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, rainwater management, and water resources planning, the university supports impactful 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, Alexandira university contributes to developing effective solutions for Egypt's water scarcity, climate change challenges, water pollution, and environmental protection, supporting sustainable development and the conservation of fresh water resources.

Alexandria university actively cooperates with local, regional, national, and international governments to address water scarcity and enhance water security through infrastructure development, policymaking, and international research initiatives.

Local and regional cooperation

- **rainwater management and infrastructure:** the university collaborates with local government bodies and the Arab academy for science, technology and maritime transport (AASTMT) on the rainwater management strategy project. This collaborative approach addresses stormwater management, rainwater harvesting, sewage treatment upgrades, and groundwater restoration to support local irrigation needs and protect regional water resources.

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.









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

- **sanitation and municipal management:** Alexandira university channels over 1.1 million cubic meters of annual wastewater through the municipal Alexandira sanitation company for secondary and tertiary treatment. This process integrates campus infrastructure with regional sanitation systems, supporting water quality improvement, pollution control, and sustainable wastewater management.

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.



National cooperation

- **Egypt's new delta project:** a significant portion of the university's treated wastewater is directed toward the national new delta agricultural reclamation project, supporting national objectives for food security, water supply, irrigation, and sustainable agricultural development.
- **ministerial partnerships:** through its water research centers, the university cooperates with the ministry of water resources and irrigation, the ministry of higher education and scientific research, and the national water research center. These partnerships support regulatory coordination, scientific research, technology development, and alignment with Egypt vision 2030, promoting sustainable development and efficient water management.



Global government cooperation

- **USAID center of excellence for water:** located at Alexandira university, this $30 million applied research center was funded by the U.S. Agency for international development (USAID). Managed in collaboration with the American university in Cairo (AUC), the center connects international funding with an academic consortium comprising five Egyptian universities and five American institutions, including Washington state university and uc Santa Cruz. Its activities advance innovative technologies, water treatment methods, groundwater modeling, and practical solutions to water scarcity.



- **international technical pilots:** the university participates in international engineering research programs, including a water security project co-sponsored by the Egyptian academy of scientific research and technology and the Czech academy of sciences. It also collaborates on automated irrigation pilots with international industry partners such as the shanghai water saving irrigation corporation. These initiatives promote efficient water use, innovative irrigation systems, resource conservation, and environmental protection.

Through these partnerships, Alexandira university strengthens integrated water management, encourages international knowledge exchange, and supports the development of sustainable solutions for water pollution, water scarcity, and regional environmental challenges.