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AGUA DE HONDURAS

AGRI, BETTER LAND PURCHASE FOR WATER CONSERVATION

The purchase of 1,734 acres of land with water recharge potential is improving the quality of life for 11,900 families in the departments of Ocotepeque and Lempira in Honduras. Acquisitions that used to cost a lot of money and time are now easier: "The use of the **AGRI tool was a quantum leap**, in 100% of the sites the results were compelling," said Víctor Saravia of the San Marcos Ecological Association of Ocotepeque (AESMO).

AGRI (Water for Irrigation in Spanish) is a tool based on geographic information systems (GIS) **that accurately identifies water sources, their conduction lines and corresponding drainage areas**, whether for family consumption, agricultural irrigation or water harvesting. This tool improved rural health and food security, and it was developed by the International Center for Tropical Agriculture (now the Alliance of Bioversity International and CIAT) with funding from the United States Agency for International Development (USAID). AGRI is one of several tools of the Agua de Honduras Platform of the Government of Honduras and, since 2016, it is used by AESMO.

AN INNOVATIVE SOLUTION

For the agricultural communities in the departments of Ocotepeque and Lempira, the Identification of water sources was just one of the problems they used to face before AGRI: "The region is mainly used for agriculture and livestock production. The drinking water used to have bacteria and herbicide residues," said Juan Castillo, from the Cerro Negro micro-watershed. And this was aggravated during the coffee harvest season, according to Gilberto Urías from the Río Hondo micro-watershed: "Feces of the harvesters reached the water sources at the beginning of the rainy season, **causing up to 10 cases of children sick with gastrointestinal diseases** per month. We suffered because even the fish from the river came out with worms in their skin". For those inhabitants, AGRI was a solution to the water problem, as Abel García from the Cerro Negro micro-watershed explained: "With the traditional method, we had problems with low water pressure after the water supply system was installed, but with AGRI we have a plot plan, we are able to locate the aerial sections with the appropriate slope and we know how many tubes we will need". To which Juan added: "**We saved 40% of time and money on materials**. After five years of having bought the land, we have a good forest and we noticed that now the flow of water is steady all year round".

PURIFYING FORESTS

In August 2022, analyses of the water in Río Hondo showed zero incidences of fecal coliforms, thus demonstrating that the conversion of the purchased land to forest is a good strategy to improve the ecosystem services that benefit downstream communities. Also, a pH value of 7.0 was recorded, which proves that the sampled water is not acidic and has a low concentration of dissolved solids. The land purchases received support from the World Land Trust, AESMO, municipalities, cooperatives, and private companies, among others. However, one objective was clear: "In the legal documents, everyone owns everything, **the land cannot be sold, donated or used for mining**. The goal is environmental sustainability and improved water quality," said Byron Vargas, forest ranger.

WATER GOVERNANCE

Currently, 42 water boards, three cooperatives and five municipalities are being trained in the use of AGRI, which is good according to Tatiana Orellana of AESMO: "AGRI is key to the water governance, we want them to make their own decisions without relying on institutions and, since the tool is open access, it **empowers them with autonomy**". For more information, visit the website https://aguadehonduras.gob.hn/agrihonduras.

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