



INTERNATIONAL WATERS RESULTS NOTES

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Strategic Action Programme for the Bi-national Basin of the Bermejo

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1. Development and strengthening of COBINABE as a bi-national entity for management and sustainable development in the Bermejo River Basin. This includes the establishment of a Regional Coordination Committee and a Regional Advisory Committee, development of a communicational action plan which seeks to promote local stakeholders' commitment, foster public awareness and build awareness about the benefits of integrated natural resource management, and the training of technicians and managers.

2 Structural measures for the control of erosion and sediment transportation were implemented in the Upper Bermejo Basin, with the active participation of local communities. The works include structural torrent control measures, sediment retention dams, bank protection works, rainwater drainage systems, and consolidation of river channels, among others.

3. A comprehensive environmental information system was launched (SIG Bermejo), integrating actions for the generation, acquisition, processing and storing of information on natural resources in the basin. It consists of a Hydrometeorological Network measuring water level and precipitation, a Hydrosediment Network with information from 40 stations, cartographic information of the Bermejo Basin, statistics on economic data, a Water Quality Monitoring Network, and a Documentation Center, among others.

Hector Martinez
Technical Coordinator
h.martinez@iplanmail.com.ar

PROJECT OBJECTIVE

To establish an effective legal and institutional framework for integrated water resources planning and management within the Basin, to restore and protect environments through community-based practices, promote environmentally-friendly production methods while providing greater economic opportunities for the local population, and promote the access to and exchange of information through the training of Basin stakeholders.

RESULTS: PROCESS

INDICATOR#1 (Development and Strengthening of the Institutional Framework)

Development and strengthening of COBINABE as a bi-national entity for management and sustainable development; COBINABE's internal regulations were revised to facilitate and consolidate its capacity as a bi-national entity; more than forty (40) Memorandums of Understanding and Collaboration Agreements were established to facilitate IWRM in the Basin; a Regional Coordinating Committee and Regional Advisory Committee were established to strengthen COBINABE's coordination; a communicational action plan for COBINABE was developed and implemented as an institutional identity and communication strategy; COREBE and OTNPB were internally strengthened; at the Argentine provincial level and the Department of Tarija in Bolivia, the powers of governments and civil societies with jurisdiction or interest in the Basin were strengthened.

INDICATOR#2 (Development of a holistic regional legislative, economic, and environmental framework)

Environmental zoning developed and implemented as planning instruments for basin management and integrated development; water codes and environmental impact assessment regulations, comparative analyses and recommendations were created; training workshops on the environment and on economic instruments both conducted; pilot territorial zoning plans based on hydrological risk were created for five (5) locations spread across the Upper and Lower Basin.

INDICATOR#3 (Establishment of environmental education programmes)

An environmental education programme was designed in collaboration with the Juan Misael Saracho University in Bolivia, making it the first programme of its kind in that country. Forty (40) professionals in Tarija took an Environmental Management training course through the university. A teaching manual about the Bermejo River watershed was produced for distribution to elementary school teachers, and a school has been built in Colanzuli that shares a water supply system with local agricultural producers. An environmental education program is being used in 26 schools of the Upper basin in Bolivia, with more than 8,000 students being taught by 437 directors and teachers trained in environmental issues.

Environmental issues were officially incorporated into the formal educational curricula of the provinces of Salta, Jujuy, Chaco and Formosa through resolutions to respective Education Ministries. There are 500 schools participating in revised curricula programs and 2,400 instructors trained in environmental education.

RESULTS: STRESS REDUCTION

INDICATOR#1 (Soil management and erosion control in critical areas)

The battle to control erosion involved introducing cattle-raising management practices to reduce grazing pressure and erosion control, communal practices regarding grazing land use, protective reforestation, implementation of forest nurseries and waste management in small communities, and the introduction of small-scale erosion and sediment control works, micro-irrigation systems, and sustainable land use and agricultural production practice in Bolivia. Further actions included the creation of 64 gabion dams in the Rio Huasamayo to control flows and protect the right bank, the construction of terrace walls for the consolidation of river channels along the Milmahuasi and Colanzuli rivers, the building of marginal defenses and storm drains for erosion control, and channel control works for riverbed erosion control and sediment retention.

The construction of 12 sediment retention dikes, incorporation of agro-forestry and soil conservation practices resulted in 33,400 m³/year of sediment retention in the Mena River sub-basin. There was a 30% reduction in sediment generation and transport in the Calderas sub-basin as a result of erosion control practices in the micro-basins established around the constructed dams. There was also a 70% reduction of water stress conditions in this area due to the construction of 4 small dams, 3 reservoirs, 21 dikes and 9 micro-irrigation systems. There are now 1,200 hectares of new irrigated and sustainable land, which benefits 600 low-income families. In the Iruya River basin, there was 66,120 m³ sediment retention as a result of erosion and sediment control practices.

A pilot project for carbon fixation in the Sub-Andean, including forestry production, agroforestry practices, and natural forest management involved 57 acres fenced with barbed wire, 4,459 fruit trees, 4.6 hectares of fodder, 360 acres of fenced and planted forests, and 7,600 acres of cedar trees.

INDICATOR#2 (Consolidating protected areas and protecting biodiversity)

A pilot scheme for carbon fixation in the sub-Andean was developed which included the planting of 75 hectares of fruit trees and cedar trees. Activities were carried out in support of the implementation of a Binational Biological Corridor connecting a flora and fauna reserve in Bolivia and two national parks in Argentina to prevent habitat fragmentation and expand the natural resources of the area. In addition, an action plan for livestock management in the region was outlined.

INDICATOR#3 (Soil conservation works and water cleanup)

There were 11 earth dams and 1 gabion dam constructed in the San Jacinto project area, in addition to the creation of 63 hectares of irrigated farmland, the planting of 10,000 cedar trees and 3,000 fruit trees, and the construction of 130,00 meters of live barriers, 6450 meters of contour levees, 556 meters of channel collectors and 15139 meters of fencing. Soil conservation works and practices (terraces, live barriers, and forest plantations) in the Santa Ana River Basin included incorporation of 93 ha of irrigated crops; 27 gabion dams, 740 m³ of stone cairns, and 2,800 m of enclosures.

INDICATOR#4 (Cleanup of highly impacted water areas)

There was an environmental clean-up of the Guadalquivir River which included 1840 meters of collectors in Tomatitas, 29 inspection chambers and 34 house connections; another of the lagoon in San Lorenzo, which contained 2433 meters of sewage, and involved the laying of 3310 meters of pipes for sewer connections; and an infiltration of the Canasmoro field with 229 meters of pipe, 63 septic tanks and 20 latrines.

RESULTS: WATER RESOURCE AND ENVIRONMENTAL STATUS

INDICATOR#1 (Creation of an environmental information system)

A comprehensive environmental information system was launched (SIG Bermejo), integrating actions for the generation, acquisition, processing and storing of information on natural resources in the basin. It consists of a Hydrometeorological Network measuring water level and precipitation, a Hydrosediment Network with information from 40 stations, cartographic information of the Bermejo Basin, statistics on economic data, a Water Quality Monitoring Network, and a Documentation Center, among others.

Completing the Results Note

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