PERU’S WATER RUNNING OUT

In early December 2009, representatives from 192 countries convened in Copenhagen, Denmark, for negotiations on climate change. Those talks may affect many of the world’s poorest countries. One of those is Peru, whose water sources are rapidly disappearing.

Approximately 80 percent of the water available to Peru’s populated Pacific coast originates in the Andes Mountains. The Andes have the highest number of tropical glaciers in the world. Alarminglly, warmer temperatures are causing those glaciers to melt at an accelerated rate, causing major concern throughout Peru.

Peru is located in western South America. It borders Ecuador and Colombia to the north, Brazil on the east, Bolivia on the southeast, and the Pacific Ocean to the west. With an area of 496,224 square miles (1.3 million sq. km), Peru is slightly smaller than Alaska.

Peru has three distinctive geographic regions created by and including the Andes Mountains, which run parallel to the Pacific Ocean. The Andes, also called the sierra (highlands), run north and south in the center of the country. In Peru, the Andes are at their widest and create a high plateau called the Altiplano. Peru’s highest peak, Huascaran, at 22,205 feet (6,768 m) is located in this region.

The costa (coast) is a narrow coastal plain, situated on the Andes’ western side bordering the Pacific. The costa is mostly arid except where seasonal streams descend from the western front of the Andes.

Peru’s eastern side is called the selva (tropical rainforest). This region is a wide expanse of lowlands covered by Amazon rainforest that is lightly populated. Approximately 60 percent of Peru’s total area is located within this region. Therefore, Peru has the fourth largest area of tropical forest in the world after Brazil, the Democratic Republic of Congo and Indonesia.

Approximately 70 percent of Peru’s 29.5 million people live in the costa region with over 8 million of those in Lima, the country’s capital. Unfortunately, only about 2 percent of Peru’s water resources are found in that region. In contrast, the selva (eastern side) of the Andes has 98 percent of the water but only one fourth of the population.

The tropical glaciers high in the Cordillera Blanca of the Andes slowly release approximately 80 percent of Peru’s water, which is in particular demand during the dry season between June and October. Besides providing water for drinking, irrigation and industry, the streams generate hydroelectricity. Traditionally about 80 percent of the country runs on hydroelectricity. Two of the fastest growing sectors of the economy, agro-exports and mining, use huge amounts of water.

Peru and Bolivia together contain more than 90 percent of the world’s tropical glaciers. A team of Peruvian and international scientists say that between the 1970s and 2006, the two countries lost about a third of the surface area of their glaciers. In the Cordillera Blanca, the glaciers are 27 percent smaller than they were only 33 years ago. This is an astounding figure, portending a serious water crisis in the very near future.

Scientists are busy modeling future water availability in Peru. Based on moderate rises in temperature, the models predict annual water availability actually will increase slightly as more glaciers melt, but that will be only a temporary condition. A dramatic decline then will occur after 2050 and as early as 2030, as the glacier masses dwindle.

In Lima, the demand for water is already greater than the supply. With Lima’s steady annual population growth of 2.7 percent, one of the highest in Latin America, the demand for water will only increase in the coming years. Lima is perhaps the only city in the world with so little water in reserve. The city relies on a single 37-mile (60 km) tunnel that brings water from the eastern side of the Andes. Approximately two million people in Lima presently have no access to running water.

Conservation and perhaps a second tunnel to carry water to the costa region may be short-term solutions to Peru’s water problems. While the delegates at Copenhagen pledged to limit greenhouse gas emissions, however, Peruvian officials are wondering if it is too little too late.

And that is Geography in the News™, January 29, 2010. #1026.

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