

Almanac of the Future

A STORY OF SUCCESS

Motivational Experience No. 43



**SOWING WATER AND
RECIPROCITY IN THE
TERRITORY**

“The potato is sad” - this phrase we heard frequently on our tour in the rural area of Chinchero, near Cusco, Peru. Water stress leaves no choice; rural communities, because of the need to adapt water management to the climate crisis, started to plant water: But in order for this resilience not to be directly consumed by an excessive use of water resources by urban centers, it is necessary to understand the necessary reciprocity in the territory.



LESS RAIN AND SOMETIMES NOT EVEN THIS

In the Peruvian Andes towards the south of the hemisphere, it has never rained too much. In the area of Chinchero, near Cusco, there was just over 800 millimeters of rainfall annually, evenly distributed between the months of September through March. In recent years, rainfall has decreased by 15% and there are more torrential rains, making it difficult for water to infiltrate the soil and thus recharge the aquifers. Until the end of November of this year (2022) there has been no rain at all. Many fields are newly marked, since planting in normal years begins with the rains, but as long as it does not rain there is no sense in planting.

"We are sad because the potato is sad," are the words of Jenny Paucar, along with Segundino Huamán and brothers Cosme and Jesús Quispe. We are visiting them in their plots in the farming community of Pongobamba, on the banks of the Piuray lagoon.

"There is still some water from the springs above, but the irrigation committee has had to reduce the watering shifts and the plants, especially the potatoes, are on the point of withering. In a year with normal rainfall we harvest up to 500 kilos of potato per plot, but this year it will be less than 100 kilos," Segundino said; the silence of his companions affirms this. The planted crops are at risk of being lost and there is no planting due to lack of rain.

In years with normal rainfall, more or less until 2012, there were stable harvests. Now, the situation in Pongobamba and in the Chinchero district is the same as in most of the southern Andean region of Peru and in the Andes of Bolivia. Shortages and even loss of crops, in addition to the current drama of not being able to plant due to lack of rain, all this will result in an emergency and even famine. Due to the drought, fires have increased, destroying the already scarce vegetation cover, which further reduces the low rain retention capacity of the soil; it all seems like a vicious circle.



ADAPTATION AND RECIPROCITY

The Centro Bartolomé de las Casas, also known as CBC, based in Cusco, has been working for more than 10 years on the issue of water, particularly water management. Juan Víctor Béjar, a CBC collaborator, explains the situation: "We have a very serious problem in terms of the constant increase in water consumption in the

city of Cusco; an average of 100 liters per day is consumed by an urban inhabitant and in the case of tourists this figure rises to triple. There is a problem of water justice here, since at the rural level, from where the city is supplied with water, the lack of water threatens the very existence of the people". The CBC is supported in its work by several donors, including Comundo, Bread for the World and The Nature Conservancy.



Cusco, after the pandemic begins to normalize, amounting to more than 2 million visitors per year, a consequence of which will be an even greater increase in water consumption in Cusco. Amilcar Escalante lives on the banks of the Piuray lagoon and is one of the most active members of the Piuray micro-watershed management committee. Amilcar explains: "The company Seda Cusco, which supplies water to Cusco, takes three hundred liters of water per second from the

lagoon; before they had permits for 120 liters; but as the increase in water consumption in the city is constant, they take more and more water. In years with drought like now, the level of the lagoon is dropping. There is a need for more awareness of water consumption in Cusco". In fact, so far there is no monitoring of the level of the lagoon and there is no regulation to help prevent the constant overexploitation. At the same time, in addition to the increasing urbanization of Chinchero,

the new airport for Cusco is under construction on the district's land, which will increase the demand for water even more.

FIRST STEPS IN RECIPROCITY

Faced with the problem of lack of water and low awareness of water consumption in the city, the district municipality of Chinchero together with the committee of the Piuray Cco-rimarca micro-watershed, the Bartolomé de Las Casas Center and the water service provider for the city of Cusco - Seda Cusco, has introduced a compensation mechanism for ecosystem services, which today is a mechanism of retribution for ecosystem services according to law 30215. This is a modification to the price paid by urban consumers on their bills for each cubic meter of water consumed. The financial resources collected from the water fee go to a trust fund to compensate for the extraction of water as an ecosystem service. Currently,



the water company Seda Cusco, a public-private company, administers this compensation fund with the obligation to invest the resources in the water extraction zones, e.g., in reforestation initiatives. In view of this situation, Amilcar Escalante has a very clear opinion: *"The management committee representing the 16 rural communities of the Piuray micro-watershed has to take a more active role in the restoration of the micro-watershed, doing much more in terms of reforestation, nurseries and infiltration trenches. We have to get out of our comfort zone and become more aware of this important task"*.

