



## REPORT 6

# 6 CLEAN WATER AND SANITATION



2025

***Ambassador of SDG 6****Prof. Bechir Hamrouni*

## Prof Bechir HAMROUNI

***Advancing Water Sustainability and Sanitation***

Recognizing the importance of water as a vital resource, the University of Tunis El Manar (UTM) has implemented a series of initiatives aligned with Sustainable Development Goal 6 (SDG 6) — ensuring access to clean water and sustainable sanitation for all. UTM's research teams are actively engaged in projects addressing water scarcity, pollution control, and efficient resource management, developing innovative solutions to enhance water use efficiency and wastewater treatment. Educational programs across various faculties integrate modules on water sustainability and sanitation technologies, preparing students to contribute to the development of environmentally responsible solutions. Beyond research and teaching, UTM fosters community engagement by organizing awareness campaigns, conferences, and workshops that promote responsible water consumption and hygiene practices, reinforcing its commitment to sustainable water governance.

***Combating Water Scarcity through Desalination Initiatives***

In response to the growing water scarcity challenges in Tunisia, driven by climate change, population growth, and urban expansion, the country has adopted a strategic approach centered on desalination technology to secure sustainable access to clean water. A key milestone in this effort is the Zarat Desalination Plant in Gabès, inaugurated on July 7, 2024.

Designed to produce 50,000 cubic meters of drinking water per day, its capacity is set to double to 100,000 cubic meters by 2027, ultimately serving around one million residents across the Gabès, Médenine, and Tataouine regions by 2035. The project was developed by Va Tech Wabag (India) and co-financed by the Tunisian government and the German development agency KfW. Further expanding this national effort, two additional desalination plants are under construction in Sfax and Sousse, expected to become operational by the end of 2024. The Sfax plant will produce 100,000 cubic meters per day, while the Sousse facility will deliver 50,000 cubic meters daily.

Looking ahead, tenders are being prepared for four new desalination projects in Tozeur, Kebili, Sidi Bouzid, and Ben Guerdane, marking a significant step toward ensuring water security and resilience in Tunisia's arid regions.



## Mediterranean Conference on Desalination and Water Treatment (CMTDE 2024)

The 9th Mediterranean Conference on Desalination and Water Treatment (CMTDE 2024) will take place in Hammamet, Tunisia, from 22 to 25 December 2024. Organized by the Tunisian Desalination Association (TDA) in collaboration with the University of Tunis El Manar (UTM) and the Water Research and Technology Center (CERTE), this major scientific event is held with the support of the European Desalination Society (EDS). Dedicated to the crucial nexus of “Water–Energy–Environment,” this edition provides an interdisciplinary platform for researchers, policymakers, and industry professionals to exchange innovations and strategies addressing sustainable water and energy management. The conference benefits from the guidance and support of Professor Moez Chafra, President of the University of Tunis El Manar, underscoring UTM’s commitment to advancing research and collaboration in the field of sustainable water solutions.



## World Water Day Celebration



On March 22, the University of Tunis El Manar (UTM) joined the global observance of World Water Day, emphasizing the vital role of sustainable water management. The 2023 edition, themed “*Accelerating Change to Solve the Water and Sanitation Crisis*,” and the 2024 theme, “*Water for All: Let’s Take Action*,” both highlighted the urgency of ensuring equitable access to clean and safe water. Across UTM’s campuses, a series of awareness events, workshops, and exhibitions were organized to underscore the challenges of water scarcity and the importance of responsible consumption. These initiatives aimed to inspire students, researchers, and the wider community to engage in practical actions and innovative solutions that contribute to the sustainable management of water resources.

## Strengthening Partnerships for Water Research and Education

Demonstrating its commitment to Sustainable Development Goals 6 and 17, the University of Tunis El Manar (UTM) formalized a Framework Agreement for Scientific and Educational Cooperation with the Water Research and Technology Centre (CERTE) on June 12, 2024. The agreement was signed by Professor Moez Chafra, President of UTM, and Professor Hakim Gabtni, Director General of CERTE.

