6.5.4 Water is extracted (for example from aquifers, lakes or rivers), utilize sustainable water extraction technologies on associated university grounds on and off campus

1. Air conditioning water collection and reuse unit in Faculty of Engineering.
2. Wastewater treatment unit at the Faculty of Engineering
3. Providing a sewage treatment plant at the university to make it suitable for irrigating green areas and gardens inside the university campus.
4. Innovative Renewable Energy RE-Multi-stage flash system (MSF) with salt precipitator and nanofiltration (NF-MSF) to pre-treat feedwater (RE-NF-MSF) by Faculty of Agriculture, Alexandria University
5. A 100 m^3 desalination unit in Wadi Natroun (Faculty of Agriculture, Alexandria University)
6. The irrigated water supplied to the fish farm at the Agriculture Experimental Research Station of the Faculty of Agriculture is recycled to irrigate the crops, vegetables, and fruits of the land farm. The recycled water is rich withnatural fertilizers and enhances the crops production.
7. In addition, the water recycling in Fish Aquaculture of the Faculty of Agriculture, Alexandria University: The watersewage of the Aquaculture of the Faculty of Agriculture, Alexandria University which consist of eight ponds (one acre and quarter/each) in Abis region. Alexandria University used the recycled water for crops culturing in the adjacent agriculture research center in Abis.
8. IOT Pilot Project in Egypt by Shanghai Water Saving Irrigation Corp. Etd performed an automatic controlled irrigation systems IOT project for modern irrigation technology. The company implanted the IOT platform projectto irrigate economic crops and facilitate irrigation systems to overcome the water shortage problems in Egypt. This project will be performed in Alexandria University Farm for agroecological farming in Egypt.
9. 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).
10. **Green Cycle project in the Faculty of Pharmacy - Alexandria University**
    The faculty is seeking to implement a grey water (wastewater) recycling system that depends on reusing 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.
11. **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)

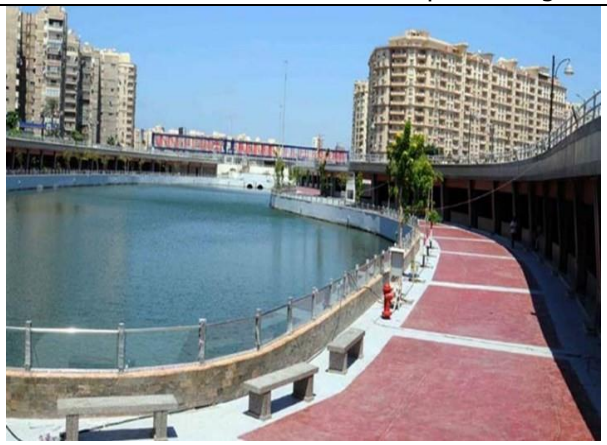
    Proposed rain management strategy
    A separate network will be created to drain rainwater for the nearest body of water for areas close to the body ofwater. The first area is the Corniche, where rainwater is collected and discharging it into marine estuaries. The second area is on both sides of the 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	٠	٢٥٠
٤	محطات رفع	عدد	١	٠	١
٥	مطبق	عدد	٢٤	٢٤	٠
٦	كنايف مطر	عدد	٩٨	٥٠	٤٨
٧	أسفلت	م٢	٥٢٠٠٠	٠	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

12. Elements of Green Building Implementation as Reflected in all new construction and renovation policies in thenew buildings in Abis campus:

- The area of the project is 160 acres, a general site for educational buildings, and 120 acres are complementary activities. The percentage of green areas and lake is about 52% in addition to 25% streets and lanes.
- Water-saving plots are used, which will reduce water consumption by about 30%. The sewage water will be treated and reused in the irrigation of green areas in the project.
- Wastewater will be treated and reused to irrigate green areas in the project.
- Rainwater is collected in the main lake and used for irrigation.
  The use of plants with few water rationed plants to reduce irrigation needs in addition to absorbing quantities of rainwater to reduce the severity of rain spells.


Air conditioning water collection and reuse unit - Faculty of Engineering

Wastewater treatment unit at the Faculty of Engineering

Grey water recycling system organized by Faculty of Pharmacy and reused in rooftop cultivation