



URDANETA CITY UNIVERSITY PRACTICES SUSTAINABLE WATER EXTRACTION TO SUPPORT SDG 6: CLEAN WATER AND SANITATION

Introduction

Committed to the principles of environmental stewardship and aligned with the United Nations Sustainable Development Goal 6 (SDG 6): Clean Water and Sanitation, Urdaneta City University (UCU) continues to demonstrate leadership in responsible water sourcing and management. Recognizing that water is a finite and vital resource, the university ensures that all extraction and use of water whether from groundwater aquifers, surface sources, or rainwater systems is conducted through sustainable and science-based methods on its main and extension campuses.

Through innovation, monitoring, and community collaboration, UCU strengthens its role as a model institution for sustainable water extraction and conservation in higher education.

Responsible Water Sourcing

UCU's primary water sources include deep-well aquifers within the university grounds, rainwater collection systems, and treated surface water from local supply networks. These sources are managed through a system that prioritizes:

- Controlled extraction volumes based on hydrogeological assessments.
- Regular monitoring of groundwater levels to prevent over-pumping or depletion.

Water quality testing to ensure safety and compliance with environmental standards.



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Sustainable Extraction Technologies

The university employs modern and energy-efficient technologies to ensure that water extraction remains environmentally responsible. Among these are:

- Submersible pump systems with flow control to limit excess withdrawal from aquifers.
- Automated pressure sensors that regulate pumping cycles and reduce energy consumption.
- Rainwater harvesting systems that capture and store runoff for irrigation, cleaning, and sanitation.
- Filtration and sediment control units that maintain water quality and extend system lifespan.

These technologies collectively reduce water loss, improve efficiency, and promote long-term sustainability across the university's operations.

Integration with Campus Design

Sustainable water extraction at UCU is part of a comprehensive campus water management plan. Extracted groundwater and collected rainwater are channeled through:

- Distribution systems that supply laboratories, sanitation facilities, and landscape areas.
- Greywater reuse systems that recycle lightly used water for non-potable applications.
- Drainage and infiltration zones that allow excess stormwater to recharge the aquifer naturally.



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Research and Education Initiatives

As a university dedicated to education and innovation, UCU integrates sustainable water extraction into its academic and research programs.

- Engineering students conduct studies on groundwater behavior, pump efficiency, and filtration system design.
- Environmental science students monitor water quality and soil-water interactions to assess extraction impacts.
- Education and public administration students develop awareness campaigns and policy recommendations promoting responsible water use.

These academic initiatives turn the campus into a living laboratory, where theory and practice converge to advance SDG 6 objectives.

Partnerships and Community Engagement

UCU works closely with local government units (LGUs), the Department of Environment and Natural Resources (DENR), and community organizations to share knowledge on sustainable water technologies and responsible extraction. The university provides training and technical support to neighboring barangays on:

- Well maintenance and monitoring.
- Safe water storage and usage.
- Rainwater collection and aquifer recharge techniques.



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Environmental Impact and Achievements

The university's sustainable extraction program has led to measurable environmental and operational benefits:

- Reduction in freshwater demand through rainwater reuse.
- Stabilization of groundwater levels due to controlled pumping schedules**.
- Improved energy efficiency in water delivery systems.
- Enhanced awareness among students, staff, and community partners about the importance of resource conservation.

These outcomes underscore UCU's success in aligning daily operations with global sustainability standards.

Alignment with SDG 6

UCU's sustainable water extraction initiatives directly advance the following SDG 6 targets:

- Target 6.4: Increase water-use efficiency and ensure sustainable withdrawals to address water scarcity.
- Target 6.3: Improve water quality by reducing pollution and promoting recycling and safe reuse.
- Target 6.b: Strengthen the participation of local communities in improving water and sanitation management.



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