Sustainable Development Goal_06 (Clean Water & Sanitation) Report

Al-Balqa Applied University

2025

Foreword

Al-Balqa Applied University (BAU) is a prominent public university in the Hashemite Kingdom of Jordan, with a student body of over 60,000 and multiple satellite campuses across the country. BAU's vision is to excel as a globally competitive applied university, renowned for creativity, innovation, applied scientific research, and leadership. The university is dedicated to fostering Jordan's knowledge economy and society, delivering high-quality education that equips students to thrive in a rapidly changing world.

Spanning an estimated **11,100,000 m^2**, BAU's campuses are home to a wide array of educational, research, medical, sports, and cultural facilities. Additionally, the campuses feature extensive green spaces and recreational areas, creating a vibrant, supportive environment for student development and engagement.

BAU's main campus is located in the ancient city of As-Salt, in Al-Balqa' Governorate, home to a number of important cultural and historical sites, and a UNESCO world heritage site. Built by Macedonians, As-Salt occupied an important trading position by Roman, Byzantine, and Mamelukes. Along with its historical value, As-Salt city is located 20 minutes from the lowest point on earth, the Dead Sea and is very close to the holy baptism site of Jesus Christ on the East bank of the Jordan River. A sunny day at As-Salt rewards visitors with a breathtaking view of the holy lands.

Alongside BAU's main campus, the university's satellite campuses are hubs for quality education and research and offer students the opportunity to explore Jordan's rich cultural heritage. For example, Aqaba University College located in Jordan's only port, offers maritime transport technology programs as well as easy access to the golden triangle of

Petra, Wadi Rum and Aqaba. And Shoubak University College, which is located close to the stunning Dana Biosphere Reserve. and Huson University College in the north, which closest to Jerash which is the second to Petra on the list of favorite destinations in Jordan

Al-Balqa Governorate is a province of intellectual heritage and folklore, and it is popular for recreational and religious tourism; traveler may visit many ruins and sacred shrines for Prophet Shu'ayb (Maqam Nabi Shu'ayb), Prophet Joshua Ben-nun, Prophet Gad Ben Jacob, Prophet Ayub, Prophet Hazir, and Prophet Gilad (May Peace Be Upon Them), as well as the shrines of two of Prophet Mohammad (Peace Be Upon Him) Companions: Abu Obeida Al-Jarah and Dirar Ibn Azwar.

Such an integral role along with other cities of the Kingdom was deeply rooted during the establishment of the Emirate of Jordan in 1921 moving towards developing the country. Salt City was prominent with its scientific and educational legacy, which was marked by the founding of Salt School, inaugurated by His Majesty King Abdullah the First – may God rest his soul – (Prince at that time) in 1923, to be the first school in the kingdom having its graduates as great officials and leaders of the nation.

Upon firmly acknowledging the educational and scientific long history of Salt City along with its leading role in the field of education by the Hashemite leadership, Late King Hussein Bin Talal – May God rest his soul – honored Balqa' governorate by the issuance of the royal decree to establish Al Balqa Applied University in Salt city on the 22nd of August 1996. This has enhanced the city's role, commemorated the pioneers of its early graduates, and scientifically empowered its legacy which we hope to continually flourish.

Our Strategic Response

BAU operates through a network of campuses across Jordan, covering diverse climatic regions—from the highlands in the mid-west to the arid governorates in the south and far east. This geographical diversity has driven BAU to undertake extensive initiatives in climate variability and adaptation, establishing itself as a leader in climate resilience.

BAU is at the forefront of research and innovation in areas such as water conservation, drought management, capacity building, and technology transfer. Its initiatives span solar energy, wastewater treatment and reuse, and smart agriculture. The university has also introduced specialized academic programs in fields like smart agriculture, water treatment,

smart buildings, and electric and hybrid vehicles, alongside conducting numerous climate change awareness activities.

On another hand (BAU) adopts the United Nations Sustainable Development Goals (UN SDGs), and Paris Agreement goals which are adopted by all nations as a universal call to protect the planet and ensure that all people enjoy peace and prosperity by 2030 through ethical management of resources, openness to societies and contributing to their development and solving their problems, and creating a conscious generation of its students who adopt the dimensions of sustainable development in their lives, directing scientific research to contribute to achieving sustainable development, and strengthening national and international partnerships, also (BAU) became a member of United Nations Academic Impact (UNAI), and United Nation - Sustainable Development Solution Network (UNSDSN).

INTRODUCTION:

BAU has adopted a sustainability-driven approach rooted in continuous improvement, with a mission to fully integrate the United Nations Sustainable Development Goals (SDGs) into its core strategies, policies, and daily operations. This commitment has inspired transformative initiatives, projects, and programs across all faculties and campuses. Through responsible resource management, innovative teaching, impactful research, and strong national and international partnerships, BAU continues to redefine its institutional identity as a leader in sustainability.

