Water Reuse

SDG 6.4.2

University : Al Balqa Applied University
Country : Jordan
Web Address : bau.edu.jo

[6.4.2-A] Water re-use measurement

المركز الدولي لبحوث المياه والبيئة والطاقة

International Research Center for Water, Environment & Energy

[BAU's International Centre for Water, Environment, and Energy]

(IRCWEE) Supports consciousness, education, and training on water conservation and recycling. Founded in 2009, the center works as a nucleus of seminars, workshops, and training programs involving integrated water resource management, wastewater reuse, environmental protection, and renewable energy.

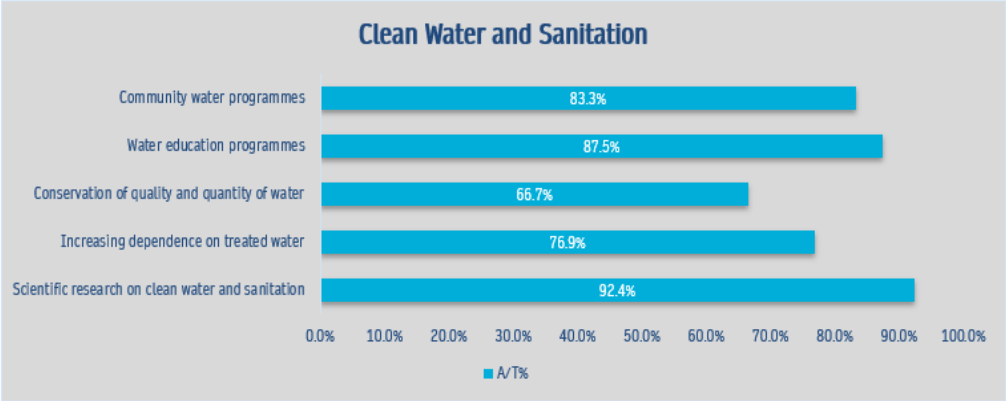
[Engineering Department]

The **Engineering Department** is responsible for the **planning, implementation, monitoring, tracking, and evaluation** of all **water management programs** across the university. It also develops and applies **enhancement methods based on water consumption tracking reports**, ensuring continuous improvement in water efficiency and sustainable resource use.