This partnership aims to foster:

- Scientific and educational collaboration,
- Consultation and information exchange,
- Joint research initiatives and academic training (including teaching and student supervision), and
- Organization of scientific events and targeted actions contributing to the achievement of SDG 6 on clean water and sanitation.

Through this collaboration, UTM and CERTE strengthen national capacities in water research, innovation, and education, advancing Tunisia’s sustainable water management efforts.

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## Partnership for Innovation in Water Resource Management

In a major step toward advancing sustainable water management, Vivo Energy Tunisia and the Higher Institute of Applied Biological Sciences of Tunis (ISSBAT), University of Tunis El Manar (UTM), have signed a partnership and cooperation agreement to strengthen research and innovation in this field. The signing ceremony took place at the Shell Cité Ettayarane station in Tunis, attended by the President of UTM, the Director of ISSBAT, and senior representatives from Vivo Energy Tunisia. The collaboration focuses initially on the StopUP project — *“Protecting the aquatic environment from urban runoff pollution.”* This project adopts an integrated and sustainable approach to treating polluted drainage water, aiming to safeguard natural ecosystems while enabling efficient water reuse. A pilot treatment unit for overflow and runoff water will be installed at the Shell Cité Ettayarane station, near Sabkhet Sejoumi, serving as a demonstration site for nature-based technologies adapted to the Tunisian environmental context.



### Horizon Europe MSCA Doctoral Network: IN2AQUAS Project

Under the Horizon Europe Marie Skłodowska-Curie Actions (MSCA) Doctoral Network program, the project INtegrated Approach TO secure water QUALity by exploiting Sustainable processes (IN2AQUAS) runs from 2023 to 2027. This international initiative brings together 10 degree-awarding universities, 4 national research centers, 1 associated university — the University of Tunis El Manar (UTM) through its *“Desalination and Water Treatment” Research Laboratory (LR19ES01)* — along with 4 companies and a specialized *mindfulness-in-the-workplace* facilitator.

The IN2AQUAS project aims to train 15 doctoral candidates (DCs) to address the complex challenges of assessing pollutant impacts on the environment and developing sustainable, green treatment processes to produce safe and clean water — even in extreme conditions.

The research and training program is structured around four main objectives:

- Assessing water quality and predicting responses to environmental stresses.
- Restoring water quality with an emphasis on zero-waste discharge.
- Scaling up processes and integrating sustainable treatment technologies.
- Recovering nutrients and promoting wastewater reuse to support circular water management.



### Participation in the 5th Mediterranean Water Forum

The University of Tunis El Manar (UTM) participated in the 5th Mediterranean Water Forum, held in Tunisia from February 5 to 7, 2024. This event served as a key platform for sharing experiences, fostering collaboration, and showcasing innovative projects in water management and sustainability across the Mediterranean region. Through its participation, UTM reaffirmed its commitment to advancing research and dialogue on sustainable water solutions.

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**Participation in the 5th MENA Desalination Projects Forum**  
The University of Tunis El Manar (UTM) participated in the 5th MENA Desalination Projects Forum, held in the United Arab Emirates on March 4–5, 2024. Recognized as the largest government-endorsed regional desalination conference, the forum gathered over 400 stakeholders from government bodies, consulting firms, contracting companies, and technology providers. Discussions focused on the future of the region's desalination industry, highlighting upcoming mega projects and national sustainability visions driving the 2030 water agendas across the MENA region.

## **Participation in the Africa Water Forum**

The University of Tunis El Manar (UTM) took part in the Africa Water Forum, held in October 2024 in Rabat, Morocco. This event served as a pivotal platform for leaders and experts across the water sector to engage in discussions on water security and sustainability. Bringing together specialists in research, technology, and industry, the forum emphasized innovative strategies to tackle Africa's growing water challenges, highlighting the essential role of collaborative research and development in ensuring long-term resource resilience.



