INSTITUTE OF ENGINEERING & MANAGEMENT
Good Education, Good Jobs

UNIVERSITY OF ENGINEERING & MANAGEMENT
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Sustainability Development Report (2023-24)

SDG 14: Life Below Water

Executive Summary

The SDG 14 report from Institute of Engineering Management (IEM), Kolkata, for 2023-24 highlights focused efforts to conserve aquatic ecosystems through research, education, and community engagement. Key achievements include microplastic and chemical pollutant remediation trials, extensive workshops, plastic-free campus campaigns, and collaborative river clean-ups. The report details advancements in pollution control, biodiversity preservation, and sustainable water management, with increased student and faculty involvement. Challenges remain in funding and outreach, with future plans targeting expanded research, partnerships, and transparent progress reporting to meet global sustainability benchmarks.

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Overview and Context

The Institute of Engineering and Management (IEM), Kolkata, prioritizes conserving aquatic resources and promoting sustainable use of water ecosystems. In 2023-24, focus intensified on mitigating water pollution, preserving biodiversity, and broadening community engagement with an emphasis on plastic pollution reduction and water resource sustainability.

Core Mandate

Advance sustainable stewardship of aquatic ecosystems through rigorous research, education, and coordinated efforts to prevent pollution, conserve biodiversity, and manage water resources responsibly on campus and in the community.

Annual Targets

- Advance aquatic pollution remediation research employing filtration and bioremediation techniques.
- Boost community awareness and action focused on aquatic ecosystem sustainability.
- Embed aquatic environmental topics into academic programs thoroughly.
- Strengthen partnerships for aquatic biodiversity conservation.

Key Initiatives and Programs

Research and Innovation

- Conducted trials on filtration and bioremediation methods targeting microplastics and chemical pollutants in campus and local water bodies.
- Facilitated student and faculty-led water quality assessment and ecosystem restoration projects.

Education and Awareness

- Delivered over a dozen interdisciplinary workshops and seminars covering aquatic pollution, biodiversity, and sustainability principles.
- Updated curricula to integrate aquatic ecosystem protection and SDG 14 objectives.
- Engaged students actively in aquatic ecosystem monitoring and restoration planning projects.

Community Engagement and Outreach

- Organized events marking World Water Day, World Oceans Day, and other aquatic conservation campaigns.
- Inner Wheel Club (IWC) and student groups led tree plantations on water body banks and anti-plastic usage drives.
- Coordinated multiple river and lake clean-ups promoting responsible water use and waste management.

Plastic Free Campus, Happenings & Events

- Initiated a campus-wide “Plastic Free Zone” campaign encouraging the elimination of single-use plastics.
- Conducted educational drives on the repercussions of plastic pollution on aquatic life and ecosystems.
- Hosted awareness events and workshops involving students, faculty, and staff to promote plastic alternatives.
- Collaborated with local vendors to reduce plastic packaging and encourage sustainable consumption on campus.
- Celebrated “Plastic-Free Week” featuring competitions, pledge drives, and community discussions on reducing plastic footprint.

Partnerships and Progress Reporting

- Maintained and expanded collaborations with NGOs, municipal bodies, and government agencies on aquatic restoration efforts.
- Submitted comprehensive SDG 14 progress reports to THE Impact Rankings and other stakeholder platforms.
- Extended activities to cover sanitation and hygiene with partners supporting water resource sustainability.

Data and Metrics

Metric / Category	Value / Description
Aquatic Pollution Research	Advanced filtration and bioremediation trials
Educational Sessions	12+ aquatic ecology and pollution workshops
Student & PhD Involvement	Approx. 130 students in aquatic research and monitoring
Community River/Lake Cleanups	6 major cleanups with stakeholder participation
Water Pollution Monitoring	Improved wastewater monitoring protocols
Tree Plantation on Water Margins	4000+ saplings planted under IWC initiatives
Plastic Free Campus Initiatives	"Plastic Free Zone" campaign, Plastic-Free Week events
Collaborations in Water Management	Multiple MoUs for aquatic ecosystem restoration
SDG Reporting	Participation in international impact rankings

Impact Summary

Significant strides were made in aquatic ecosystem restoration and pollution control through applied research, enhanced education, and active community participation. Plastic pollution reduction emerged as a key theme, with campus-wide initiatives fostering behavioral changes and raising awareness on plastic's impact on marine environments.

Challenges and Mitigation Strategies

- Securing additional funding is crucial to expand the implementation of advanced aquatic pollution remediation technologies and ensure their long-term impact across diverse marine environments.
- Ongoing community engagement, facilitated through tailored educational outreach programs, is essential to foster local stewardship and sustained involvement in marine protection initiatives.
- Regular updates to educational curricula are necessary so students and professionals remain equipped with the latest knowledge and skills in aquatic environmental sciences.

- Successfully integrating new scientific discoveries into training programs quickly is a challenge, requiring close collaboration between educators, researchers, and policymakers.
- Limited financial resources and public awareness may hinder technology adoption; addressing this through targeted advocacy and partnership-building can encourage greater investment and support.

Future Plans and Roadmap

- Expand aquatic pollution research by focusing on innovative bioremediation techniques and real-time monitoring technologies to enhance the effectiveness of marine ecosystem restoration efforts.
- Strengthen extension activities through more internships, field programs, and community service projects that engage youth and local groups in water sustainability initiatives.
- Deepen national and international collaborations to coordinate large-scale projects that promote ocean conservation, climate resilience, and biodiversity restoration across regions.
- Develop mechanisms for transparent SDG 14 progress reporting, ensuring accountability and continuous improvement through alignment with globally recognized indicators and sustainability benchmarks.
- Leverage technological innovations and cross-sector partnerships to accelerate the implementation of scalable blue economy solutions supporting long-term marine ecosystem health and livelihoods.