertilizer. Topsoil for the raised beds is dug from the canals. No chemicals are used.

Using only seeds and basic farming equipment, today's Aymaras have increased their potato crop yield seven times more than usual. By developing the system more widely, these farmers may be able to solve Bolivia's food shortage, which is a chief cause of poverty in the nation. Other farmers are eager to be part of the program. They are pleased to be using ideas developed by their ancient ancestors.

1. Why do you think the farmers needed to protect their crops against frost at night? (Look at the map for a clue.) \_\_\_\_\_  
\_\_\_\_\_
2. Review the main topics in the lesson on land usage in your text. Write a one- or two-paragraph paper telling how an experiment like the one in Bolivia can help the world.