



Clean Water and Sanitation



Sustainable Development Goals Report 2023

“Without water, we can’t live. Water supports out agriculture and aquaculture. Clean water is vital. However, due to bad economics or poor infrastructure, millions of people, including children, die every year from diseases associated with inadequate water supply, sanitation, and hygiene.”

THE Impact Rankings





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STATISTICS

25,340

Campus Population

438,308 m³

Volume of water used in
university

42

Number of publications
2019 - 2023





ITS Demonstrates Multi-faceted Support for Regional Water Conservation Through Knowledge Transfer and Stakeholder Engagement

ITS supports off-campus water conservation policies through strategic initiatives and collaborations, as evidenced in their recent Ecotalk Series #6 event titled "Environment and Water Awareness." The event brought together key stakeholders in water conservation, featuring international perspectives from the Cycle for Water community and local expertise from PDAM Surya Sembada. During the session, Petronille Sartorio from Cycle for Water shared valuable insights about New Zealand's "three water services" program, offering potential policy adaptations for Indonesia. This international knowledge exchange demonstrates ITS' dedication to exploring innovative water management solutions that could benefit local communities. The dialogue was further enriched by PDAM Surya Sembada's Senior Manager, Palupi Wikandari, who presented the Master Meters program. Her participation showcased the successful collaboration between academic institutions and public utilities in addressing water access challenges.





KKN ITS: Water Management Solutions Transform Two Villages Kampus ITS

Two water management initiatives under ITS' Community Service Program (KKN) have successfully transformed water access in rural communities while providing students with invaluable field experience. These projects in Gresik and Pasuruan demonstrate how academic expertise can effectively address community challenges.

In Setrohadi Village, Gresik, a team of 19 Chemistry Department students tackled severe brackish water issues affecting the local water supply from the Bengawan Solo River tributary. The team implemented a combined aeration and upflow filtration system, utilizing multiple filtration materials, including silica sand, manganese filters, zeolite, and activated carbon. This solution effectively reduced water salinity and improved water clarity for domestic use. Simultaneously, in Tanjungsari Village, Pasuruan, the Industrial Chemical Engineering Department team addressed critical challenges in drinking water processing. Their intervention focused on enhancing water storage capacity and implementing specialized anthracite-silica filtration technology. The team successfully optimized the water distribution network and significantly reduced iron content and sediment problems. Both projects achieved remarkable results. The Gresik system now consistently produces safer, clearer water for domestic use, while the Pasuruan project has established reliable access to clean drinking water with improved distribution efficiency.

The initiatives have created lasting impact beyond infrastructure improvements. Students gained comprehensive experience in environmental engineering, project management, and community engagement. The local communities now benefit from sustainable water management systems and enhanced awareness of water treatment practices.





Water Conservation Campaign: ITS Promotes Mindful Usage through Strategic Signage

ITS has launched a water conservation awareness campaign through strategic educational signage across campus facilities. The campaign addresses the critical need for conscious water usage amid growing environmental challenges. The initiative places informative signs at key water access points - restrooms, sinks, faucets, and water fountains - serving as daily reminders of water's finite nature. This campaign responds to increasing global water scarcity concerns, where climate change and population growth intensify pressure on available freshwater resources.

The campaign promotes simple yet impactful practices: proper tap closure, prompt leak reporting, shorter showers, and efficient daily water usage. These individual actions, when adopted collectively, contribute significantly to water conservation efforts. Early results show increased awareness and behavioral changes among students and staff, demonstrating growing recognition of water as a precious resource. The initiative serves as a model for other institutions, showcasing how strategic awareness campaigns can effectively promote environmental responsibility and sustainable resource management. ()*





Strengthening Rural Water Security: ITS' Strategic Partnerships with Local Communities

ITS has established key partnerships with BUMDes Delta Mina Sejahtera and Ngendut Village, Ponorogo, implementing innovative water security solutions through technological advancement. At BUMDes Delta Mina Sejahtera in Kedungpeluk Village, Enny SST MT MSc's team has deployed a Smart and Integrated Water Quality Monitoring System (WQMS). The system utilizes a specially designed boat equipped with four waterproof sensors - DS18B20 for temperature, TDS for salt content, pH for acidity, and DO for oxygen levels - enabling efficient aquaculture management through continuous water quality monitoring. In Ngendut Village, Ponorogo, a team led by Dimas Anton Asfani ST MT PhD has implemented a 4,800-watt solar power system (PLTS) for reliable water access. The installation features short-circuit protection and voltage stabilizers, complemented by an IoT monitoring system for real-time power consumption tracking via mobile devices.

These technological integrations have yielded significant benefits: BUMDes Delta Mina Sejahtera has seen improved aquaculture productivity through precise water quality monitoring, while Ngendut Village residents enjoy 20% reduced monthly electricity costs and uninterrupted water supply during power outages. Both initiatives incorporate comprehensive community education, including system operation training and maintenance procedures, with ongoing support from ITS teams to ensure sustainable long-term impact.

