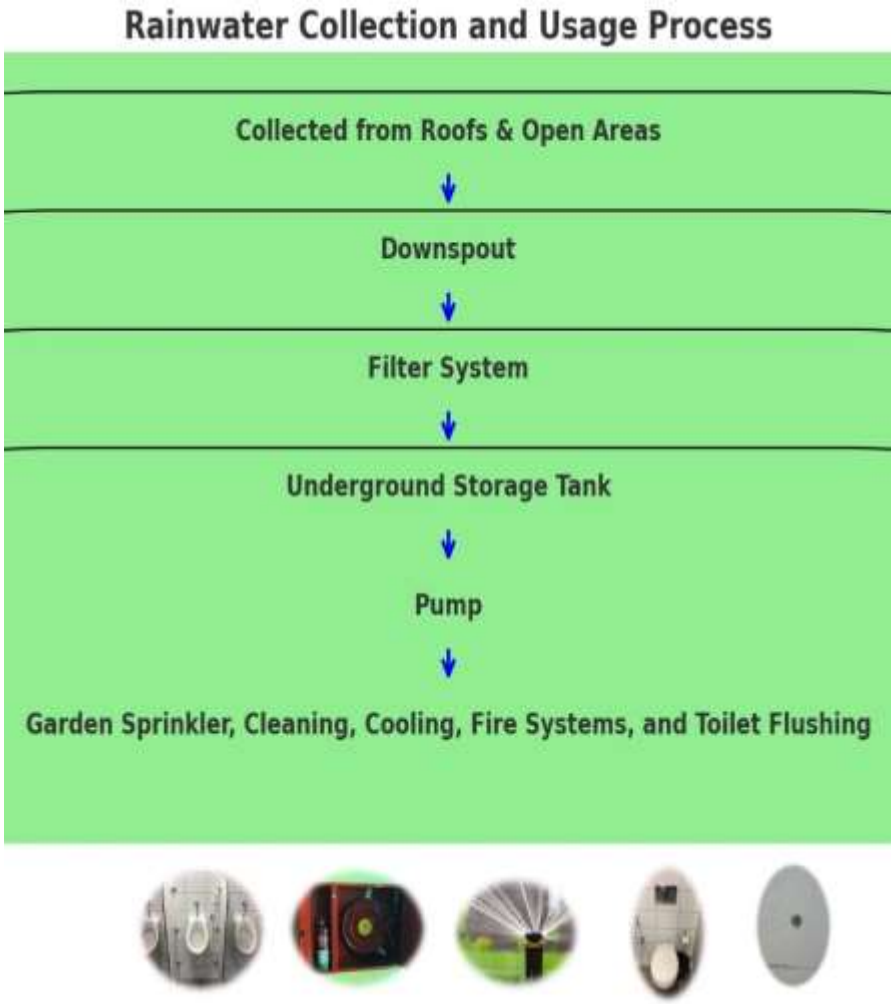
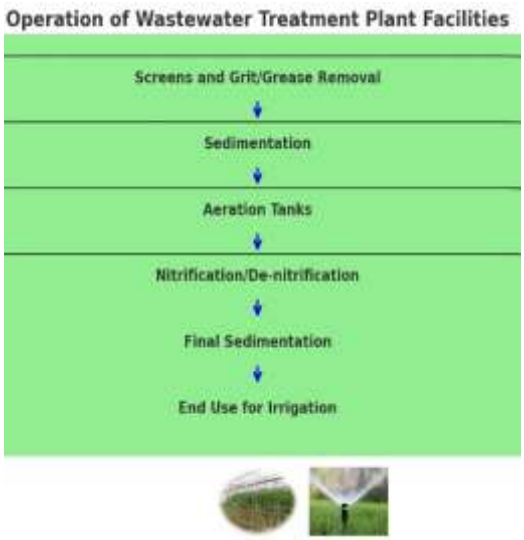
An- Najah National University

Waste Water Treatment Report 2023/2024

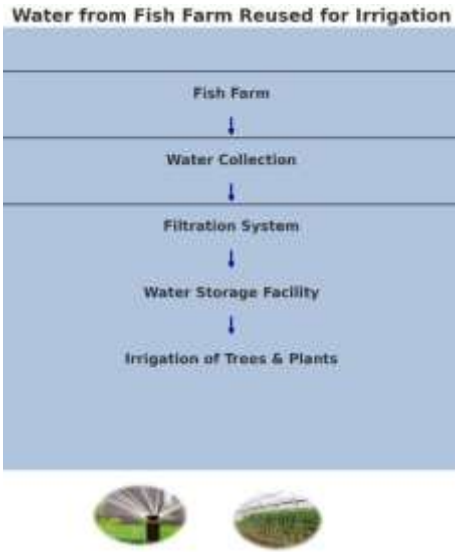
**An-Najah National University is committed to treating wastewater as part of its ongoing efforts to achieve environmental sustainability. The university is connected to the Western Station, where all wastewater generated on campus is fully treated.**




