



## Interview with Local Expert in the Andes

The following is the transcript of an interview with an expert in agriculture and agricultural terraces in the Sacred Valley of the Cusco Region, Peru.

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**Interviewed by staff of the Smithsonian Institution**  
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Ollantaytambo in the Sacred Valley is considered a major center of agricultural production. Ollantaytambo and the Sacred Valley were taken over by the Tawantinsuyu for four main reasons: the amount of water we have here, which has contributed to agriculture; the fertile land we have in the valley; the pleasant climate that contributed to the domestication of food; and the presence of the Urubamba-Vilcanota mountain range that, for the Inka, was part of their Andean worldview. The *Apus*—the mountains—are deities, and this mountain range was one of the most revered in Cusco. It's also important to mention that the Sacred Valley has been and remains the center of the most important corn production we have in Peru and the Andes.

Ollantaytambo is now extremely important for the presence of agricultural terraces. The Inka were not satisfied with just cultivating the fertile lands of the valley but also terraced the mountains to turn the rocky, steep terrain into highly productive agricultural areas. And throughout the Sacred Valley today, wherever you go, you'll find lots of crops and see endless terraces created for agricultural purposes.

To become a production center, Ollantaytambo had to have a hydraulic system—an irrigation system with aqueducts, canals, and drainage mechanisms. It serves as a great example of Inka hydraulic engineering. Here at the top of Ollantaytambo, we have lakes, glaciers, and springs, and all the water that is delivered to the people travels through this gorge. During Inka times, rivers and streams were used to irrigate the crops in the agricultural terraces and this is still the case today. Each agricultural terrace has its waterway, and the spring water collected goes through pipes into reservoirs to use as drinking water.

For ancient cultures, the only way to survive in the Andes was by building agricultural terraces. As Andean communities encountered the rugged, difficult mountains, they were obliged to adapt to the geography. By and large, they adapted by creating productive areas through the use of agricultural terraces. There are more than one million agricultural terraces in Peru today, some dating back 5,000 years. Many Inka ancestor cultures built agricultural terraces, and the Inka then made innovations to these terraces. Highly specialized construction techniques prevent the terraces from crumbling. They have very large stones at the base; then regular stones as the next layer; then gravel, sand, clay, and fertile soil mixed with animal excrement. This is how the agricultural terraces are built.

The agricultural terraces also function as retaining walls and are part of the larger drainage system. The terraces have been fundamental to the domestication of plants. A terrace at the bottom of a mountain doesn't have the same climate or temperature as the terrace at the top. In this way, the terraces are prototypes of greenhouses. Also, it has been found that these terraces are much more productive than normal land, and production time is much faster. Agricultural terraces face the east, where the sun rises, to absorb the morning sunlight, creating a pleasant microclimate for growth and production.