To strengthen its contribution to the SDGs, BAU established a **dedicated Sustainability Office** and implemented best practices that have earned international recognition. Remarkably, the university ranked **first nationally and 2nd in the Arab region**, and **53rd globally** in the **2023 UI GreenMetric World University Rankings**.

These accomplishments align with the **17 Sustainable Development Goals**, which serve as a guiding framework for meaningful action toward people and the planet. By embracing these goals, BAU continuously assesses its progress and sets clear priorities for future advancement.

BAU remains steadfast in empowering students as agents of change, community leaders, and responsible global citizens. Faculty and students actively engage in sustainability-oriented education through diverse courses, academic programs, and research projects that advance SDG principles in teaching, learning, and innovation.

In alignment with its Strategic Plan 2021-2025, BAU continues to pioneer innovative approaches through training programs, applied research, and community engagement initiatives—all designed to contribute effectively to the realization of the UN 2030 Agenda for Sustainable Development.

INTRODUCTION

Access to safe water, sanitation, and hygiene is a fundamental human right, yet global demand for water continues to rise due to population growth, urbanization, and expanding needs in agriculture and industry. Water stress remains high, with one in ten people living under severe pressure, and climate change is expected to worsen scarcity.

Progress has been made: access to safely managed drinking water increased from 68% in 2015 to 74% in 2024. However, the world is not on track to achieve universal WASH services by 2030, and sustainable water management may not be achieved until 2049 without accelerated action.

Major challenges persist, including water scarcity, pollution, degraded ecosystems, and limited sanitation—2.2 billion people still lack safe drinking water and 3.4 billion lack safe sanitation. Addressing these issues requires greater investment, innovation, capacity-building, cross-sector cooperation, and integrated water management.

Sustainable water management is essential not only for health but also for food security, poverty reduction, economic growth, biodiversity protection, and climate resilience. Without improved infrastructure and governance, millions will remain vulnerable to water-related diseases and environmental degradation.

Water is essential for life, supporting ecosystems, human health, and economic development. Global demand for water is rising due to population growth, urbanization, and increasing needs from agriculture, industry, and energy. This demand has outpaced population growth, leaving one in ten people living under

high or critical water stress, with some regions exceeding 75 per cent stress. Climate change further intensifies water scarcity, and at the current pace, sustainable water management worldwide may not be achieved until 2049. Access to safely managed drinking water has improved from 68 per cent in 2015 to 74 per cent in 2024, but achieving universal water, sanitation, and hygiene (WASH) services in schools by 2030 requires doubling current progress.

BAU a comprehensive framework has been developed to ensure sustainable water management and sanitation both on campus and across Jordan. Key initiatives include:

- **Advancing Scientific Research:** Supporting innovative research on clean water and sanitation solutions.
- **Maximizing Treated Water Usage:** Promoting the use of treated water to reduce dependence on freshwater resources.
- **Strengthening Water Conservation:** Implementing measures to preserve both water quality and quantity.
- **Expanding Water Education:** Delivering educational programs to raise awareness of sustainable water practices.
- **Empowering Communities:** Engaging local populations through community-based water initiatives.

Strategic Achievement for SDG6 /2025

WATER RE-USE MEASUREMENT

Al-Balqa Applied University (BAU) recognizes the critical importance of wastewater treatment in sustainable water management. The university actively monitors the volumes processed through its wastewater treatment facilities, with a particular focus on its dedicated Wastewater Treatment Facility. This diligent assessment ensures the continuous development and enhancement of the treatment processes, targeting an annual increase in the output of treated water to meet growing demands.

Among the various wastewater treatment stations utilized by **BAU**, the decentralized facility in Fuheis, known as the SMART station, serves as a flagship model. This facility exemplifies innovative and efficient wastewater management practices, reinforcing the university's commitment to advancing sustainable solutions and contributing to environmental conservation efforts.

WATER IN THE COMMUNITY

BAU is at the forefront of preparing highly skilled water engineers equipped with advanced competencies to meet the demands of rapidly evolving technologies. Recognizing the limitations of traditional methods in water collection, treatment, irrigation, and conservation, BAU has proactively modernized its core water-related curricula.

One notable initiative is the peer-to-peer curriculum development project, conducted in collaboration with experts from IHE-Delft in The Netherlands as part of the WATRA project. This effort focuses on updating academic content in key areas such as drinking water treatment, wastewater treatment, and hydrology to reflect the latest technological advancements.

Beyond academic programs, BAU engages in annual awareness campaigns targeting diverse stakeholders, including women's associations, farmers, school students, and decision-makers. Capacity-building initiatives have also been prioritized, with over 72 private-sector operators receiving training this year to align their skills with emerging technologies, also as part of the WATRA project.

BAU's Al-Fuhais station serves as a dynamic learning platform, providing practical opportunities for students, researchers, and the local community to engage with real-world water management practices.

Additionally, through its participation in the WATER4MED project, BAU is contributing to the development of innovative solutions for water management in the Mediterranean region, focusing on adapting to the increasing challenges posed by climate change.