Rainwater Recycling Program (ANNU, Palestine)



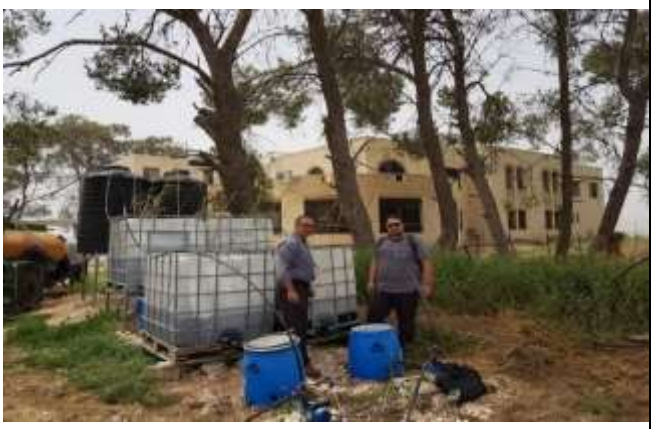

Wastewater Recycling Program (ANNU, Palestine)




Reuse Fish Farm Water (ANNU, Palestine)

Nablus-West Wastewater Treatment Plant (WWTP)

Digester tank in Nablus West WWTP with the gas flare



Wastewater Purification Plant (ANU, Palestine)

**Water Recycling Program Implementation at An-Najah National University**

- **Wastewater Treatment and Reuse:** An-Najah National University's three main campuses—the New Campus, the Old Campus, and Hisham Hijjawi College—are located in the well-serviced urban area of Nablus and are connected to the wastewater treatment plant Nablus- West Waste Treatment Plant (WWTP).

  The university's fourth campus, which is the Faculty of Agriculture and Veterinary Medicine, is situated west of Nablus, near the wastewater treatment plant in Tulkarm. Due to the lack of a wastewater treatment facility in Tulkarm, the university installed its own wastewater treatment station on this campus.

  Additionally, an agreement exists between the university and the Nablus treatment plant, allowing a portion of the treated water to be reused for irrigation of the university's agricultural lands in Tulkarm.

- **On-Campus Wastewater Purification System:** Due to the campus of the Faculty of Agriculture and Veterinary Medicine is located in the city of Tulkarm and because there is no central purification station for the city, the university has established its own wastewater purification plant at campus of Faculty of Agriculture and Veterinary Medicine to complement the municipal treatment system. Wastewater collected from various campus facilities is purified and stored in dedicated tanks. The recycled water is then used to irrigate plants, trees, and vegetables on the university grounds, with an annual quantity of approximately 500 cubic meters. This initiative contributes to resource conservation and enhances the sustainability of campus landscaping and agricultural projects.
- **Innovative Water Reuse in Aquaculture:** Water used in the university's fish farm at Faculty of Agriculture and Veterinary Medicine is recycled and utilized for irrigating trees and plants, demonstrating a unique approach to resource efficiency. This water recycling system minimizes waste and ensures that even the fish farming processes contribute to the university's broader environmental sustainability goals.

- **Rainwater Collection and Multi-Purpose Reuse:** An-Najah National University efficiently collects and treats rainwater from rooftops and open spaces through a robust filtration system. The treated rainwater is then stored and used for multiple purposes, including garden irrigation via sprinklers, cleaning open spaces around university buildings, and supporting critical systems such as cooling units, fire prevention, and toilet flushing. This comprehensive approach reduces reliance on municipal water supplies and promotes water conservation across campus operations.
- **Advanced Water filtration system**: An-Najah Hospital utilizes a comprehensive water filtration system to ensure high-quality water for medical purposes. The process begins with cartridge, carbon, and sand filters to remove particles, organic compounds, and suspended solids. Water softeners then reduce hardness to prevent scaling in pipes and equipment. The reverse osmosis (RO) system removes up to 99% of dissolved contaminants, while deionization (DI) further purifies the water by removing ions. UV filtration is used to disinfect water by neutralizing bacteria and viruses. For critical applications, an ultra-pure filtration system combines RO, DI, and UV filtration to produce the highest quality water for sensitive medical procedures, laboratory use, and equipment sterilization.