IWRM Action Hub

CASE STUDY

Venezuela: Integrated watershed management in Carabobo State

Summary

In Carabobo State, the urban and agricultural expansions are the main causes of watershed problems resulting from degradation of forests, deforestation and inadequate solid waste management. Since 2009, action has been taken to combat these developments through participatory public policies which focus on environmental education and sustainable development. The key to the success of the project has been extensive capacity building in combination with concrete management tools.

Background

Carabobo State is located in the north central region of Venezuela which is one of the states with the largest development in the country as a result of population and industrial growth. Due to a combination of relief and weather, there is a dense hydrographic network of about 268 watercourses. Rivers, creeks, spouts and ravines of Carabobo State are divided into six watersheds. Lake Valencia watershed, also known as Lake Tacarigua is the only endorheic watershed of Venezuela. Of the total area of 375 km^2 of the Lake basin, 281 km^2 is in Carabobo State. The lake receives a large discharge of domestic, industrial and agricultural effluents and this pollution results to eutrophication threatening aquatic life and posing problems for potable water supply for the people. The high population density in the state is a result of the industrialization process of the country’s capital Valencia as well as other cities such as Puerto Cabello and Guacara, which all began in the 50's. However, now the urban and agricultural expansions are the main causes of watershed problems resulting from degradation of forests, illegal logging and burning and inadequate solid waster management among other causes. In addition, houses and small agricultural plots have been built within the security limits established for the protection of watercourses. Illegal connections and channel diversion to domestic and agricultural use has also increased. The magnitude of the

challenges means that there is a need for to be taken for integrated management of water resources.

Actions taken

Since 2009, the Carabobo State Governor's Office has worked to “manage watershed conservation in line with the principles of Integral Watershed Management (DMICH for its Spanish acronym). This is done through participatory public policies which focus on environmental education and sustainable development to ensure water availability for present and future generations.

The Department of Integrated Watershed Management was established together with other four Divisions: Environmental Sanitation, Land Use Planning, Mining and Legal Support.

For each project carried out by DMICH there is a technical file in which its relationship with development plans at global (Millennium Goals) level is related. It is important to highlight that the regional plan was developed together with communities, through 3.530 polls to community leaders

and 18 communal forums in the 14 Carabobo State municipalities.

The technical information from monitoring is processed in two types of products: Technical files of each inspection and annual reports of the natural conditions of Carabobo State watersheds. The degraded areas identified during field inspections are reforested with active involvement of communities.

The DMICH has its own nursery plants, in the Fernando Peñalver Park at Valencia City, capital of Carabobo State. Seeds that are grown by communities and state schools also come from there and the species that are planted on each area are chosen based on the evaluation made during field monitoring.

Diverse organizations have participated in reforestations, including children and youth from education institutions (primary and secondary schools, universities), volunteers from civil society and some industries, as well as members of communal councils. Reforestations have been a very productive activity because it promotes collective involvement of diverse sectors in a concrete action.

In addition, 8 forums have been carried out on environmental topics such as climate change, biodiversity, water, forests and urban ecological corridors. More than 300 people have participated on each of these forums and majority of the people being teachers from Camoruco Project.

The personnel from Carabobo Governor's Office and diverse allies from academic institutions and nongovernmental organizations from Carabobo State and other regions have also participated.

Outcomes

Although other Governor's Offices in Venezuela have a section dedicated to environment conservation, the existence of DMICH in Carabobo is an important achievement. It is the only case of a Direction specifically dedicated to integral watershed management within a Governor's Office. In the Water Law (2007) decentralization for watershed management was planned through the creation of Regional and Watershed Councils. Although results of DMICH management are positive, the 2011 research and monitoring report shows that they are not enough to achieve the management needed to solve the threats to Carabobo watersheds. DMICH has accomplished the key aspects towards watershed integrated management within its responsibilities; but the difficulty to coordinate with other institutions because of political polarization is an obstacle that needs to be overcome.

Lessons Learned

Motivation and capacity building of the personnel, equipment acquisition and process systematization were important challenges during the first year of DMICH. However, the applicability of results has been the main stimulus to keep up with the job without interruptions.

The combination of permanent activities for capacity building for teachers and community leaders through workshops and forums, together with concrete tools such as environmental education guide and communication through social networks, have been the key to success of Camoruco Project.

Information exchange and coordination with public and private organizations that support central government has been difficult in the current situation of political polarization.

Nevertheless, the planning and the development of concrete activities in a professional and systematic way have allowed DMICH to have important achievements in the short term.

This case shows that the creation of an entity in charge of watershed integrated management is a successful experience with a high potential to be replicated in other Governor's Offices of Venezuela.

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Organisation
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Year
2012

Country
Venezuela (Bolivarian Republic of)

Region
Americas

Keywords
urbanisation

Thematic Tagging
Climate , Gender , Private Sector , Transboundary , Urban , Water services , Youth , Ecosystems/Nature-based solutions
Language English

Supporting Materials
GWP South America

Related IWRM Tools
National Apex Bodies, Civil Society Organisations , Youth Engagement and Empowerment

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Source URL: https://iwrmactionhub.org/case-study/venezuela-integrated-watershed-management-carabobo-state