

Intervention:	Irrigation Program in Sacaba Valley – upgrading of existing irrigation systems and expansion of irrigation area
Country:	Bolivia
Date:	since 1997
Challenge:	Migration of the working population from the rural areas into the cities and into illegal coke business, as job opportunities in traditional agriculture as well as in other sectors are in short supply. Due to irregular and low precipitation in the Sacaba Valley, water is the scarcest factor of production. In addition, an insufficient irrigation infrastructure and inexpedient irrigation habits cause a high loss of water.
Objectives:	<ul style="list-style-type: none"> <input type="checkbox"/> improving the living condition of the local population by increasing the family income through legal occupation <input type="checkbox"/> sustainable increase of the agricultural productivity through augmented use of irrigation water in farmer managed irrigation systems <input type="checkbox"/> diversification of cultivated products and increase of their productivity through optimization of irrigation application
Approach of the Intervention:	<ul style="list-style-type: none"> <input type="checkbox"/> the target group is composed of 2.400 farms belonging to two irrigation associations and around 300 families living in the highlands <input type="checkbox"/> In coordination with the irrigation associations, the following measures were implemented: <ul style="list-style-type: none"> - Building new and improved dams in the mountains, with complementary catchment works to be able to dam up a greater volume of water. - Improving canals in the irrigation zone to decrease water losses along the way as water is conducted there from the intake. - Expanding the network of canals to be able to include new communities in the irrigation zone. - Supporting users to improve their irrigation planning and optimise water utilisation. - Strengthening the irrigators' organisation to ensure that once the project is finished, they will be able to manage the whole irrigation infrastructure self-reliantly.
Benefits and Impacts:	<p>direct impacts:</p> <ul style="list-style-type: none"> - guaranteed and year-round availability of water due to increased storage capacity and improved irrigation efficiency - cultivation of more significant products, especially flowers and vegetables <input type="checkbox"/> agricultural small and medium-sized enterprises (SME) are capable to increase their production significantly (>50% additional production and income) <input type="checkbox"/> creation of additional jobs
Lessons learned:	<ul style="list-style-type: none"> <input type="checkbox"/> Experience in Latin America showed the importance of clearly defined and separated roles for the public and private actors. Here, the state should focus on normative settings in establishing and guaranteeing best possible conditions for the project development in the context of sustainable water management. <input type="checkbox"/> The operative tasks should solemnly be in the hands of private actors. The planning, preparation as well as the implementation of the irrigation program should be carried out by a consultancy and

	<p>tendered internationally. It is often advisable to engage a national consultant, not only to comply with the principle of subsidiarity but also to facilitate acceptance in situ and to improve knowledge in the sector. Generally, the consultant should take on a strong position in the preparation and operation of the program, supervised by the public actors.</p> <ul style="list-style-type: none"> □ The integration of users in the planning, preparation and implementation of irrigation project is decisive for the success and the sustainability of the program. Experience has shown that the operation and maintenance of the irrigation systems in the long run can be best guaranteed if the users are responsible to manage the systems themselves. To ensure that the irrigation facilities meet the users' needs, capabilities and capacities requires high professionalism, efficiency and communicative skills from the part of the involved project team. □ Longer lasting intervention processes in irrigation systems provide a sound basis to re-organize the water distribution schedules in order to optimize irrigation conditions for more profitable crops, reducing the normally large intervals between applications to the agronomical far better weekly intervals.
Wider application:	<p>The program approach has been applied successfully in similar projects in Comarapa/ Bolivia and Culpina/ Bolivia and is currently implemented in a sector investment programme. The approach can be used as a model in other regions as well.</p>
Implementing agency & partners	<ul style="list-style-type: none"> □ KfW Entwicklungsbank □ Prefecture of Cochabamba
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