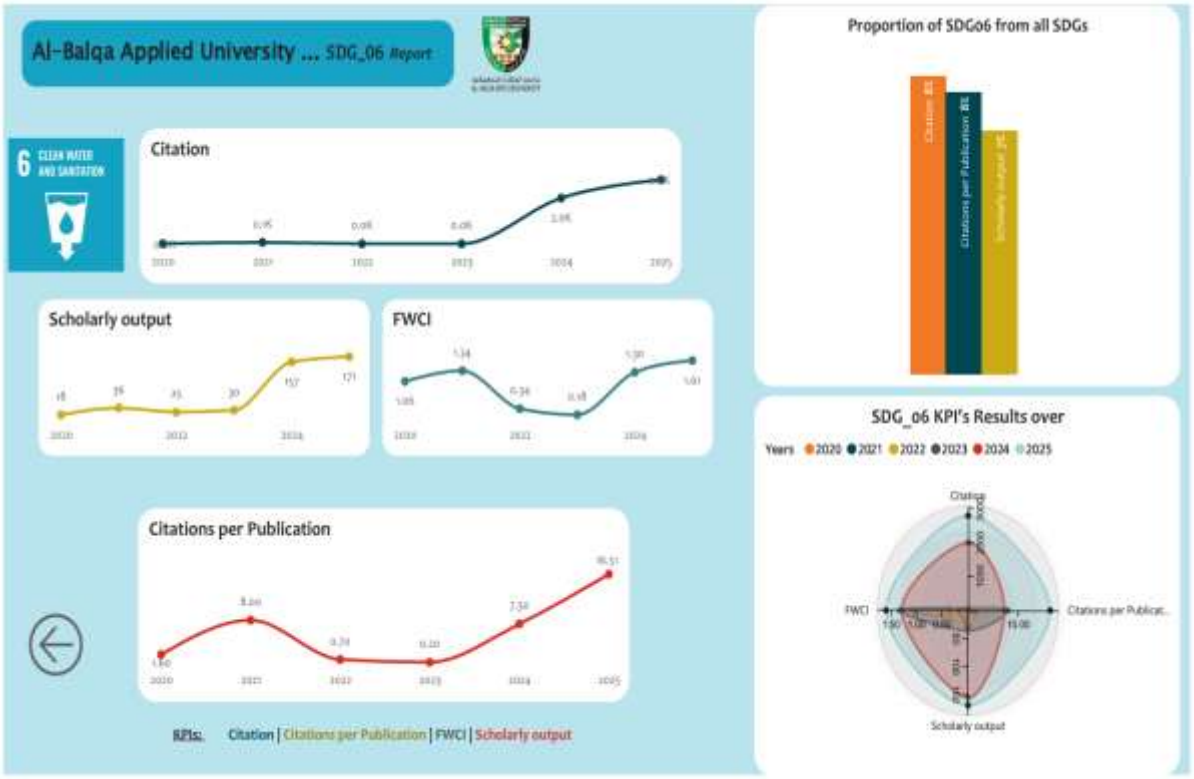
These initiatives underscore BAU's commitment to fostering expertise in sustainable water management and addressing critical environmental challenges at both the local and regional levels.

RESEARCH AND INTERNATIONAL COLLABRATION

Water security has emerged as a critical national priority, and its centrality within state universities has become increasingly pronounced. However, the extent of contributions toward water security varies among universities. Al-Balqa Applied University has shown a steadfast commitment to ensuring water security, taking significant strides to achieve this goal. An exemplary instance is BAU's collaboration with UNESCO in 2009 to establish International Research Center for Water, Environment and Energy (IRCWEE) within the university. Since its inception, this partnership has fostered increased cooperation both nationally and internationally.

BAU has actively engaged in numerous water-related projects, funded at national and international levels, aimed directly or indirectly at bolstering water security. These projects span from minor contributions to policy development to substantial interventions on the ground. Presently, BAU boasts a multitude of international partnerships and has successfully executed over 14 completed and ongoing water-related projects. This momentum positions the university as a hub for water scientists in Jordan and the wider Middle East region.

IRCWEE's Partners



Publications at Al-Balqa Applied University within SDG 7: Clean Water and Sanitation 2021 to 2025

The SDG 6 dashboard highlights strong and consistent progress in BAU's research contribution to clean water and sanitation. Scholarly output has grown steadily from 2020 to 2025, demonstrating increasing academic engagement in water-related challenges. Citations show a substantial rise, particularly in 2024 and 2025, indicating greater visibility and influence of BAU's research in this critical field.

FWCI values improved notably over time, reflecting enhanced research quality and stronger international relevance. Citations per publication also peaked in 2025, showing that individual studies are becoming more impactful. Overall, the indicators show that BAU is significantly strengthening its role in advancing SDG 6, with expanding research productivity, higher-quality outputs, and growing global recognition.

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