6.5.5 University cooperate with local, regional, national or global governments on water security

Alexandria University strengthens water security through active cooperation with local, regional, and national authorities, integrating scientific analysis, modern water management systems, and sustainable environmental practices. By partnering with governmental agencies on wastewater treatment, rain management, and water resources planning, the University supports high-impact projects, enhances capacity building, and promotes long-term sustainability across the region. These collaborations improve water supply, reinforce infrastructure, advance technology adoption, and expand joint training programs that prepare skilled professionals. Through its integrated approach, Alexandria University plays a leading role in developing effective solutions for Egypt's water and climate challenges.

1. Raising awareness among university staff and students about water conservation through seminars and workshops organized in collaboration with the Alexandria Drinking Water Company, in order to strengthen the means of implementation and revitalize the global partnership for sustainable development.
2. The faculty members from the Faculty of Engineering are offering their expertise and advice on the construction of the Mahmoudiyah axis. These engineering consultations may include technical guidance, design recommendations, structural assessments, and other professional input to ensure the project's success, safety, and efficiency throughout the construction process.
3. A cooperation protocol was signed between Alexandria University and Alexandria Sewerage Company to employ outstanding graduates from the faculties of Engineering, Commerce, Law, Science, and Arts over the past five years, based on the actual needs and annual workforce plan of the sewerage company. Additionally, the protocol aims to prepare a new generation of skilled professionals in modern technologies. It includes agreements for employees to access masters and doctoral programs at reduced fees and to conduct workshops and training courses with professors from Alexandria University to enhance partnerships for sector performance and achieve sustainable development goals.
4. An amount of water of **1,240,575 m^3** is consumed by all faculties and institutes affiliated with the Alexandria University, of which the amount of sewage is **1,116,625.26 m^3**, which is lifted through a group of lifting stations to be treated through treatment stations affiliated with the Alexandria Sanitation Company. **Treated water:** As for the water resulting from first treatment, it is reused within the New Delta.
5. Raising awareness among Alexandria University students from various faculties—including Science, Engineering (Civil, Mechanical, and Mechatronics), Commerce, Arts (Surveying, mapping, and GIS), and Fine Arts (Architecture)—about wastewater treatment was achieved through summer training and periodic visits to the laboratories of the Alexandria Sewerage Company. This effort supports the achievement of the Sustainable Development Goals by enhancing partnerships for sustainable development and fostering collaborations that mobilize and share knowledge, expertise, and technology. The training aimed to provide students with essential scientific skills and practical experience to prepare them for the job market (September 2024).
   - **Faculty of Science:** Theoretical training introduced the role of the Sewerage Company, while practical training involved visits to treatment plants, central laboratories, and lectures on occupational safety and industrial sewage.
   - **Faculty of Arts (Surveying, mapping, and GIS):** Training included surveying applications, urban planning, andthe practical use of leveling instruments, total stations, and GPS devices, concluding

with lessons on ArcGIS and sewage system design.

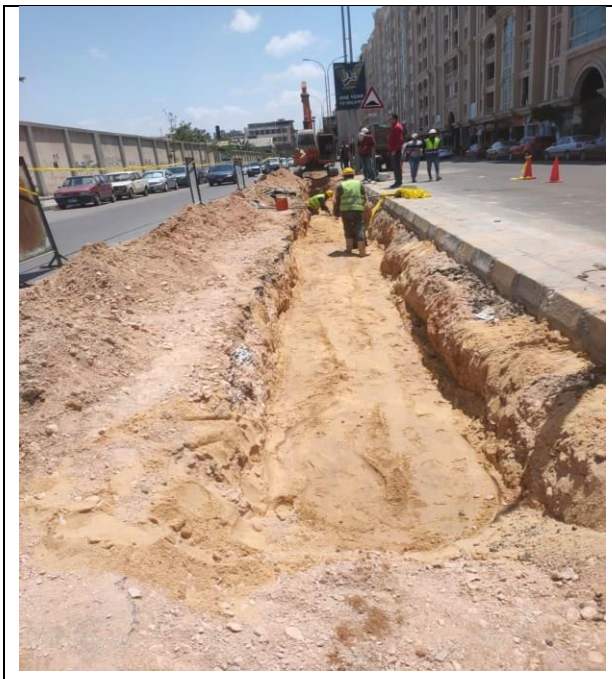
- **Engineering Colleges:** Civil Engineering students trained in network renewal and design, while Mechanical and Mechatronics students learned about pump components, welding, and electrical generators, with visitsto various workshops.
- **Fine Arts (Architecture):** Students received training on project design drawings and estimating costs.

