



## UNITED NATIONS OFFICE FOR SUSTAINABLE DEVELOPMENT

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### CONCEPT NOTE

**Groundwater monitoring training programme for Timor-Leste and Ecuador,  
Onoma Hotel, Daejeon, Republic of Korea  
14–17 October 2024**

#### 1. Background

In 2021, UNOSD undertook an assessment to analyse the policy advisory requirements of Member States in preparation to expand the existing policy advisory services it offers to developing countries. This assessment was made with a view to offering needs-based, tailor-made advisory services that assist in the achievement of the Sustainable Development Goals (SDGs), specifically SDGs 6, 7, 11, 12, 13 and 15. The assessment identified potential countries for a successful partnership, this led to a scoping mission in June 2023 to Timor Leste and in July 2023 to Ecuador.

#### Outcome of scoping missions

##### *Timor Leste*

Timor-Leste relies heavily on groundwater, particularly during the dry season, with up to 60% of the country's water supply coming from this source. However, the current capacity for groundwater monitoring and management is insufficient. Although a feasibility study on Dili's groundwater is underway, other critical components such as the installation of a monitoring system and capacity building have been delayed due to the pandemic. Given the geological challenges and high variability in precipitation, coupled with the fractured geological conditions that lead to rapid water infiltration, it is crucial to enhance the technical capacity of local institutions. Training in groundwater management will provide the necessary skills for effective monitoring, data collection, and sustainable management, ensuring that Timor-Leste can better manage its groundwater resources and improve water security.

##### *Ecuador*

Groundwater is a critical resource in the Galápagos Islands, particularly on Santa Cruz Island, where it serves as the primary source of freshwater. The proximity of freshwater sources to energy generation facilities raises significant risks of contamination from diesel spills, while the existing groundwater is already vulnerable to contamination from latrines, PCV fuels, and organic waste. Despite the urgent need for a desalination treatment plant, the high cost remains a barrier. The local municipalities are aware of these challenges but face competing priorities, such as energy generation expansion. To address these pressing issues, technical training in groundwater management is essential. This training will equip participants with the skills needed to effectively manage and protect the island's groundwater resources, while also considering the policy interface to ensure sustainable solutions.

In both Ecuador and Timor-Leste, groundwater management training is not just a priority but a necessity to address the unique challenges these regions face, ensuring sustainable water resource

management and protection. Subsequently, it was agreed that the countries both had an urgent need for capacity building in groundwater management, therefore, to ensure the efficient use of funds, a joint training programme has been planned, to take place in the Republic of Korea.

## **2. Co-organizers and partners**

The United Nations Office for Sustainable Development (UNOSD), UNESCO's International Centre for Water Security and Sustainable Management (UNESCO i-WSSM), and the Korea Water Resources Corporation (K-Water) will work in collaboration with the National Planning Secretariat, Ecuador and the National Directorate for Water and Sanitation Regulation, Timor-Leste, to organize a training programme that develops the capacity of groundwater officers of government institutions. UNRCO Ecuador and Timor Leste has been consulted throughout the process.

## **3. Objectives and target participants**

This training will provide a comprehensive understanding of groundwater, covering its role in addressing the water crisis, principles of groundwater flow, recharge, and hydraulic properties of aquifers. It includes practical exercises in well hydraulics, aquifer testing, groundwater chemistry, and monitoring, as well as advanced topics like managed aquifer recharge, climate crisis impacts, and sustainable groundwater management. The course will also explore the use of groundwater in geothermal energy and addresses issues like seawater intrusion in coastal aquifers.

The target participants are the groundwater officers of government institutions. For Ecuador, institutions that are part of the *Governing Council of the Special Regime of the Province of Galápagos* will be particularly encouraged.

## **4. Training structure and format**

The training will be structured around the standard UNESCO i-WSSM groundwater module, tailored to the needs and interests of the participants from Timor Leste and Ecuador according to the respective focal points. The format will be training room lectures and a short field trip to the K-Water exhibition centre. The training will be developed by K-Water,

## **5. Trainers**

Trainers will be selected from a UNESCO i-WSSM approved list.

## **6. Schedule and venue**

The training is scheduled to take place from 14–17 October in Daejeon, the Republic of Korea. Venue to be confirmed.

## **7. Language**

Training and training material will be in Korean, Spanish and Indonesian.

## **8. Contacts for further information**

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