Clean Water Monitoring System

Simulating Water Quality Alerts for SDG 6

SDG 6

Why Monitor Water Quality?

Water quality monitoring is critical to global health and environmental protection. The stakes are high: over **2 billion people** lack access to safely managed drinking water, and contaminated water causes approximately **485,000 diarrheal deaths annually**. Early detection of unsafe water prevents disease outbreaks, protects vulnerable ecosystems, and enables communities to take corrective action before harm occurs.

Key Water Quality Indicators

pH Level

Measures acidity or basicity of water. Safe range: **6.5–8.5**

Total Dissolved Solids

Concentration of dissolved minerals in water. Safe limit: Below 500 mg/L

Turbidity

Measures the cloudiness of water caused by suspended particles. High turbidity can harbor microbes and reduce water quality.

Methodology-Overview

01

User Input

User inputs water parameter values through the web interface (HTML/CSS/JS).

02

Calculation

System computes Water Quality based on pH ,turbidity and TDS.

03

Status Assessment

JavaScript logic compares to standard thresholds to determine water safety.

04

Alert Generation

System alerts user "Safe" or "Unsafe". With an alert message .

User Interface Overview

The simulation features an intuitive, responsive interface built with HTML, CSS, and JavaScript for seamless user interaction and real-time feedback.

Interactive Sliders

Adjust pH and TDS values dynamically to simulate different water conditions

Color-Coded Status

Green indicates safe water,red for unsafe—instant visual feedback

Alert Messages

Clear warnings appear when unsafe conditions are detected, and dispaly the safe or unsafe .

Water Monitoring System

SDG 6 - Clean Water & Sanitation

Enter pH Value (6.5 - 8.5)

Enter TDS Value (≤ 500 ppm)

Enter Turbidity (≤ 5 NTU)

