UNIVERSITY OF JOHANNESBURG

2023 ANNUAL REPORT: SDG REPORT

SDG 6: CLEAN WATER AND SANITATION

Our Future Reimagined

UJ SDG REPORT 2023
SDG 6: CLEAN WATER AND SANITATION

Report on the University of Johannesburg's Contribution to Sustainable Development Goal 6 SDG 6: Clean Water and Sanitation

OVERVIEW: EXECUTIVE SUMMARY

This report outlines the University of Johannesburg's (UJ) contributions to the United Nations' Sustainable Development Goal 6 (SDG 6) on Clean Water and Sanitation during the 2023 academic year. UJ has made significant progress towards contributing to the achievement of SDG 6, which aims to ensure access to clean water and sanitation for all and to sustainably manage water resources. Throughout 2023, UJ focused on implementing innovative water management practices, enhancing water use efficiency, and promoting water conservation across its five campuses. These efforts were particularly important as South Africa continued to face challenges related to water supply disruptions, load shedding, and the broader environmental impacts of climate change.

In response to these challenges, UJ implemented a range of activities aimed at reducing water consumption, improving water quality, and contributing to sustainable water practices. These included water-saving initiatives such as the installation of water-efficient systems, the

expansion of water recycling, and the development of key partnerships with local authorities and community organisations. UJ’s contribution to SDG 6 reflects the university's broader commitment to sustainability, as embedded in its Strategic Plan 2025 and its focus on societal impact and environmental responsibility.

This report highlights UJ's major water management activities in 2023, including efforts to reduce water consumption, adopt innovative water-saving technologies, and improve access to clean water. It also outlines the university’s broader initiatives aimed at fostering sustainability and addressing water scarcity issues within its operational boundaries and the surrounding communities.

INTRODUCTION

The University of Johannesburg (UJ) is a leading institution in South Africa that prioritises sustainability across its operations. Clean water and sanitation are fundamental to both the university's operational activities and its broader social responsibility efforts. UJ understands that ensuring sustainable access to water is critical not only for its academic and administrative functions but also for the communities it serves. As part of its environmental sustainability agenda, UJ has aligned its efforts with the United Nations Sustainable Development Goal 6 (SDG 6), which seeks to ensure universal access to clean water and sanitation and the sustainable management of water resources.

In 2023, UJ's approach to achieving SDG 6 focused on reducing water consumption, promoting water-efficient systems, and creating awareness about water conservation both on campus and in the surrounding communities. The university took significant steps in addressing water challenges, particularly during periods of water supply disruptions and national load shedding. UJ's activities in the domain of water management also include innovations in water recycling, water storage, and strategic collaborations with local authorities to improve water access for underserved communities.

This report outlines UJ's contribution to clean water and sanitation through a comprehensive examination of the university's water management activities, including both its efforts on campus and its external community outreach initiatives.

KEY ACTIVITIES AND INITIATIVES

UJ's contribution to clean water and sanitation in 2023 was driven by a multifaceted approach to water management, encompassing both operational improvements and community-driven initiatives. Among the most significant activities were those aimed at reducing water consumption, implementing water-saving technologies, and addressing water supply disruptions caused by local shortages and broader environmental challenges.

WATER MANAGEMENT STRATEGIES

One of the most pressing challenges faced by UJ in 2023 was the recurrent water supply disruptions that affected various parts of the city of Johannesburg. These disruptions were exacerbated by the ongoing electricity crisis, which led to increased pressure on water infrastructure. As a result, UJ experienced frequent interruptions in water supply, particularly in its high-demand campuses such as the Auckland Park

Kingsway Campus (APK) and the Soweto Campus (SWC). In response to these challenges, UJ implemented several emergency measures, including purchasing over 7 million litres of water at a cost of R7.5 million. This purchase was necessary to ensure the continuation of teaching and learning activities, particularly when water disruptions coincided with academic schedules.

To mitigate the impact of such supply disruptions, UJ invested in its own water transport system, deploying university-owned tankers to supply water between campuses. In total, UJ transported 14.2 million litres of water across its campuses, saving an estimated R15 million. This initiative was critical in ensuring that UJ's operations continued without major disruption. The university's ability to manage these water supply challenges was a testament to its commitment to maintaining a sustainable and uninterrupted academic environment for its students and staff.

