

Theory of Change: Preliminary outline of the logic as to why and how the proposed intervention is expected to achieve the intended change. The final ToC will be developed during the project preparation phase.

OUTPUTS

- An assessment of the potential and current state of the groundwater resources in the three project island states
- Technical-economic feasibility studies of the exploitation of fractured volcanic aquifers, and of their strategic uses (e.g.: mitigation of droughts)
- The dialogue with potential public and private investors is facilitated by presenting the results/outputs 1.1.1 and 1.1.2 to the Governments.
- Aquifer conceptual models are developed in one selected “primary aquifers” in each of the project country.
- Diagnostic analysis of the current state for each primary aquifer and relevant catchment area are developed (focusing on quantity-quality issues, climate variability and change, groundwater uses and users, water nexus conflicts).
- Aquifer Management Plans are drafted to complement Catchment Plans, and address groundwater issues where they exist.
- Groundwater and water resource monitoring systems to assess the impacts from competing groundwater uses and to improve water resource management are installed in selected developed aquifers
- Land use management measures to demonstrate improved environmental and water resources benefits and management in selected hot-spots are integrated into existing practice.
- Small-scale demonstrations in groundwater utilization to address water and food security are trialed in selected hot-spots.
- Operational and management plans to help coordinate water drilling activities
- Training in groundwater governance and legal aspects, and knowledge exchanges with similar contexts in small volcanic islands of the Mediterranean, the Atlantic, and the Caribbean.
- Manuals and products for managing groundwater in smallholder farming systems.
- Project website and knowledge management platform.
- Contribution to IWLEARN activities, including sharing of results globally focusing on SIDS

OUTCOMES

The knowledge of the exploitable groundwater resources is improved in the three project island states.

Sound groundwater governance frameworks and policies are adopted.

Groundwater is integrated into IWRM policies and practices.

Enhanced national capacities in groundwater assessment, monitoring and management.

ASSUMPTIONS

The so far unexplored aquifers present in fractured lavas in volcanic edifices, may provide additional and strategic (less impacted by climate change) groundwater resources in water stressed PICs.

The introduction of sound governance frameworks for aquifers will ensure the sustainability of the resource and of dependent ecosystems.

On the ground demonstrative actions and introduction of modern monitoring systems, will strengthen stakeholders commitment and determination.

Training, and learning from experiences in other similar situations will contribute to improved management capacity.

EXPECTED IMPACTS

By expanding the freshwater resources base, improving management, and relieving pressure on coastal aquifers, the project islands will achieve an higher level of water security and resilience to climate change and variability.

The project’s approaches and methods will serve as examples for other volcanic islands to follow.