## **Student Engagement in the UNESCO International Water Innovation Competition**

Students from the University of Tunis El Manar (UTM) actively participated in the international innovation competition organized by the UNESCO International Water Centre of Montpellier as part of the Africa Water Forum.

- 2023: 70 teams competed from Europe, Africa, and North America, including 4 Tunisian teams.
- 2024: The competition expanded to 74 international teams, with 8 teams representing Tunisia.

This growing participation reflects UTM's strong engagement in fostering innovation and research among students to address global water management and sustainability challenges.

## **“Forest-Water-WellBeing” Project Collaboration**

On February 13, 2023, Prof. Moez Chafra, President of the University of Tunis El Manar (UTM), welcomed a Bavarian delegation to discuss proposals for the “Forest-Water-WellBeing” project. This initiative focuses on the redevelopment and environmental protection of university sites, emphasizing the interconnection between natural spaces, water resources, and community well-being. The meeting gathered representatives from various stakeholders at the Farhat Hached El Manar Campus to explore sustainable approaches for enhancing the campus environment.



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## Scientific and Awareness-Raising Conferences on Water

UTM research professors have actively contributed to scientific and public awareness efforts on water-related challenges through various national and international events:

- Presentation of research activities in the field of water, delivered by Prof. Atef Jaouani during the visit of an official Jordanian delegation.
- Conference: *"How to Cope with Water Scarcity"*, presented by Prof. Béchir Hamrouni at the International Symposium organized by the *Research Laboratory: Maghrebian, Francophone, Comparative Studies and Cultural Mediation*, held from July 1–3, 2023, at the Ribat of Lamta, Monastir.
- Conference: *"Chemistry and Materials Science to Cope with Water Scarcity"*, delivered by Prof. Béchir Hamrouni during the 3rd International Conference on Materials Science and Engineering and their Impact on the Environment, held at Djillali Liabès University, Sidi Bel-Abbès, Algeria, on May 29–30, 2024.



**Béchir HAMROUNI**  
Délégué d'une Thèse de Doctorat d'Etat En Sciences Chimiques, Mr. Béchir Hamrouni est professeur de l'Institut Supérieur à la Faculté des Sciences de Tunis et Directeur du Laboratoire de Recherche LR15ES01 "Desalination et Traitement des Eaux", Président de la Commission Nationale Sectorielle de l'Environnement et du Développement Durable Tunisien de Désestalin. Il est également membre du Comité de Gestion des Ressources en Eau et Agriculture Durable. M. Hamrouni a publié 101 articles et 100 livres avec codes ISBN, deux chapitres de livres et 13 bulletins annuels, et 100 communications dans 12 revues internationales spécialisées.

**Responsable du master**  
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## Advancing Water Solutions through Education and Partnership

### Scientific and Technical Day on Water Treatment

The Association for Industrial Development and Applied Research (ADIRA), in partnership with the Higher Institute of Technological Studies of Zaghouan (ISET Zaghouan), hosted a scientific and technical day for students on the theme "Water Treatment Processes: Operational Practice and Technological Innovation." The event provided a platform for exchanging knowledge on the critical role of desalination in mitigating water scarcity.



### Conference on Water Scarcity in the MENA Region

A conference titled "Addressing the Challenges of Water Scarcity in North Africa and the Middle East: Reality and Prospects" was delivered during the Workshop on Wastewater Treatment Using Radiation Technologies. Organized by the Arab Atomic Energy Agency and the National Center for Nuclear Sciences and Technologies in Tunis.

### Expert Panel on Water Security

Contributing to strategic discussions on water security, the Arab Institute of Business Leaders invited participation in a panel focused on desalination and wastewater reuse as essential solutions to regional water challenges.

**Journée Scientifique et Technique**  
Procédés de Traitement des Eaux, Pratiques Opérationnelles et Innovation Technologique  
ISET Zaghouan, le 26 novembre 2025

**Le Dessalement pour faire face à la pénurie d'eau**

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**Journée Scientifique et Technique**  
ISET Zaghouan, le 26 novembre 2025