INSTITUTE OF ENGINEERING & MANAGEMENT
Good Education, Good Jobs

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Sustainability Development Report (2023-24)

SDG 6: Clean Water and Sanitation

Executive Summary

During the academic year 2023–24, the Institute of Engineering and Management (IEM), Kolkata, advanced its strategy for SDG 6 through a multidimensional approach: prioritizing water resource management, comprehensive sanitation upgrades, community engagement, policy enhancement, and continuous monitoring of infrastructure. IEM recognizes that access to clean water and safe sanitation is essential for health, dignity, and a supportive educational environment, and embeds this principle throughout the institution's practices. Reliable access, sustainability, and hygiene form the pillars of this initiative.

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Overview and Context

IEM Kolkata advanced its commitment to SDG 6: Clean Water and Sanitation through a comprehensive strategy emphasizing sustainable water resource management, sanitation infrastructure upgrades, community engagement, policy reform, and continuous monitoring. The institute firmly believes access to clean water and sanitation is fundamental to health, dignity, and a supportive educational environment. This vision drives initiatives such as rainwater harvesting, advanced sewage treatment, gender-neutral toilets, and hygiene training. Collaborations with government bodies and NGOs enhance outreach, while digital monitoring and real-time feedback ensure efficient maintenance and transparency. These efforts support a greener campus and serve as a model for water security and sanitation standards aligned with global sustainability goals.

Core Mandate

Embed water conservation and hygiene awareness as integral to campus life, implement intelligent water-saving technologies, recycle and treat wastewater, and maintain transparent data-driven practices for continual improvement.

Annual Strategic Priorities for 2024–25

- Increase rainwater harvesting and groundwater recharge across all buildings
- Upgrade water filtration units and optimize safe drinking stations
- Organize sanitation and hygiene training for students and staff
- Collaborate with government partners and NGOs for community engagement and clean water advocacy
- Integrate hygiene and water sustainability into curricular projects
- Develop real-time feedback and maintenance reporting tools
- Conduct regular water quality audits and publish findings for transparency
- Install digital water usage monitoring and sensor-based leak alert system

Campus Infrastructure and Policy

Water Management and Operations

The campus is equipped with:

- Rainwater harvesting pits, and recharge wells
- Separate pipelines for harvested rainwater reducing load on potable supply
- Borewells and managed waterbodies for resilience and groundwater maintenance
- Aerobic sewage treatment and recycling, reusing water for horticulture

Sanitation and Waste Management

- Systematic cleaning of toilets, washrooms, and common spaces multiple times daily

- Menstrual hygiene provision and personal sanitation infrastructure in hostels
- Segregated solid, liquid, e-waste, and hazardous waste disposal using certified vendors
- E-waste recycling: 2169.90 Kg achieved in 2023–24
- Routine hazardous lab chemical neutralization protocols
- Composting and recycling bins distributed across campus

Awareness, Training, and Community Engagement

Education and Advocacy

- Orientation and awareness campaigns during World Water Day and Swachh Bharat Abhiyan
- Environmental science curriculum includes hands-on water and hygiene projects.

Outreach and Partnerships

- Engagement with civic bodies and local schools for safe water education
- Community workshops and hygiene sessions delivered by faculty, staff, and student ambassadors
- Collaboration with Rotary, Lions, and Inner Wheel Clubs

Safety, Security, and Emergency Maintenance

Safety and Security

- Strict protocols for potable water testing and reporting, overseen by campus maintenance and safety committees
- Emergency supply and response plans for water system disruptions

Maintenance System

- Streamlined, digital issue reporting and resolution process for water and sanitation infrastructure
- Regular audits inform upgrades and ensure full compliance with health regulations

Monitoring, Feedback, and Impact

Data and Analytics

- Regular tracking of water consumption, recycling rates, and sanitation facilities usage
- Annual benchmarking with environmental standards and SDG reporting metrics
- Geotagged images and documentation of all completed projects and infrastructural enhancements

Recorded Outcomes

- Campus infrastructure covered by rainwater harvesting

- Reduction in potable water draw due to recycling and conservation efforts
- Active participation of students and staff in water and hygiene campaigns

Data and metrics

Metric / Category	Value / Description
Rainwater Harvesting Pits and Recharge Wells	Installed across the entire campus
Sewage Treatment and Recycling	Advanced aerobic treatment with water reused for horticulture
E-waste Recycled	2,170 Kg in the 2023-24 academic year
Sanitation Facilities Cleaned	Toilets and washrooms cleaned multiple times daily
Menstrual Hygiene Provisions	Available in hostels
Water and Hygiene Awareness Campaigns	Active participation by students and staffs
Community Outreach Partnerships	Working with Rotary, Lions, and Inner Wheel Clubs
Potable Water Testing and Emergency Supply	Regular tests and emergency response plans in place
Water Quality Audits and Reports	Conducted regularly

Challenges and Strategic Learnings

Key Challenges

- Aging infrastructure in older blocks and managing seasonal variability
- Persistent behaviours and gaps in hygiene best practices among some cohorts
- Event-driven strain on water and wastewater systems

Adaptive Strategies

- Incremental upgrades and sensor deployment in critical zones
- Expansion of hygiene curriculum and participatory workshops
- Real-time feedback platforms for rapid incident management

Future Directions

- Extend recycled greywater for landscape irrigation

- Install cloud-based water quality and consumption dashboards
- Integrate SDG 6 sustainability into research and innovation centers
- Scale neighbourhood outreach in partnership with local government
- Install Digital water usage monitoring and sensor-based leak alert system

Acknowledgments

Thanks are extended to IEM leadership, environmental officers, campus maintenance, student volunteers, and club partners (Rotary, Lions, Inner Wheel), whose dedication and coordination made these improvements possible. Their efforts are vital to sustaining campus progress and setting new standards for water and sanitation nation-wide.

Photo Gallery

Rainwater harvesting in open bore wells