

THE MOUNTAIN INSTITUTE OF PERU RESTORES ANCESTRAL TECHNOLOGIES OF WATER IN THE PERUVIAN ANDES

In May 2018, the project *Restoring Ancestral Technologies of Water in the Peruvian Andes* of the Mountain Institute of Peru won the [St Andrews Award for the Environment](#).

This experience, which integrates indigenous knowledge for water management, also gained the recognition of the [Farming for Biodiversity Prize](#) and its methodologies and results are presented on its website solutionsearch.org.



[The Mountain Institute presents in its website the project](#) which is based on the success of the [Ancestral Technologies and Climate Change](#) initiative that helped to restore wetlands and pastures in the ecosystems of the central Andes.

The project is working since 2013 with the mountain communities of Canchayllo (230 families) and Miraflores (80 families) located in the [Nor Yauyos Cochabamba Landscape Reserve](#) affected by increasing water scarcity and whose food security depend on the *Puna* (alpine high-plateau), revitalizing their ancestral management systems of the water. These communities raise sheep, cattle and alpaca, produce several species of crops and handle the wild vicuña for their renowned wool.

In this Landscape Reserve that includes the provinces of Yauyos, Jauja and Yauli, the project focused on the repair and restoration of reservoirs, irrigation canals and other systems that were originally built by the ancestors of local communities.

[Around 1,000 BC, pre-Incan civilizations began engineering Puna ecosystems](#) using water technologies designed to slow the movement of water through grasses and soils. When these technologies were fully employed, the *Puna* retained more water locally, allowed biodiversity to flourish, buffered against flooding and drought, and provided fodder for sustainable sources of meat, cheese, and manure used to cultivate thousands of native potato, corn, tuber, and hard grain varieties. Glacier retreat, changes in precipitation, and shifts away from traditional practices and technologies have contributed to the degradation of *Puna* habitat.

The Project has worked actively involving local communities through community assemblies, training local researchers so that they could share the technical work with external specialists through diagnostic field trips and brainstorming sessions for solutions. Hybrid green-grey infrastructure solutions adapted from ancient technologies were co-designed by these participatory working groups and were presented to the community for discussion, with a special effort to involve the young people of the place. The hydraulic infrastructure was installed simultaneously with capacity building for sustainable management of the restored *Puna* and the drafting of community management plans.



Restoring ancient technology and implementing pasture management plans resulted in immediate improvements in local ecosystem. In the short term, the Project ensured the recovery of small wetlands and ponds; fewer grassland fires; increased abundance of waterfowl; improved seed production in livestock-free zones; improved dry-season water availability; and reversal of soil carbon loss and reestablishment of peatlands as carbon sinks. A geohydrology study (Hidroandes 2015) showed benefits to *Puna* water storage and structural links to springs downstream. Livestock rotation and livestock-free zones were made possible as more water became available. Grassland recovery is a long process and to measure the long-term impacts of the solution, the Project established baselines for species abundance and diversity, percent soil cover, and soil water retention.

Receiving the St Andrews Award, the Mountain Institute assured that it will continue working to co-design with the mountain communities of the Landscape Reserve, innovative solutions based on nature and local traditions. The Institute will also advance in the restoration of ancestral water technologies in mountain areas throughout the country, with the support of the National Service of Protected Areas by the State SERNANP and other national and international organizations

The work of the Mountain Institute is part of an important ongoing innovation trend in Peru involving a wide range of actors to valorize and rescue the immense heritage of knowledge of the Inca culture for water management and more generally for the environment with a vision of sustainability.

To know more

[Mountain Institute web site](#)

[Mountain Institute in Facebook](#)

[Escalando la Adaptación Basada en Ecosistemas de Montaña](#)

[Thestandrewsprize.com](#)

[Solutionsearch.org Contest farming-biodiversity](#)

[Solutionsearch.org Project form](#)

[Reserva Paisajistica in slideshare.net](#)

[News in FAO web site](#)

[Article in farmingforbiodiversity.ifoam.bio](#)

[Video in Youtube.com](#)

[Hidraulicainca.com](#)

[Hidraulica Inca web site - Uso ancestral del agua en Peru](#)

[International Union for Conservation of Nature IUCN](#)

