SDG 6

6.1 Research On SDG 6: Clean Water And Sanitation

Parameter	Data
Scholarly Output	206
Field-Weighted Citation Impact	4.20
Citation Count	2,935

From 2022 to 2024, Amrita Vishwa Vidyapeetham made remarkable contributions toward achieving United Nations Sustainable Development Goal 6 — Clean Water and Sanitation, through pioneering research and technological innovation in sustainable water management. With 206 scholarly outputs and a Field-Weighted Citation Impact of 4.20, Amrita's research performance stands well above the global average, reflecting its excellence in advancing water sustainability science. The university's work spans vital areas such as Water Quality Monitoring, Water Conservation, Pollution Control, and Desalination, addressing India's most pressing challenges of water scarcity and contamination. By integrating advanced technologies like the Internet of Things (IoT) with Participatory Rural Appraisal methods, Amrita bridges scientific innovation with community participation to ensure equitable access to safe and sustainable water resources. Supported by 53 international collaborations, 9,214 views, and 2,935 citations, Amrita's SDG 6 research demonstrates its global leadership and steadfast commitment to ensuring clean water and sanitation for all.

6.2 Wave of Change: Amrita Vishwa Vidyapeetham Launches a Month-long Water Sustainability Initiative on World Water Day 2024

In commemoration of **World Water Day 2024, Amrita Vishwa Vidyapeetham**, through its **School for Sustainable Futures (ASF)** and the **UNESCO Chair on Experiential Learning for Sustainable Innovation and Development**, launched a transformative community initiative titled **"Wave of Change: Water for a Sustainable Future."** The month-long campaign, inaugurated on **March 22, 2024**, in **Kallikkadu, Alappuzha, Kerala**, represents a major step toward empowering communities to take

ownership of their water resources and to promote long-term sustainability practices aligned with **United Nations Sustainable Development Goal 6 — Clean Water and Sanitation.**

The inaugural ceremony was graced by **Sheeb Mansoor**, Vice President of Alappuzha Municipality, and **Saju Prakash**, Ward Member of Kallikkadu, alongside **Vandana V.**, Coordinator of Amrita Shree Cluster. Faculty members and researchers from the **Amrita School for Sustainable Futures**, including **Prof. Vinod P.T., Dr. P. Raji, Dr. Sajith Kumar, and Dr. Shruthi**, along with Ph.D. scholars specializing in **Water Sustainability**, actively engaged in knowledge-sharing sessions and community interactions. The event witnessed the enthusiastic participation of around **150 women residents**, reflecting the strong grassroots engagement and inclusive approach that defines Amrita's community development philosophy.

The program addressed crucial aspects of **water conservation and management**, such as **rainwater harvesting, wastewater reuse, waterway protection, and household-level monitoring of water consumption**. Experts from Amrita conducted interactive sessions to demonstrate practical and locally adaptable solutions, thereby bridging scientific expertise with traditional wisdom. The discussions emphasized the importance of **individual responsibility and behavioral change** in achieving water sustainability at the community level.

A distinctive feature of the **Wave of Change** initiative is the introduction of **"Water Champions"**—local community members identified through assessments conducted by Amrita's water experts. These champions are trained and mentored to become **ambassadors of water stewardship**, equipped with the knowledge, tools, and motivation to inspire collective action within their communities. Their role extends beyond awareness creation—they serve as facilitators of behavioral transformation and as leaders who mobilize others toward sustainable water use and conservation practices.

By fostering a **network of informed, committed, and empowered individuals**, the initiative aims to create a **multiplier effect**—a ripple that spreads awareness and drives tangible action across diverse communities. Through participatory education and collaborative problem-solving, the initiative not only enhances local capacity but also promotes a **sense of environmental responsibility and shared ownership** of water resources.

To strengthen academic and global engagement, the initiative also launched a **Distinguished Lecture Series** featuring eminent international experts in water sustainability. The series commenced on **March 22, 2024**, with a keynote lecture by **Dr. Prof. Miroslav Černík**, Director of the Centre for Nanomaterials, Advanced Technologies, and Innovation (CXI), **Technical University of Liberec, Czech Republic**, who shared insights on advanced technologies and integrated approaches for sustainable water management.

