Water Knowledge Hub

CASE STUDY

Costa Rica: Adaptation and vulnerability reduction to climate change in the water sector - Upper Basin of the Reventazon River

Summary

The Reventazon River Basin has been subjected to severe degradation, mainly through water pollution, leading to proliferation of disease, increased cost of drinking water, and endangered biodiversity. Action was taken by establishing the Committee for the Management and Planning of the Reventazon River Basin working with conservation and land management. The key lesson for success is the importance of the coordination of the different actors that deal with basin management.

Background

The increasing degradation of the Reventazon River Basin, mainly through water pollution, was the reason for the establishment of the Committee for the Management and Planning of the Reventazon River Basin (COMCURE), who takes measures in its control and protection.

The contamination of water promotes the proliferation of waterborne diseases, reduces the number of available water sources, raises the costs for supplying drinking water and is a threat to many species of flora and fauna.

Between 2000 and 2009, the vegetation of the watershed has been increased by 11%, which contributes to increased infiltration, reduced flooding and landslides. In this way the basin is less vulnerable during extreme events. In the last 10 years COMCURE has implemented conservation and land management actions that have reduced the amount of sediment that reaches the dams by approximately 20%. This has a social and economic impact since sediments reduce the volume of water in the dams and affect the availability of water for the generation of hydroenergy.

As a consequence, fosil fuel consumption is increased as well as the cost of electricity production, which is passed on to the final users. . In addition, many other actions that have been implemented to date and have contributed to the adaptation and vulnerability reduction to climate change on the water resources in the basin, although this was not part of the original design.

Management actions are currently being implemented in 80% of the Reventazon River basin. This generates valuable lessons that can be used to replicate in other watersheds

throughout the country.

Actions taken

As a result of this situation and due to the basin’s economic and environmental relevance, the Law Nº 8023 was approved in 2000, thus creating the Commission for the Planning and Management of the Upper Basin of the Reventazón River (Comisiónpara el Ordenamiento y Manejo de la Cuenca Alta del Río Reventazón- known as COMCURE by its Spanish acronym). This was a pilot project in the fieldof watershedmanagement that had the rest of the country's basins in mind. With the application of the Management Plan, an effective process for the sustainable development of the basin was put into place. In order to implementthe management plan for the Upper Basin of the Reventazón River, the following bodies were established:

1. Land use and management commission
2. Consultative committee
3. Executing unit
4. Regional committees

Since its establishment, COMCURE set up the guiding, consultative and executing bodies. It also introduced and presented the Basin Management Plan to the communities in preliminary meetings and sectorial assemblies that have continued on a permanent basis in order to have a participatory and dynamic process. In the framework of the Environmental Degradation and Vulnerability Reduction Program (Programa de Reducción de la Vulnerabilidad y Degradación Ambiental, or PREVDA by its Spanish acronym), COMCURE signed the European Union External Support subsidy contract on December 16, 2008.

Outcomes

Through the conservation and land management actions, sediments on the river were reduced significantly, enhancing the volume of water in the dam thus, reducing the cost on its maintenance. The potential of electricity generation increases as the life of dam. Rainfall measuring stations and pluviographic stations were installed that assisted in the early waring system model that allows the community to take timely action for preventive measures for the reduction of population's vulnerability. COMCURE's intervention, including reforestation campaigns and other actions, has achieved a drastic reduction in the density of faecal coliform bacteria. This permits the waters to be used for different purposes such as recreation, irrigation, agriculture, drinking and irrigation of fruit tree and lawns.

Lessons Learned

The key element for the outcome of this case has been the coordination of the different actors that deal with basin management, including public, private sectors, and consumer groups, environmental and agricultural associations, development organizations and local water committees.

COMCURE was created by law and the legal backing has been fundamental for the credibility of the organization. This has allowed the implementation of actions that have

improved the situation of the basin.

Currently, the funding for the implementation of the management plan comes from the national budget, the water levy and the contribution of institutions that are part of COMCURE.

The establishment of multidisciplinary teams to implement the actions have been a key for the success of this initiative.

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Organisation
Committee for the Management and Planning of the Reventazon River Basin of Costa Rica - COMCURE

Year
2013

Country
Costa Rica

Keywords
Reventazon River Basin , Water Pollution

Thematic Tagging
Climate , Gender , Youth
Language English

Supporting Materials
GWP Central America
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Related IWRM Tools
Climate Change Policies, Basin Management Plans, Vulnerability Assessment

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