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Modernization of the Lerma Valley's irrigation perimeter, Salta, ARGENTINA

This paper presents the development of the project called: "Modernization of the Lerma Valley's irrigation perimeter (Argentina)", in the framework of PROSAP, financed by the World Bank and the Inter-American Development Bank.

The Lerma Valley is located 30 km south-west of the city of Salta. It presents coexistence of extensive and intensive crops, production of tobacco, pepper, other vegetables, grains and pasture, with an approximate area of 12,000 hectares and 350 producers.

Built in the 1920s, the current irrigation system consists in a network of open channels (only 20% lined), supplied by an intake on the Toro river. The water use efficiencies are very low, mainly due to losses in the channels and misuse of water on farms.

Flood risks, competition on the underground resource between drinking water supply and irrigation water and strong demand punctual in spring by the high percentage of crops such as tobacco and vegetables are the three main problems in the area.

The project involves the modernization of the irrigation system, the planning of alluvial defenses in the area and the improvement in the management of productive resources through technical assistance to the producers and strengthening of the institutions involved.

For the definition of the strategy of modernization of the irrigation system, three alternatives were analyzed: open channels, low pressure piping and gravity pressurized network. A techno-economic analysis has validated the final option.

The gravity pressurized network will be implemented in stages. The first stage consists of 4 independent networks for irrigating almost 7,200 hectares.

The slope of the area allows the necessary pressure for modern irrigation (3 bars). From the current system of open channels, automatic structures were designed to supply the pressurized networks from reservoirs or chambers.

The project will help to reduce the energy consumption of the area because many wells will be abandoned due to the better use of irrigation water.

In addition, it is planned to install micro turbines at strategic points in the network.

The construction begins on March 2015, for three years.