Building on the momentum of the launch, **Amrita Vishwa Vidyapeetham** plans to **extend the Wave of Change initiative to 108 communities across India**, conducting awareness sessions, training

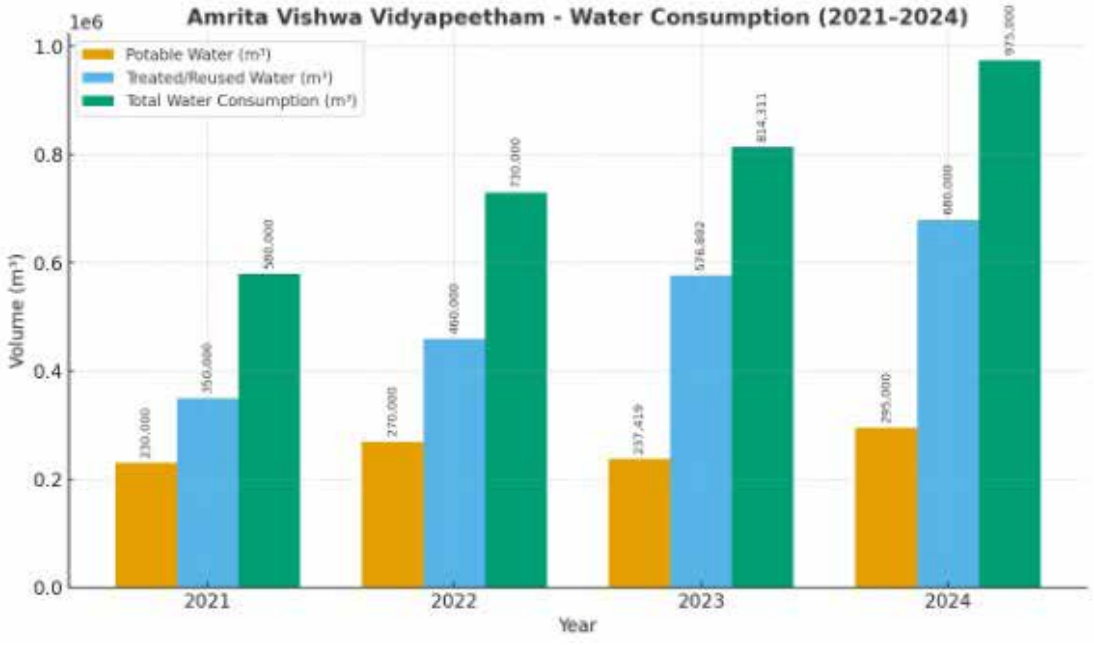
programs, and certification workshops to scale the impact of its community-centered approach. This large-scale rollout aligns with Amrita's vision of nurturing responsible water stewardship and resilient ecosystems across diverse socio-ecological landscapes.

The **Wave of Change** initiative thus exemplifies Amrita's commitment to **applied sustainability education, community empowerment, and cross-sectoral collaboration**. By transforming awareness into action and science into social good, Amrita continues to lead by example in advancing water sustainability — a cornerstone of its institutional mission and a vital contribution to the global SDG agenda.

6.3 Integrated Water Management System At Amrita Vishwa Vidyapeetham

Amrita Vishwa Vidyapeetham demonstrates strong alignment with the United Nations **Sustainable Development Goal 6 (Clean Water and Sanitation)** through continuous, technology-enabled monitoring of water consumption across all campuses. using IoT-based smart meters, sub-meters, and digital dashboards to track real-time usage, detect leaks, and ensure resource efficiency. The university's **Sustainable Campus Policy (updated November 2024)** introduced several measures such as low-flow taps, dual-flush toilets, and automated monitoring systems to reduce

Year	Total Population	Potable Water (m^3)	Treated/ Reused Water (m^3)	Total Water Consumption (m^3)	% Reuse	Avg. Per-Person Consumption (m^3/person/year)
2021	22,000	230,000	350,000	580,000	60%	26.4
2022	25,000	270,000	460,000	730,000	63%	29.2
2023	26,000	237,419	576,892	814,311	71%	31.3
2024	35,500	256,800	688,200	945,000	73%	26.6



freshwater demand.

