

TFM 1: Pilot Solar Desalination for Drinking Water Supply in Freshwater-Scarce Communities in Mozambique

This Master's thesis will be carried out in collaboration with Engineers Without Borders and will focus on the implementation and assessment of a pilot solar desalination system for drinking water production in communities with limited access to freshwater in Funhalouro District, Inhambane Province, Mozambique. The project will investigate the technical feasibility and performance of using solar energy to produce safe drinking water from locally available saline or brackish water sources, considering the specific environmental, infrastructural, and social conditions of the target communities.

The thesis will include the characterization of the water source and local conditions, the assessment and optimization of the selected desalination technology, and the evaluation of its water production capacity, energy requirements, reliability, and environmental performance. Particular attention will be given to the suitability of the system for small-scale, decentralized operation and its potential for long-term implementation and replication in other communities facing similar water-access challenges.

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

Main contact: Dr. Oriol Pou. (oriol.pou@iqs.url.edu)

Position for one student.