



Building an irrigation lifeline in Ecuadorian Andes

WORKING WITH Smallholder farmers in Ecuadorian highlands and the provincial government

WORKING TO modernize irrigation systems and improve water management

WORKING WITH provincial government and water users groups

WORKING THANKS TO Spanish Agency for International Development Cooperation (AECID)

An irrigation channel that begins at a small freshwater spring high in the Ecuadorian Andes provides a major lifeline to the farmers along its path. However, in recent years, the water users groups that control the canal have experienced a series of problems ranging from general issues of disrepair to pollution to illegal users siphoning off the water. An FAO irrigation modernization project currently underway is not only improving the irrigation infrastructure, it is raising government capacity to manage water resources for irrigation including mapping and inventorying its critical water resources, formalizing water concessions and water user groups, and sensitizing local farmers to the need to protect the water source and maintain irrigation infrastructures.

Ecuador transferred the responsibility and management of irrigation from central to provincial governments in 2010. When it did so, many provinces had neither the administrative nor technical capacity for controlling the irrigation sector, much less for improving or modernizing it. Today, thanks to a small FAO irrigation modernization project undertaken as a pilot during this transition, a mountain province bordering Colombia has taken the steps needed to manage and improve irrigation and water use, and farmers have modernized their irrigation systems and have greater understanding of their role in making the system sustainable.

The project covers the entire irrigation chain with an integrated approach – from the water source in the forested highlands to the farmers’ fields. FAO worked with the provincial government and with the men and women in water users associations covering 28 irrigation systems to elaborate participatory action plans. During an initial “diagnostic



©FAO/Anibal Paspuel

BUILDING
IRRIGATION LIFELINE



BUILDING IRRIGATION LIFELINE



©F.Botts/FAO

©FAO/Marcelo Patiño



walk”, FAO’s representative joined the province’s irrigation engineer and users group members to walk along the channels, identifying areas of disrepair and inherent design problems. Once identified, the farmers prioritized the areas the project would tackle. In addition, two water user groups were selected to pilot the modernization plan which included interventions such as the improvement of the water intakes and distribution channels and the construction of water reservoirs at various positions along the channel that help guarantee farmers have water for their fields when they need it. As for the fields themselves, FAO is working with farmers to improve agricultural practices and has introduced the farmers to modern sprinkler technology rather than surface irrigation, which has proven to be more efficient in terms of water usage and crop uptake.

The provincial government is already using the project methodology to map the irrigation situation throughout the province and, in doing so, has found a large number of users groups are not formally registered with the government and are using water without concessions, causing conflicts among the users associations. Thus the province is registering users associations, granting legal water concessions, checking the water they are using, and is setting equitable water use quotas. In addition, FAO provides the support of a forestry specialist to work with the people who live near the water source, assist them in improving management of the watershed through reforestation, and sensitize them to the potential

negative impact of pollution and vegetation loss on both the crop yields and human health. The farmers of the area have already observed the impact of climate change with longer dry seasons and increased threat of drought, so they welcome the opportunity to improve and modernize their irrigation systems and have readily attended the workshops hosted by the government and FAO which focus on the importance of protecting their water source in order to make the upgrade sustainable. Users groups are contributing with their labour to finish the infrastructure works as soon as possible, because with the improved irrigation, they will not suffer from lack of water in the summer.

FAO is carefully monitoring the improvements that the project is having in agricultural production and farmers’ livelihoods. At the beginning of the project, FAO collected information about the annual yields and water use of the farmers in the project area. Thus, once the channel is repaired and modernized and the farmers have initiated the new sprinkler technology, the project will be able to measure the levels of improvement. The lessons learned from this pilot will then help the government improve the irrigation situation for farmers throughout the province.



©FAO/Marcelo Patiño