

RECOVERING THE ANCESTRAL INFRASTRUCTURE AND TECHNIQUE OF THE AMUNAS FOR WATER MANAGEMENT IN PERU

Since 2015, [the Aquafondo organization has carried out a pioneering project in Peru](#)

supporting the Communities of San Pedro de Casta (Province of Huarochiri) in strengthening the ancestral practice of the Amunas for water management, that benefits the communities and promotes the economy of their farmers and ranchers. The recharge of the aquifers in the upper basin of the Rímac River also allows for the improvement of the water supply for the city of Lima.



The project for the recovery of the Amunas of Peru is carried out by Aquafondo with the support of The Nature Conservancy organization, the German Cooperation GIZ, BACKUS, Nestlé, and CBC.

In 2021, the Aquafondo project presented the relevant results achieved, with 22.06 kilometers of Amunas recovered, damming a volume of 130,700 m³ of water in an area of 1,591.47 hectares. Aquafondo estimated an infiltration potential of more than 4 million m³, that would supply more than 100 thousand people for a year and plans to recover 67 kilometers of this water harvesting system by 2025.



The Amunas are an ancient system of water resource supply and artificial recharge of the aquifer. They are built with impermeable stone and permeable infiltration channels that allow the water to seep into the subsoil during the rainy season, so that the communities, through springs in the lower basin, can harvest it in dry season, when there is no rain.



Many Amunas disappeared over the years, others have degraded due to lack of maintenance. However, due to the current climate crisis, which causes extreme droughts or intense rains, these structures have regained importance thanks to their strategic location and low cost of recovery. Both aspects make Amunas an efficient measure for the recharge of aquifers that also allows for the regulation of water in the basin.



The Project of Aquafondo consists of the recovery of the abandoned or destroyed Amunas and the installation of complementary structures, such as measurement and control instruments for hydrological monitoring. For the work in the canals, which take advantage of a natural infrastructure, using local earth, sand and stone, Aquafondo directly hires the labor forces of the community, providing technical supervision with engineers and engineering assistants.



The project has trained 1,562 people from the communities, hired for this specific purpose. The recovery of a linear meter of these channels requires an investment of between 100 and 150 dollars.

Despite the low cost of works, the recovery of the Amunas generates important economic income for the inhabitants of the surrounding communities, since 70% of the costs of the construction corresponds to the payment of local labor. In contrast to the gray infrastructure where the payment of labor does not exceed 25% of the budget.



The recovery of the ancestral practice of the Amunas, in addition to providing benefits to local communities, contributes to solving the important problems of water supply for the city of Lima. The Amunas capture and regulate the volume of water in the upper parts of the basins during the rainy season, directing it to the infiltration zone for storage in the subsoil, generating more water for the downstream areas

Based on World Bank studies on Water Security with nature-based solutions, Aquafondo points out that 80% of the water that seeps into the Amunas of San Pedro de Casta directly benefits the communities in the area, while 20% arrives in the city of Lima.

In order to recognize the service provided by the Amunas of San Pedro de Casta to the urban areas of Lima, Aquafondo also supports the communities by installing bio-gardens for the harvest of vegetables, a composting center through the processing of worms and a breeding farm of guinea pigs, powered with solar energy, with the aim of selling these products with a local brand in the future.

The Aquafondo project arose from the collaboration established in 2015 with the organization *The Nature Conservancy* (TNC) to carry out climate change adaptation initiatives in the upper basin of the Rímac River, the main water tributary for the city of Lima. The book [Impacto de las Amunas en la Seguridad Hídrica](#) published in 2020 by the [Latin American Alliance of Water Funds](#) with the support of its partners including TNC and Aquafondo, emphasizes the importance of recovering the ancestral practices of Amunas for water infiltration. The book is based on two studies carried out in 2019, and documents how the Santa Eulalia sub-basin is the most important source of water for Lima, since it contributes 53% of the available annual volume of the Rímac River. The study identified 69.5 km of canals in 25 Amunas in different states of conservation and distributed in the upper part of the Santa Eulalia sub-basin. A storage volume capacity in the aquifer of 3 million cubic meters was estimated. The Amunas of San Pedro de Casta turned out to be of vital importance, being one of the main contributors to the Santa Eulalia river basin.

The water regulation service provided by the local ecosystem of Amunas has been recognized by the [Ministry of Agriculture and Irrigation \(Minagri\)](#) and the [Lima water company SEDAPAL](#), which signed an inter-institutional cooperation agreement to develop projects for natural infrastructure services. The Ministry of Environment and the Superintendence of Water and Sanitation SUNASS are also investing on the protection of high Andean ecosystems that revalue ancestral knowledge to comply with the SDGs of the 2030 Agenda.

SEDAPAL's *Sembramos Agua* program incorporates a fund generated by a percentage of the Lima water tariff to finance retribution projects for water ecosystem services. Aquafondo has submitted a proposal to SEDAPAL to contract the communities for the recovery and maintenance of the Amunas, a job that must be carried out throughout the year and paid.

To achieve its objective of rehabilitating 67 km of Amunas by 2025, Aquafondo carries out an extensive information campaign on the services assured by the Amunas, the rescue of ancestral knowledge, the fundamental contribution of local communities and the importance of taking advantage of nature-based solutions. It also works by involving companies and organizations in the private sector to raise the necessary funds.

In 2022 Aquafondo has been recognized as one of the winners in the water category of the [Premios Latinoamerica Verde](#). In 2021 the Project won the national [Energy Globe Award](#), being recognized as an innovative environmental solution.



To know more

[AquaFondo - Amunas](#)

[AquaFondo – Invertir ahora](#)

[AquaFondo – Resultados 2017](#)

[Amunas - www.gob.pe](http://www.gob.pe)

[AquaFondo – Premio Latinoamerica Verde 2022](#)

[AquaFondo - energyglobe.info](http://energyglobe.info)

[Estudio - Impacto de las Amunas en la Seguridad Hídrica](#)

[Una solución ancestral in fondosdeagua.org](http://fondosdeagua.org)

[Fondos de Agua de América Latina website](#)

[Impacto de las Amunas en la seguridad hídrica de Lima in gwp.org](#)

[The Nature Conservancy in Peru](#)

[Amunas en Biodiversidad en América Latina - biodiversidadla.org](http://biodiversidadla.org)

[Amunas - SWI swissinfo.ch](http://swissinfo.ch)

[Amunas - usaid.gov](http://usaid.gov)

[Sistema hidráulico Amunas | Hidráulica Inca \(hidraulicainca.com\)](http://hidraulicainca.com)

[Amunas-gsaac.pdf in wordpress.com](#)

