Clean Water and Sanitization

Introduction

Kasdi Merbah University of Ouargla actively contributes to United Nations Sustainable Development Goal 6 (SDG 6: Clean Water and Sanitation) by addressing water security, ecological preservation, and sustainable water management in Saharan environments. Situated in an arid region facing water scarcity, high salinity, and complex hydrogeological challenges, the university utilizes its academic faculties—notably the Faculty of Natural and Life Sciences and the Faculty of Applied Sciences—to advance scientific research, specialized education, public awareness, and strategic industrial partnerships. Through these multi-dimensional efforts, the institution supports sustainable groundwater management, technical innovation in desalination, and the protection of fragile desert wetland ecosystems.

The Faculty of Natural and Life Sciences Organizes the Fifth National Conference on Wetlands (JNZH)

4–5 February 2025 | Kasdi Merbah University of Ouargla, Algeria

Kasdi Merbah University of Ouargla, through the Faculty of Natural and Life Sciences and the Department of Environmental Sciences and Aquaculture, is organizing the Fifth National Conference on Wetlands (JNZH-26) on 4 and 5 February 2025 in Ouargla, Algeria.

This national scientific event provides an important platform for researchers, university professors, doctoral students, students, and socio-economic stakeholders

to meet, exchange knowledge, and discuss major issues related to the conservation, management, and sustainable use of wetlands.

Wetlands are ecosystems of outstanding ecological and environmental importance. They play a vital role in biodiversity conservation, maintaining ecological balance, and regulating water resources. Their protection is therefore a major challenge, particularly in arid and Saharan regions, where ecosystems are fragile and natural resources are limited.

Through this fifth edition, JNZH aims to promote scientific research, encourage the exchange of knowledge and experiences, strengthen cooperation between academic institutions and socio-economic partners, and raise awareness of the importance of wetland conservation and sustainable management.

This scientific event reflects the commitment of Kasdi Merbah University of Ouargla and its Faculty of Natural and Life Sciences to advancing scientific research, protecting the environment, and promoting sustainable development, particularly in Saharan regions.

Together, let's protect wetlands – vital ecosystems and invaluable reservoirs of biodiversity!













Study day on the phenomenon of rising water in the Ouargla basin

Kasdi Merbah University Ouargla, in collaboration with and hosted by the Faculty of Applied Sciences, organized a study day on the phenomenon of rising water in the Ouargla basin as part of the commemoration of World Water Day on March 22. This activity addressed the issue of rising groundwater levels and their impacts on infrastructure, facilities, and the population in the region.

This event represents a direct contribution to Goal 6, as it focuses on understanding and managing groundwater resources and raising scientific awareness about water-related risks in the Ouargla basin.



Awareness Day on the Water Desalination Specialty

The Faculty of Applied Sciences hosted an awareness day on the Water Desalination specialty, organized by the departments of Process Engineering, Civil Engineering, and Hydraulic Engineering. The event aimed to introduce this specialization and highlight its importance in providing technical solutions to water scarcity and salinity challenges in arid region.

This activity is considered one of the key initiatives directly linked to Goal 6, as it promotes academic training and community awareness in the field of water desalination—a fundamental solution for ensuring the availability of usable water in southern Algeria.



Graduation of the First Class in the Groundwater Desalination for Arid Regions Specialty

In June 2025, the Faculty of Applied Sciences oversaw the honoring of 17 male and female students representing the first graduating class in the Groundwater Desalination for Arid Regions specialty. This event reflects the faculty's transition from organizing events to offering specialized training in the field of water.

The creation of this specialization represents a qualitative contribution to Goal 6, as it aims to prepare qualified professionals capable of working in the field of groundwater desalination and treatment, thereby supporting water security in arid regions.





Partnerships with the Algerian Water Desalination Company

On April 27, 2025, the Faculty's Facebook page published content regarding the signing ceremony of three framework agreements with the Algerian Water Desalination Company, spanning the fields of water security, research and development, and strategic partnerships.

These agreements represent a significant contribution to achieving Goal 6, while also supporting Goal 17 (Partnerships for the Goals), by connecting the Faculty with a national economic enterprise actively engaged in the water desalination sector.

Research Projects and Graduation Theses in Water Treatment and Desalination

The digital repository of Kasdi Merbah University of Ouargla hosts several research projects and graduation theses completed within the Faculty of Applied Sciences in the field of water treatment and desalination. Notable among these is a project titled *"Study and Implementation of an Integrated Water Treatment System: From Desalination to Reuse,"* completed in the Department of Mechanical Engineering, which addressed the design of a domestic reverse osmosis desalination plant with a capacity of 240 liters per day.

Conclusion

Through its specialized academic programs, scientific conferences, applied research projects, and national strategic partnerships, Kasdi Merbah University of

Ouargla serves as a vital anchor for SDG 6 (Clean Water and Sanitation) in southern Algeria. By combining ecological conservation of Saharan wetlands with technical specialization in groundwater desalination and regional hydrogeology, the university effectively bridges academic knowledge with economic and environmental priorities to secure sustainable water resources for arid communities.