

TFM 2: Design of Low-Cost Community-Based Sanitation Solutions for Wastewater Management in Rural Communities in El Salvador

This Master's thesis will be carried out in collaboration with Engineers Without Borders and will focus on the design and assessment of low-cost, decentralized solutions for the management of greywater and wastewater in rural communities in El Salvador. The project responds to the challenges faced by community-managed water systems, which are increasingly required to provide adequate sanitation services despite having limited technical, financial, and human resources. The work will consider the local environmental and socioeconomic conditions, as well as the requirements established by El Salvador's General Water Resources Law (LGRH).

The thesis will analyze and compare different sanitation alternatives suitable for implementation and management at the community level, considering criteria such as health protection, treatment performance, water reuse or resource recovery, environmental impact, cost, operation and maintenance requirements, and technical feasibility. The objective will be to identify and develop appropriate solutions that can be realistically adopted by rural Water Boards (Juntas de Agua), contributing to improved sanitation, protection of water resources, and sustainable community-based water management.

Supervisor: Dr Rafael González Olmos & Dr. Oriol Pou.

Main contact: Dr Rafael González Olmos. (rafael.gonzalez@iqs.url.edu)

Position for one student