- Potable (mains + borewell) water in 2024- 256,800 m^3 (27% of Total)

- Reused / recycled wastewater in 2024- 688,200 m^3 (73% of Total)

Between **2021 and 2024**, Amrita implemented extensive **rainwater harvesting, wastewater treatment, and reuse systems** across all campuses. These initiatives align with the university's goal of achieving near self-sufficiency in water usage and promoting environmentally responsible campus operations.

In **2023**, total water consumption across all campuses was **814,311 cubic meters**, with **576,892 cubic meters treated and reused**, reflecting a reuse rate of over **70%**. In **2024**, total water consumption is projected to reach 945,000 cubic meters, primarily due to population growth (31,000+ students and 4,500+ staff) while maintaining **high water reuse efficiency (~73%)** through sustainable water management practices.

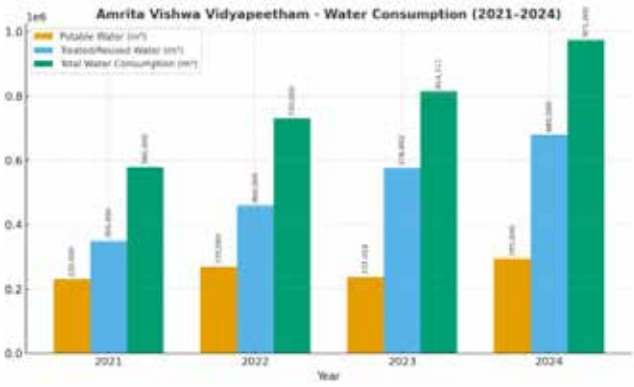
The university's total water consumption remains **~45% lower than the national benchmark of 135 Liters per person per day**, underscoring its leadership in sustainable campus management.

Amrita's Integrated Water Management Program emphasizes real-time monitoring, water reuse, and sustainable infrastructure. Since 2021, the university has consistently maintained reuse levels above 60%, implemented IoT-based water tracking systems, and expanded rainwater harvesting across campuses. The university's per-person water consumption remains well below national standards, reflecting its long-term commitment to environmental stewardship and sustainable development.

6.4 Empowering Rural India: Amrita Vishwa Vidyapeetham's Water Sustainability and Community Empowerment Initiative

In alignment with the United Nations Sustainable Development Goal 6 – *Clean Water and Sanitation*, Amrita Vishwa Vidyapeetham continues to lead transformative grassroots initiatives that bring sustainable development to the heart of rural India. Through its flagship Live-in-Labs® experiential learning program, Amrita launched an impactful *Community Water Awareness and Conservation Initiative* in Maruthur village, Kanyakumari District, Tamil Nadu, that has empowered local communities with the knowledge, tools, and technology to manage their water resources sustainably.

This initiative, jointly led by the Amrita School for Sustainable Futures and the School of Biotechnology, reflects the university's enduring commitment to blending scientific innovation with human compassion to create tangible social and environmental change. The program emphasized community-driven water



stewardship by combining awareness, education, and action. Through interactive sessions and field workshops, villagers were sensitized to the critical importance of water conservation, rainwater harvesting, and responsible daily usage, fostering a deep sense of local accountability.

A pioneering aspect of the project was the distribution of household water consumption cards, enabling residents to track their daily water usage for essential needs such as cooking, cleaning, and bathing. This low-cost behavioral tool promoted awareness of consumption patterns and encouraged households to adopt water-efficient practices. The simplicity of this innovation made it both scalable and replicable across other rural communities in India.

The initiative was further strengthened by the installation of a community-based water purification system under Amrita's Jivamritam purified drinking water program, ensuring access to clean and safe drinking water for all residents. This decentralized water management model not only improved public health but also cultivated a strong sense of ownership among community members, who were actively involved in the system's operation and maintenance.

Amrita's intervention in Maruthur has gone beyond awareness—it has fostered a lasting behavioral transformation within the community. By empowering women and youth as custodians of local water resources, the initiative has created a ripple effect of responsible water stewardship and sustainable living. It stands as a replicable example of how academia can drive rural transformation through research-led community engagement and social innovation.

Through the Maruthur project, Amrita Vishwa Vidyapeetham reinforces its mission of integrating education, compassion, and sustainability to uplift rural communities across India.