No.	Sustainable Development Goal
6	Clean Water and Sanitation

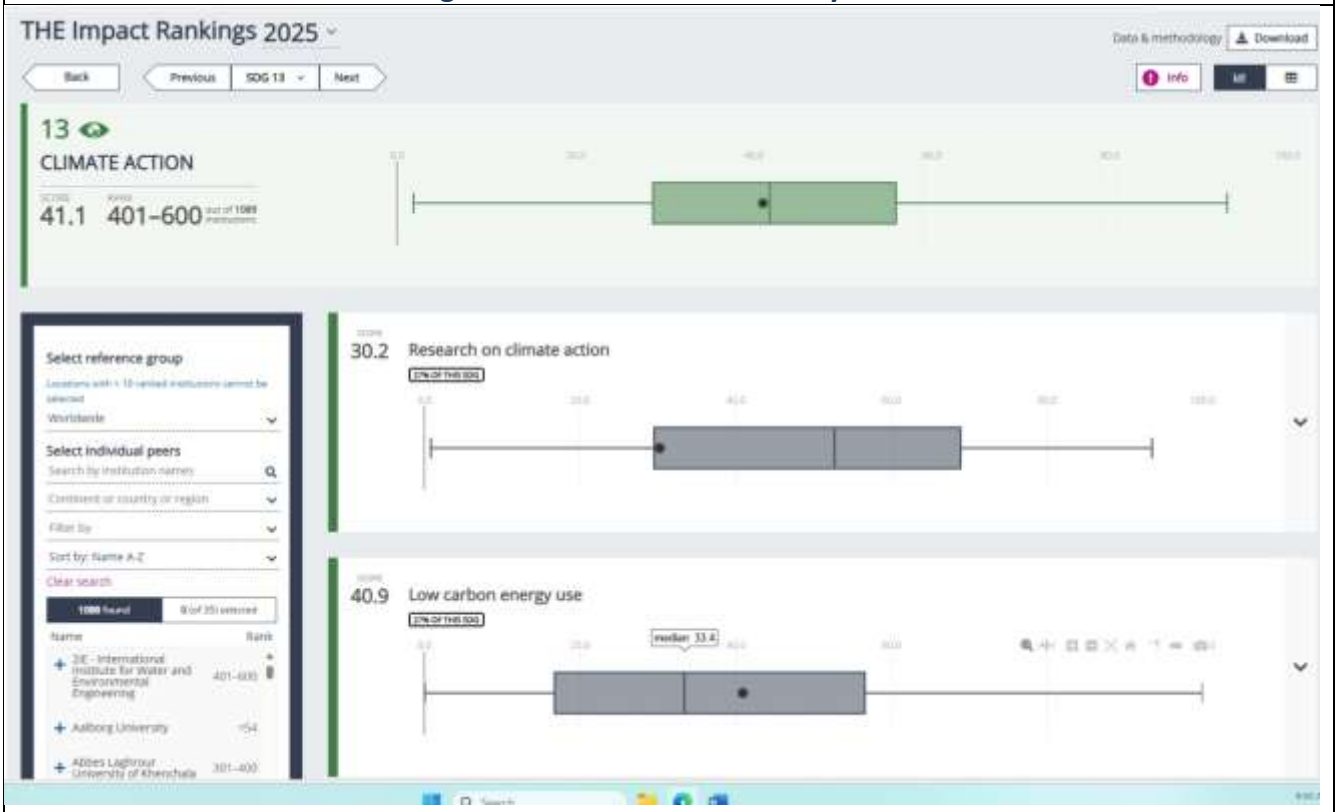
81.4%

Code	Sub-Goal	2025		
		Achieved	Target	A/T%
A	Scientific research on clean water and sanitation	171.00	185.00	92.4%
B	Increasing dependence on treated water	50.00	65.00	76.9%
C	Conservation of quality and quantity of water	4.00	6.00	66.7%
D	Water education programmes	7.00	8.00	87.5%
E	Community water programmes	10.00	12.00	83.3%



SDG 6 – Clean Water and Sanitation: Institutional Progress and Achievements (2025)

Tracking the Achievement of SDG6 by Dashboard



Tracking the Achievement of SDG13 by Dashboard

Al Balqa Applied University
Al Salt - Jordan

جامعة البلقاء التطبيقية
الأردن – السلط

Policy Name:	Water Re-Use

Code:	BAU_025	Issue date:	2016
Issue No:	2018, 2020,2023	Confidentiality status:	Public
Accreditation:	Quality Assurance and Continual Improvement Council (QACIC)		

Responsibilities:

Implementation:	All BAU's Academic Colleges, Administrative Units, Scientific Centers
Revision and improvement:	Development and Quality Assurance Center

Policy (Arabic):

تلتزم جامعة البلقاء التطبيقية بالحفاظ على مصادر المياه المتنوعة ودعم الهدف السادس من أهداف التنمية المستدامة للأمم المتحدة، والذي يركز على المياه النظيفة والصرف الصحي. ونهدف إلى تحقيق ذلك من خلال البحث العلمي التطبيقي، وبناء شراكات محلية وإقليمية ودولية قوية، وتنفيذ المشاريع والبرامج والمبادرات التي تدعم الاستخدام المستدام للمياه. وتشمل جهودنا توظيف التكنولوجيا المناسبة لتحسين استهلاك المياه، وزراعة النباتات المرنة، وحماية مصادر المياه من التلوث، وتعزيز حصاد مياه الأمطار، وتطوير برامج معالجة وإعادة استخدام مياه الصرف الصحي، وتعزيز ثقافة الحفاظ على المياه، وتشجيع ممارسات إعادة التدوير داخل الجامعة والمجتمع الأوسع.

Policy:

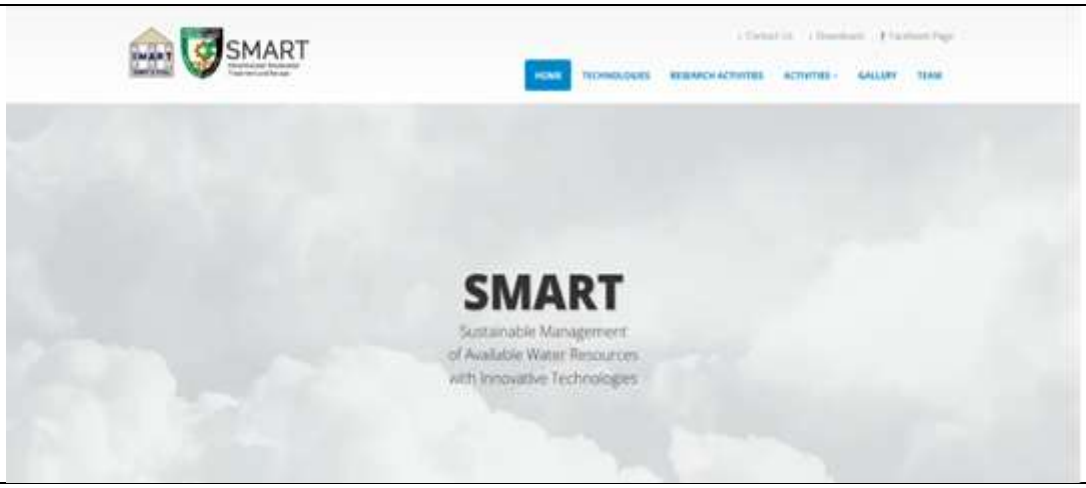
Al-Balqa Applied University is committed to conserving diverse water resources and upholding the United Nations' Sustainable Development Goal 6, focused on clean water and sanitation. We aim to achieve this through applied scientific research, building strong local, regional, and international partnerships, and implementing projects, programs, and initiatives that support sustainable water use. Our efforts include employing appropriate technology to optimize water consumption, planting resilient vegetation, protecting water sources from pollution, enhancing rainwater harvesting, developing wastewater treatment and reuse programs, promoting a culture of water conservation, and encouraging recycling practices within the university and the broader community.

