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Ancestral irrigation method by kanis in Bolivia

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Irrigation in the Andean region is an ancient practice. For centuries, farmers were able to use the waters of rivers, lakes and springs to complement or supplement the scarce rainfall regime. The inter-Andean valleys of the Department of La Paz are the best areas for the study of traditional irrigation systems.

This work has been carried out in the community of Jatichulaya located in te town of Charazani, 300 km from the city of La Paz, which lies 3250 meters above sea level. The annual rainfall ranges around 450 mm distributed mainly between the months of December to March. Therefore, water is needed to achieve adequate crop yields.

The traditional irrigation system is done by the method of Kanis, consisting of a surface irrigation already developed by traditional Andean cultures of the country, in harmony with the ecological and productive characteristics of the area. Water enters the irrigation plot through a main channel (mama kani) from which the secondary channels (juchuy kanis) are derived. The fundamental characteristic of this irrigation is that these channels are open at the same time the water enters into the plot.

The system works properly, adapting to the topography of the area. The irrigation method practiced in this community does not cause water erosion of soils because water management within the plot is based on the ancient knowledge of farmers following the contour lines. This practice allows good irrigation development and soil protection without causing any problems. However, it was evident a high use of labor in irrigation practice.

Irrigation scheduling is done according to requests made by the irrigators in a given period. Delivering of water to the farmers is made by the so-called Water Agent (Agente de Aguas) or person in charge of the distribution of water. The Water Agent is elected annually and its functions include the maintenance and care of all system waterworks. The period between August and January is the highest water demand and, therefore, the water is distributed by turns among irrigators. Turns usually depend on water availability. Water Agent distributes water equitably without giving preference to anyone.