

GROUNDWATER CONSERVATION AND NATURE-BASED SOLUTIONS. THE CASE OF SPRINGS IN LA PALMA (CANARY ISLANDS, SPAIN).

José Antonio Batista-Medina, Noelia García-Rodríguez, José Jaime Pascual-Fernández, Raquel De la Cruz-Modino, Alejandro Rodríguez-Pais
Instituto de Investigación Social y Turismo (ISTUR). Universidad de La Laguna., La Laguna (Tenerife), Spain

Abstract

Water is a vital resource that guarantees life in any environment. In island areas, this statement is even more crucial. The livelihoods of local populations, the sustainability of economies, and the conservation of island ecosystems depend on the wise management of available water resources. An appropriate mix of soft measures, such as policies and management strategies, and hard measures, such as technologies and infrastructure, is essential to ensure efficient water management.

This study is being carried out on La Palma (one of the islands in the Canary Islands, Spain), where the aquifers, and in particular the springs, have been seriously affected, especially since the 1970s, by the extraction of groundwater through galleries (water tunnels) for the irrigation of banana farms (an export crop). Many springs have disappeared, and others have lost much of their historic flow. Throughout history, the island has relied on its water and other natural resources, which have been protected in various ways. Conflicts over the control of water and other resources have also been frequent in recent history, especially after the expansion of export crops.

The aim of our work is to analyse the historical and current situation of the groundwater on the island and a Nature-based Solution that has been developed to protect it: the hydraulic closures in the galleries, an engineering work based on the hydrogeological nature and functioning of the island. The measure transforms the water gallery into an underground reservoir and is part of the underground dam technology, a way of managing the aquifer's recharge.

Our research is conducted from a social anthropological perspective, focusing on both the environmental effects and the political, social, economic, and cultural aspects involved. In a scenario of climate changes, transdisciplinary studies are essential to contribute to and improve the regulation and management of freshwater resources.

Keywords:

Groundwater, springs, natural protected areas, nature-based solutions, Canary Islands (Spain), La Palma.

Choose Category

Paper Proposals