[Water Re-use Policy]

BAU Water Consumption Tracking

WATER4MED

Benchmarking Study on Modified Septic Tanks for Domestic Wastewater Treatment Using Suspended and Attached Growth Systems



SMART

Sustainable Management of Available Water Resources with Innovative Technologies

Integrated Wastewater Management in Jordan

In view of climate change, a dynamic population development and increasing refugee influx, efficient water management has become an existential challenge, especially for arid and semi-arid regions. Jordan is one of the world's most water scarce countries, where groundwater resources are indispensable for water supply.

Jordan is striving to set a regional example of a successful implementation of IWRM concepts and it is expected that it will be the reference case for IWRM knowledge, methods, and application in the Middle East.

The implementation of IWRM concepts will help to mitigate extreme water scarcity and protect groundwater resources in Jordan. The Jordanian Ministry of Water and Irrigation has identified the treatment and reuse of wastewater as an essential component of IWRM and Jordan's water strategy.

Photo credit: André Künzelmann, Nabil Wakileh, Naser Almanaseer, Mi-Yong Lee

Federal Ministry of Education and Research

SMART

HUBER TECHNOLOGY WASTE WATER Solutions

ATB

BMU

WAKILEH

BDZ

Competence Facility for Decentralized Wastewater Management

Sustainable Management of Available Water Resources with Innovative Technologies (SMART)

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HELMHOLTZ CENTRE FOR ENVIRONMENTAL RESEARCH – UFZ

Competence Facility for Decentralized Wastewater Management

Within the framework of the SMART project, the Fuheis Demonstration, Research and Training Facility started its operation in autumn 2009. It demonstrates various approaches for sustainable integrated wastewater treatment and reuse.

Different wastewater treatment systems were installed, as well as an onsite laboratory. The treatment systems are operated with raw wastewater and were further developed and adapted to the Jordanian conditions.

The aim is to demonstrate the robustness of the technologies, their low operation and maintenance requirements as well as the possibility to provide effluent qualities that meet the Jordanian standards for the reuse of treated wastewater.

French Design

- Combines sludge & wastewater treatment
- Raw wastewater applied directly to one filter at a time
- Alternating operation allows sludge to turn into compost

The Fuheis Demonstration, Research and Training Facility is unique. It allows for direct comparison of technologies under the same climate and wastewater conditions.

Aerated Design

- Combined secondary treatment & disinfection
- Saturated operation
- Air pump provides oxygen & mixing for increased treatment
- Low maintenance requirements

The wastewater treatment technologies at the site include the following technologies:

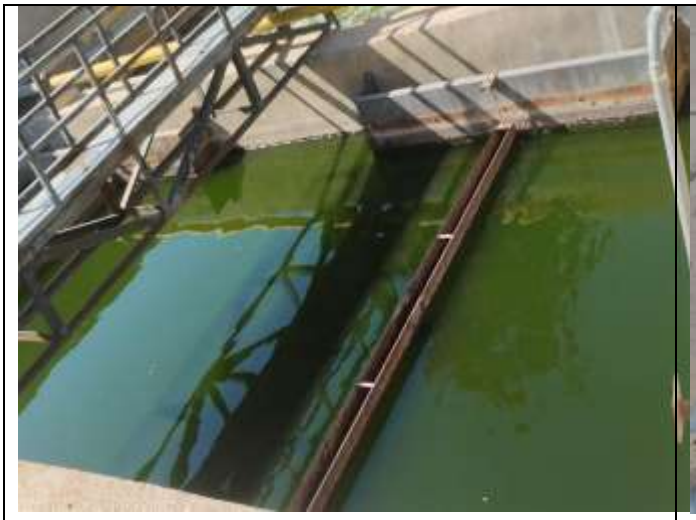
- Sequencing- and Continuous- Batch Reactors (SBR, CBR)
- Traditional and Modified Septic Tanks (MST)
- Membrane Bioreactor (MBR)
- Sludge Dewatering Reed Bed
- Anaerobic Bioreactors
- Ecotechnologies: Vertical Flow Treatment Wetlands, Aerated and French Design.