Check Water Safety

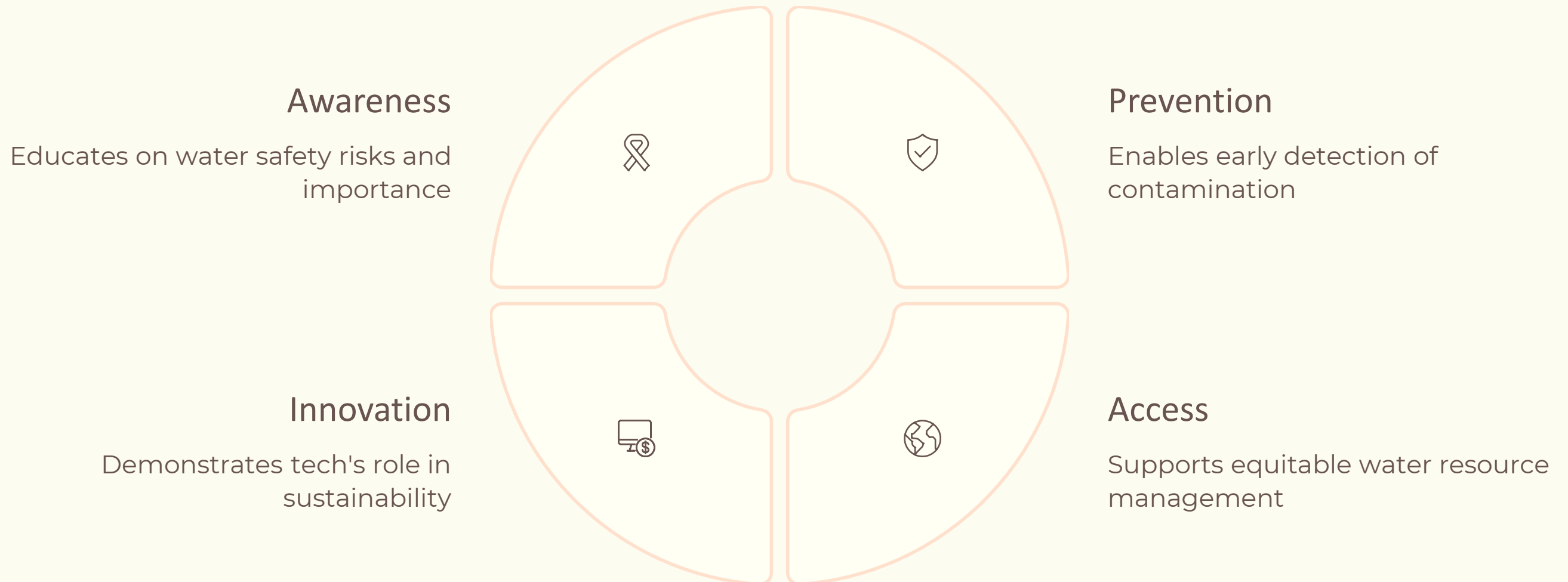# Example Scenario: Unsafe Water Alert
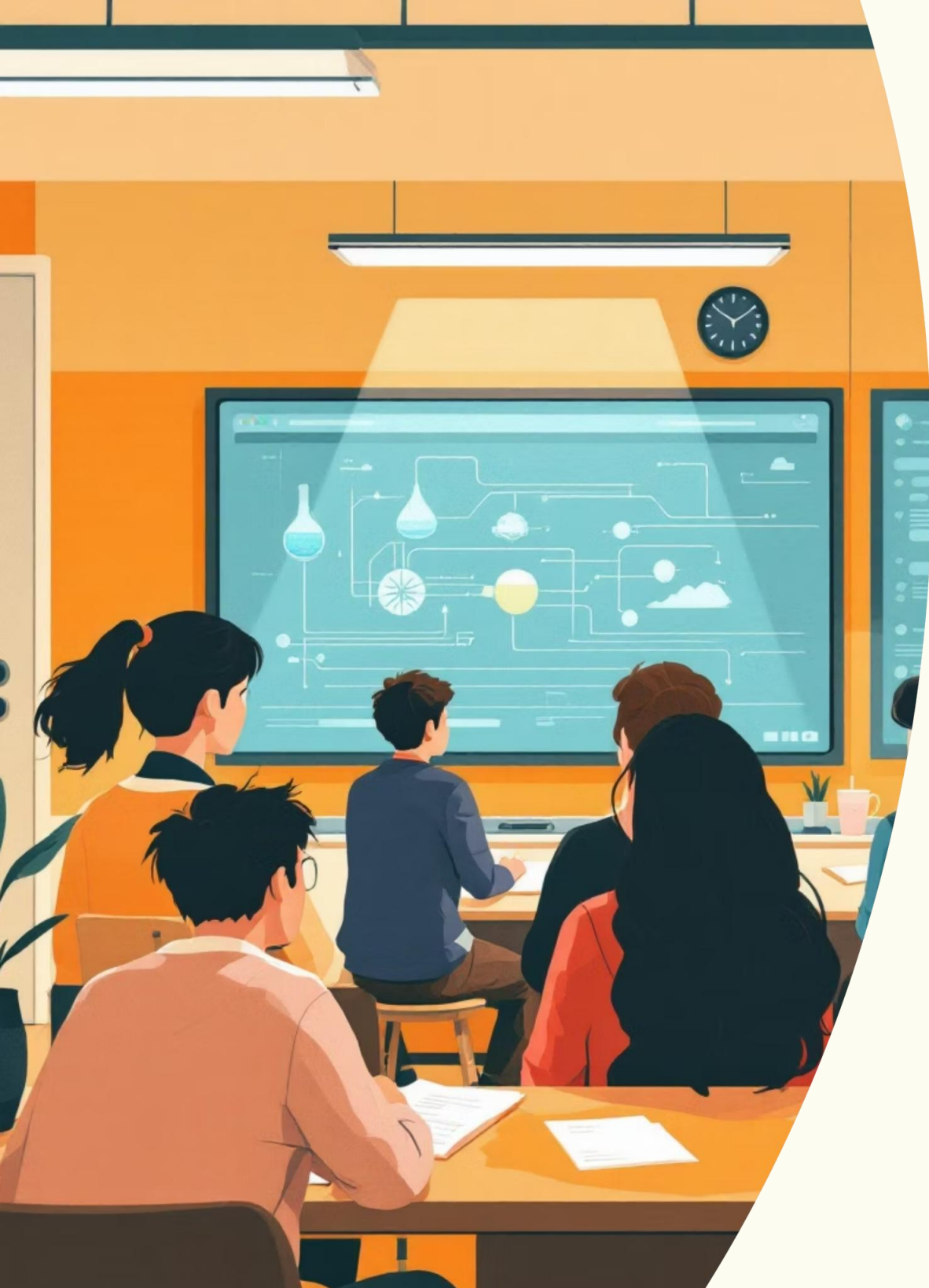
How It Impacts Sustainability

Promotes awareness of water quality and safe consumption practices.

•Simulation requires no expensive sensors; accessible for education.

•Supports SDG 6: clean water and sanitation awareness.

•Encourages behavior change: users learn key water quality parameters.

•Scalable: can be extended to real IoT-based monitoring in future.

Aligning with SDG 6: Clean Water & Sanitation

This simulation directly supports the United Nations Sustainable Development Goal 6 by raising awareness of water safety challenges, enabling communities to implement proactive water quality management, and demonstrating how technology can accelerate progress toward universal access to safe, affordable drinking water globally.

Awareness

Educates on water safety risks and importance

Prevention

Enables early detection of contamination

Innovation

Demonstrates tech's role in sustainability

Access

Supports equitable water resource management

Next Steps & Call to Action

The journey to universal clean water access requires continuous innovation, collaboration, and commitment. Let's build on this foundation together.

1

Expand Simulation

Add microbial contamination, heavy metals, and regional parameters

2

Integrate Real Data

Connect with IoT sensors and live water monitoring networks

3

Global Collaboration

Partner with NGOs and governments to reach underserved communities

4

Ensure Access

Make tools affordable and accessible to all who need them

Together, let's ensure safe, clean water for all. 💧

THANK YOU

ANDHRA STUDENTS