6. The Center of Excellence for Water is organizing a training program for scholarship students. This training is conducted in collaboration between the Water Excellence Center at Alexandria University and EPROM Company to provide a course for a group of students from the Water Excellence Center. This initiative reflects Alexandria University's commitment to equipping its students with practical skills related to water management, ensuring they possess the competencies needed by the business sector while aligning their studies with labor market requirements. The Center of Excellence for Water at Alexandria University has organized a training program for students in the Water Excellence Center Scholarship and the Civil and Environmental Engineering Program. Alexandria University, EPROM Company, and the students are participating in the following two training programs:
   - **Water Treatment for Industrial Applications**
   - **Wastewater Plant Operations and Troubleshooting.**
7. **Green Cycle project in the Faculty of Pharmacy - Alexandria University**
   The project began in October 2022 by organizing a number of events in cooperation between the Community Service and Environmental Development Committee, ASPSA, and the Alexandria Rotary Clubs, under the supervision and organization of Faculty of Pharmacy - Alexandria University.
   Also, the faculty is seriously seeking to implement a grey water (wastewater) recycling system that depends onreusing wastewater from sewage basins only (without using wastewater from laboratory basins) by re-pumping it into the flushing bins in the toilets after work. Filtration and primary treatment. The grey water recycling initiative has a significant impact on rationalizing water use.
   Also, taking advantage of rainwater for use in irrigation and regulatory operations.
   Alexandria University have generalized this initiative in some of the faculties of Alexandria University in gradual stages.
8. **Integrated strategy Project for rainwater management in Alexandria Governorate in cooperation with Alexandria University**
   Remote sensing technology was used to know the current values of Rain and assess the current situation with thehelp of satellites. This is done with the help of the following artificial satellites:
   -TRMM and GPM are two of the NASA satellites. (Administration National Aeronautics and Space Administration,United States of America)
   - NOAA (National Oceanic, Atmospheric, and Space Administration, United States of America)
   - NCEI (National Center for Environmental Information in the United States of America)

   Proposed rain management strategy
   A separate network will be created to drain rainwater for the nearest body of water for areas close to the body ofwater. The first area is the Corniche, where rainwater is collected and discharging it into marine estuaries. The second area is on both sides of the Mahmoudiyah and Beheira axis near the airport. The rainwater is collected and part of it is drained on the canal and the other part on the airport lake. In the third stage of the project, the two projects on the airport lake to exploit rainwater will be linked to the New Delta project. The rainwater will beused to irrigate the crops, vegetables, and fruits in the New Delta.

م	البيان	الوحدة	الكمية	ما تم تنفيذة	المتبقى
١	خطوط انحدار (٢٠٠ ـ ٨٠٠ مم)	متر	٣٥٠٠	٢٣٣٦	١١٦٤
٢	خط طرد (٧١٠ مم)	متر	٢٥٠	-	٢٥٠
٤	محطات رفع	عدد	١	-	١
٥	مطبق	عدد	٢٤	٢٤	٠
٦	شنايش مطر	عدد	٩٨	٥٠	٤٨
٧	أسلفت	م٢	٥٢٠٠٠	-	٥٢٠٠٠

Integrated strategy project for rainwater management in Alexandria Governorate in cooperation with Alexandria University




Integrated strategy project for rainwater management in Alexandria Governorate in cooperation with Alexandria University

Before performing the integrated strategy project

After performing the integrated strategy project
Mahmoudiyah Axis Project before and after performing the project

9.