Research at the facility focuses on (i) technology optimization; (ii) nutrient recycling; (iii) pathogen removal; (iv) wastewater reuse; (v) sludge management & groundwater recharge.

Agricultural and garden plots are dedicated to study the reuse of treated wastewater. The test plots are planted with lemon trees that are commonly produced in Jordan and have relatively high irrigation requirements. Small garden plots demonstrate further possible ways to use treated wastewater at a household level.

Furthermore, the facility serves as Training and Capacity Development platform. It is used by students to conduct their PhD, Master and Bachelor studies or to gain further qualified training. Ministries, local companies, donors and further interested parties use the facility to increase their knowledge on the different wastewater treatment systems installed, including their operation and maintenance requirements.

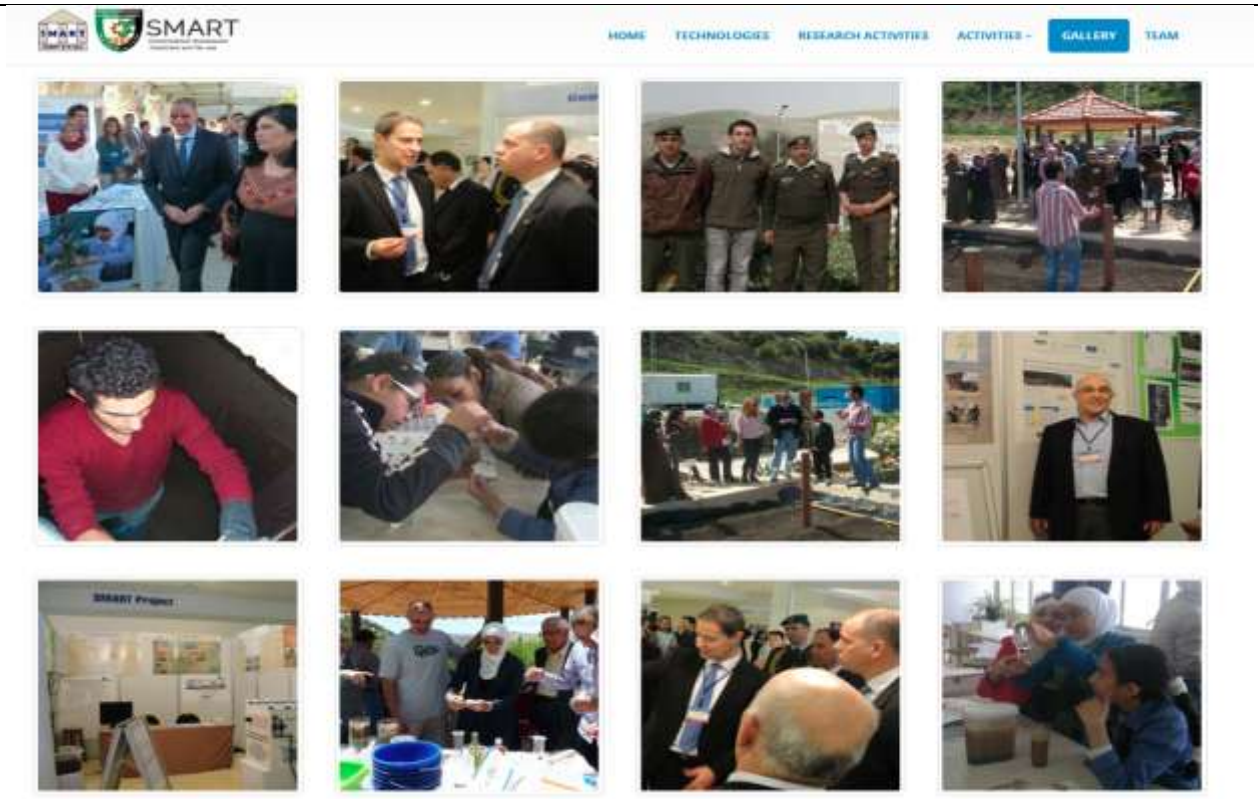
Fuhais Station



Al-Karak Campus Site Wastewater Treatment Station

New Recycled Water Treatment Station at Jerash Campus

BAU Irrigation System Using Treated Wastewater



[Training courses and workshops]

The "WATRA PROJECT" a series of training workshops and study tours where organized by BAU, IHE Delft, and funded by the World Water Academy (WWA) in the Netherlands

Raising water and environmental awareness among children / water treatment techniques

A workshop at Al-Balqa Applied University to review modern technologies for treating olive water resulting from olive presses.

Collaboration between BURDAA Germany and Al-Balqa Applied University

Practical training for students of the Wastewater Treatment Department at inside Al Balqa Applied University Station for Excellence in Water and Environmental Engineering and Technology