WATER CONSUMPTION REDUCTION

Despite the challenges of water supply disruptions, UJ made remarkable progress in reducing its overall water consumption. In 2023, the university achieved a 37.65% reduction in water usage compared to the baseline year of 2015. This significant decrease was made possible by several water-saving initiatives that were implemented over the past few years. For instance, UJ successfully installed water-efficient systems in all student residences, including low-flow showerheads and tap aerators. These installations helped to drastically reduce the amount of water used in high-traffic areas such as dormitories and common areas.

Furthermore, UJ implemented a policy of reducing water consumption for landscaping and gardening. By relying on alternative sources such as borehole water, the university significantly reduced its reliance on municipal water supplies for irrigation purposes. The use of borehole water for non-potable purposes allowed UJ to preserve its potable water resources while maintaining its green spaces on campus. This initiative, alongside the reduction in water use for other non-essential purposes, was part of UJ's broader water conservation strategy.

WATER RECYCLING AND BOREHOLE UTILISATION

A key initiative in UJ's water management strategy was the expansion of its water recycling programme. In 2023, UJ installed its first grey water recycling system at the Auckland Park Bunting Road (APB) campus. The system, which recycles water from sinks, showers, and washing machines, has the capacity to recycle over five million litres of water annually. This pilot project is seen as a model for future water recycling efforts at UJ, with plans to roll out similar systems at other high-rise residence buildings across the university's campuses. By recycling grey water, UJ was able to

reduce its demand for potable water and ensure that water usage remained sustainable even during periods of water scarcity.

Borehole water usage also played a significant role in UJ's strategy for managing water resources. Boreholes were used to supplement the university's water supply, particularly for non-potable uses such as irrigation and flushing toilets. In 2023, the university increased its use of borehole water, ensuring that key areas of the campus could remain operational even during periods of limited municipal water availability. The reliance on borehole water is expected to grow in the coming years, as UJ continues to explore ways of reducing its dependency on external water sources.

COMMUNITY ENGAGEMENT AND EDUCATION

In addition to its internal water management efforts, UJ has also been actively involved in promoting water conservation in the surrounding communities. One notable example of UJ's community engagement in this area is the "Water Wise Warriors" project, which was launched by the Faculty of Health Sciences. This project aimed to educate local communities on sustainable water practices, particularly in areas where access to clean water is limited. Through the project, UJ provided training on water purification, water-saving techniques, and hygiene practices, empowering local residents to manage their water resources more effectively.

Moreover, UJ's Faculty of Engineering and the Built Environment (FEBE) collaborated with local government and non-governmental organisations to address water access issues in underprivileged areas. The faculty's research into innovative water solutions, such as the use of atmospheric water generation technology, has led to the development of prototype systems designed to harvest clean water from the atmosphere. These systems have been trialled in local communities, where access to clean water remains a significant challenge. The success of these pilot projects has positioned UJ as a key player in addressing water scarcity and improving access to clean water in South Africa.

STRATEGIC PARTNERSHIPS AND STAKEHOLDER ENGAGEMENT

UJ's commitment to clean water and sanitation extends beyond its own campus and reaches into broader partnerships with local authorities and stakeholders. The university has worked closely with Johannesburg Water, the City of Johannesburg (CoJ), and other local government entities to address water challenges in the region. Through regular engagement with these stakeholders, UJ has been able to

collaborate on water conservation initiatives, water infrastructure improvements, and policies aimed at ensuring long-term water sustainability.

UJ has also partnered with organisations such as the Water Research Commission (WRC) to further its research into sustainable water practices. These partnerships enable the university to access cutting-edge knowledge and technologies that can be applied to its own water management practices, as well as to local and national water management challenges. By strengthening its relationships with key stakeholders in the water sector, UJ ensures that its water management practices align with broader regional and national water policies.

CONCLUSION

The University of Johannesburg has made significant strides in contributing to SDG 6 on Clean Water and Sanitation. Through a combination of operational improvements, innovative technologies, and community outreach, UJ has made a substantial impact on water management across its campuses and in the surrounding communities. The university's efforts to reduce water consumption, improve water efficiency, and promote sustainable water practices are critical in addressing the ongoing challenges of water scarcity and water quality in South Africa.

UJ’s commitment to sustainability is reflected not only in its efforts to reduce its environmental footprint but also in its active role in addressing water challenges at the local and regional levels. Moving forward, UJ will continue to build on these successes by expanding its water-saving initiatives, fostering innovation in water management, and strengthening partnerships with stakeholders to ensure that clean water and sanitation remain accessible for all. The university’s ongoing work in this area will play a key role in shaping a more sustainable and water-secure future for South Africa and the broader Southern African region.

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