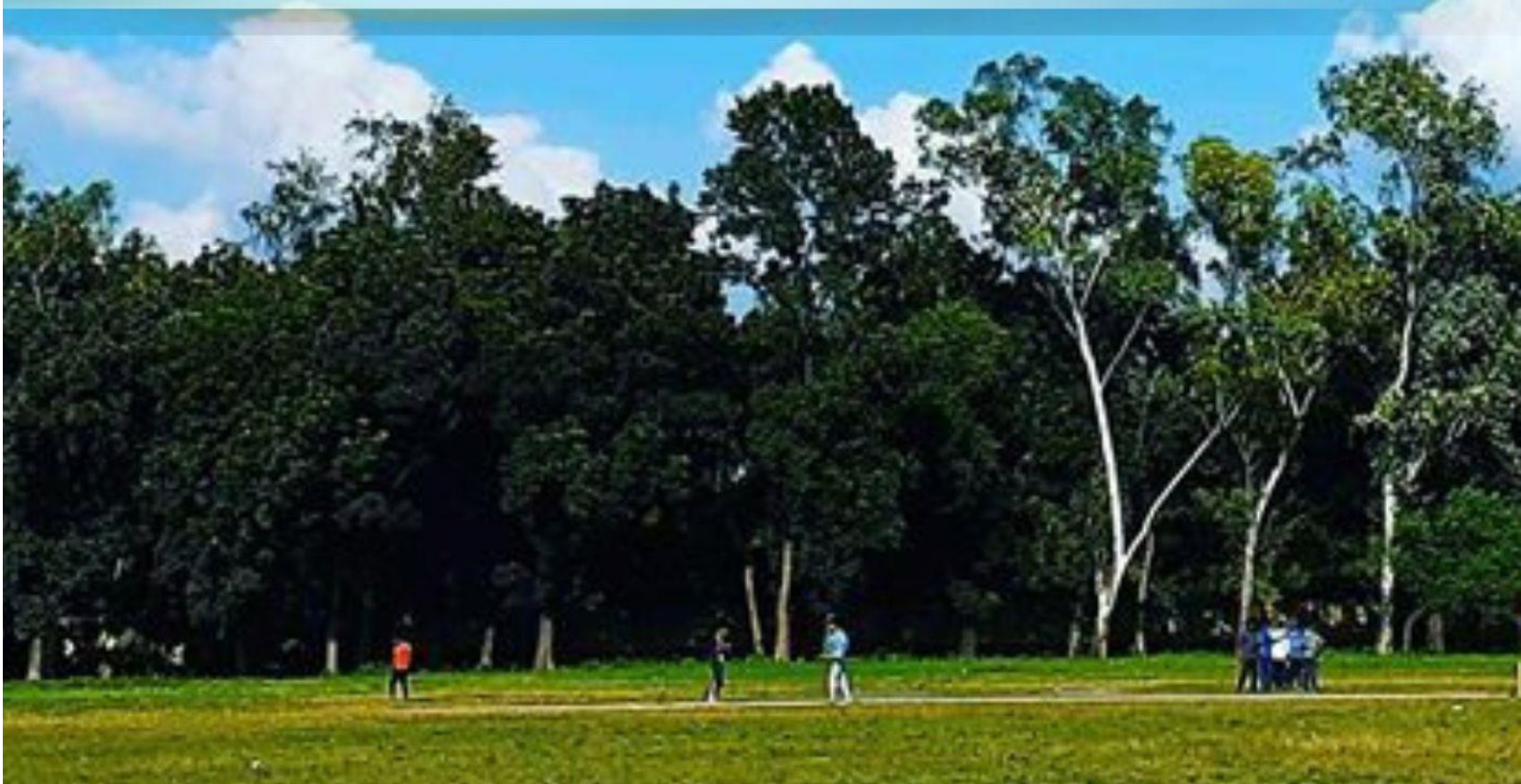
14 LIFE BELOW WATER

Progress Report on SDG 14

Rajshahi University of Engineering & Technology (RUET)



Progress Report on SDG 14

Life Below Water Initiatives at Rajshahi University of Engineering & Technology (RUET)

RUET, acting as an **upstream guardian** on the Padma River, focuses its SDG 14 strategy on preventing land-based pollution, protecting freshwater quality, and developing skilled capacity to manage aquatic resources.

1. Academic Curriculum and Capacity Building

- **Interdisciplinary Courses:** Specialized offerings within Civil Engineering (CE) and Urban and Regional Planning (URP) on subjects critical to water health, including **Water Quality Modelling**, **Stormwater Treatment System Design**, and **Wastewater Recycling**.
- **Spatial Analysis Training:** Students are trained in advanced spatial tools, such as GIS and Remote Sensing, for technical applications, including riverbank erosion assessment and comprehensive water quality analysis in the Padma basin.
- **Focus on Environmental Stewardship:** Developing future engineers and planners with the technical knowledge to implement effective habitat protection strategies.

2. Applied Research and Pollution Control

- **Advanced Wastewater Treatment:** Research led by the CE department on the design and testing of systems like **Multimedia Filtration Systems for Municipal Wastewater** remediation.
- **Ecological Engineering Solutions:** Development of approaches for **contaminant removal from stormwater** using indigenous adsorbents, such as **biochar**.
- **Riverine Management Studies:** High-level research on the **Morphological Transformations of the Padma River Lower Basin** to inform strategic water resource planning and mitigate erosion effects crucial to the nation's water security.

3. Campus Sustainability and Waste Reduction (Circular Economy)

- **"RUET Mission Plastics" Initiative:** A student-led campaign actively promoting the **recycling and repurposing of plastic waste** using on-campus machinery (shredder and extruder), tackling the source of persistent plastic pollution.
- **Waste Valorization Research:** Ongoing research into recycling hazardous waste, specifically **flexible plastic-laminated metal packaging**, into value-added materials.
- **Incentivized Recycling:** Proposals are underway to implement **Reverse Vending Machines (RVMs)** in dormitories to incentivize PET bottle recycling among students, minimizing operational waste footprint.