At the beginning, the water fee emerged as an idea, after visiting a pilot experience of compensation for ecosystem services for quality and quantity of water in the San Martin region. A commitment was made by Seda Cusco officials and the mayor of the municipality of Chinchero for compensation or payment for ecosystem services, guaranteeing the supply of water to the city of Cusco.

The need to rethink this approach is gradually being felt: instead of compensation and payment for ecosystem services, there is a growing conviction to move away from the logic of a financial transaction (I give you and you give me) to achieve greater reciprocity at the territorial level, where the urban population, including the tourism sector, would practice more rational water consumption and where the public sector and local governments would provide sustained support for actions to sow water, aiming at the restoration of aquifers and the ecosystem as a whole.

This water sowing involves a variety of measures: atajados or qochas (natural depressions in the ground that allow temporary or permanent retention of rainwater and/or runoff water) to collect and store surface water for infiltration into the aquifer, terraces and infiltration trenches, pasture cover such as ichu to retain rainwater, reforestation and native tree nurseries such as q'euña or tallanca.

HARVESTING WATER

The Huquipucjo monitoring station in the Pucamarca sector has been located for the past two years in the bed of a stream that had no water flow during the dry season. Due to the various planting and water harvesting actions of the peasant communities with the support of both the CBC and the Piuray Ccorimarca micro-basin management committee, there is once again water flowing from the creek. After eight months of drought there is still a flow of 0.4 liters per second which means that there is a slight improvement in the recharge of the aquifer in the area. The monitoring station documents these first improvements; Wilber Rodríguez, Juan Victor's teammate, says: *"We are also noticing the sowing of water thanks to the recharge of the aquifer in other parts of the micro-watershed"*. Both the lagoon and the different springs are fed by the water table and the deeper aquifers. The increase in flow, however small, is evidence of

something very promising: if there is an improvement in surface flow, the improvement in aquifer recharge is even greater.

Adaptation of water management to climate change has several aspects: the most rational and effective use and consumption possible, a task

mainly for the urban population; then the restoration of vegetation cover and measures to increase the possibilities for aquifer recharge, since as the volume of rainfall decreases, as well as the frequency of torrential rains, it will be necessary to increase the degree of use of rainfall to retain it in the subsoil.



THE NEED FOR RECIPROCITY

For the peasant communities, the Piuray lagoon represents a being, like a person. In the cosmos vision, Piuray is a woman and daughter of the sun, and together with the Huaypo lagoon they are husband and wife, being him, the larger lagoon representing man, they have a son who is the Coricocha lagoon and Huiracocha is the deity who made the lagoons. For many rural inhabitants, the scarcity of rainfall and the decrease of water levels in the lagoons are signs that the Apus (living or spiritual mountains with divine influence to help and protect the people of the place) and other deities feel annoyed with humans. This is a burden for many inhabitants, similar to the tangible effects of climate change. Amilcar, as well as Jenny, Segundino, Cosme and Jesus indicate that the communities perform all kinds of rites and offerings to the earth to change the mood of the Apus so that there will be rain. At the same time it is remarkable the great interest of the

people to work much more in planting water. But these efforts, besides needing the strong support of local governments and permanent public investments, need a solidary and reciprocal response from the urban population because, without a change of paradigm and behavior in the cities, what has been achieved by planting and harvesting water will be consumed in no time.



MESSAGES TO THE FUTURE

- Instead of ecosystem services and their compensation, terms from the mercantile-capitalist logic, there is a new understanding of ecosystem restoration and respect for regeneration cycles.
- Reciprocity at the territorial level that forces us to think about the common good and not in separate agendas between the countryside and the city.
- Water justice, where the rural population and the urban poor have the same right to water as the wealthy population is not viable without environmental justice.

Almanac of the Future

The text was elaborated, based on conversations in situ by Jorge Krekeler (coordinator of the Almanac of the Future - facilitator of Misereor on behalf of Agiamondo) in November 2022. We would like to thank Amílcar Escalante, Jenny Paucar, Segundino Huamán, Cosme and Jesús Quispe, community members of Pongobamba, Chinchero district, as well as Juan Víctor Bejár and Wilber Rodríguez of the Centro Bartolomé de las Casas - CBC. Thanks to Ramiro Llatas of Comundo for having generated the previous link.

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