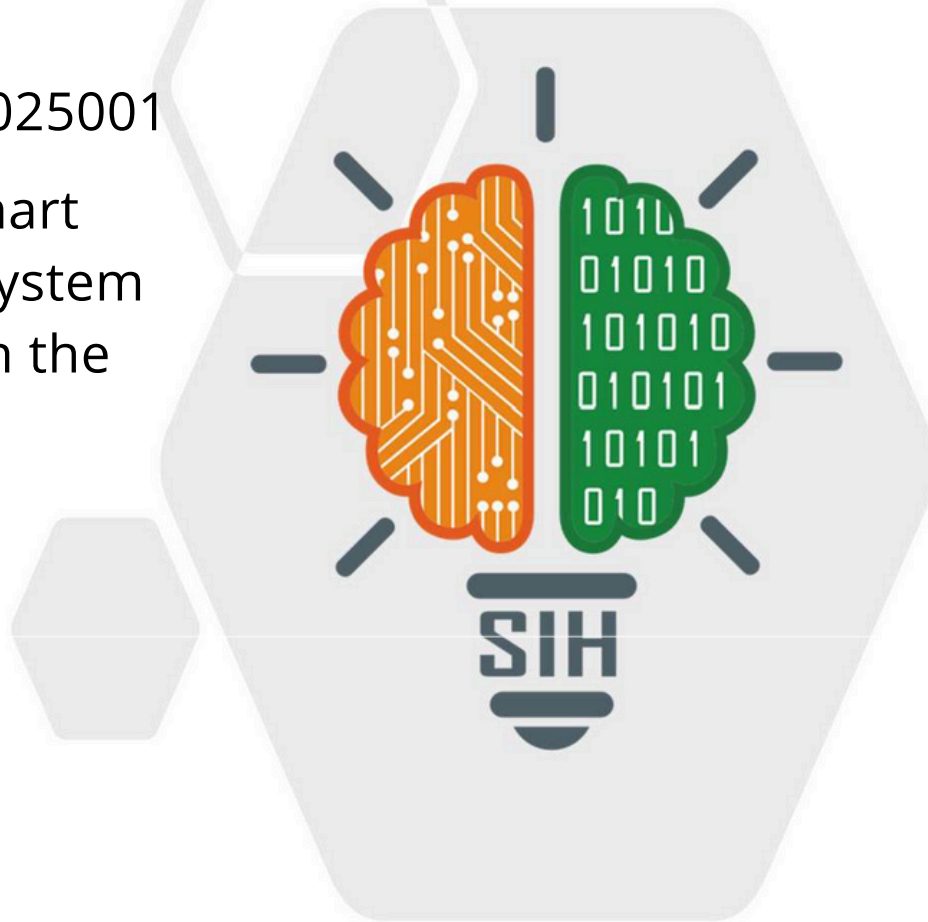


SMART INDIA HACKATHON 2024



- Problem Statement ID - SIH2025001
- Problem Statement Title – Smart Detection And Early Warning System for the WaterBorne Diseases In the North East of India
- Theme- MedTech/BioTech
- PS Category - Software
- Team ID-S005
- Team Name – Sehatsutra



Solution Title

S Stakeholders

ASHA Workers

District Health Officials

Local Communities & Citizens

State Health Ministry

P Problems

Delayed Reporting

No Real-Time Visibility

Reactive System

Connectivity Barriers

N Need

An offline-first tool for reliable data collection in any location.

A real-time dashboard for officials to visualize health data.

A predictive engine to analyze data and provide early warnings.

A simple, multilingual UI for easy adoption by non-technical users.

S Solution

A responsive web app for real-time reporting by both ASHA workers and citizens.

An AI model that analyzes reports to predict the risk of a disease outbreak in specific areas.

An automated alert system that instantly notifies officials of predicted hotspots.

A central dashboard with a live map for data-driven resource allocation.

TECHNICAL APPROACH



report_id	asha_worker_id	village_name	date_of_report	symptom_report	number_of_case	water_source_status
101	ASHA-ANJALI-0	Chingai	2025-09-15	Diarrhea	3	Unsure
102	ASHA-ANJALI-0	Phungyar	2025-09-18	Fever	2	Clean
103	ASHA-ANJALI-0	Chingai	2025-09-20	Diarrhea	5	Contaminated
104	ASHA-ANJALI-0	Kamjong	2025-09-21	Vomiting	1	Clean
105	ASHA-ANJALI-0	Chingai	2025-09-22	Vomiting	2	Contaminated
106	ASHA-ANJALI-0	Hungpung	2025-09-23	Fever	4	Clean

Conventional Method

- Manual Paper-Based Reporting
- Slow, Error-Prone, & Purely Reactive

Our Proposed Method

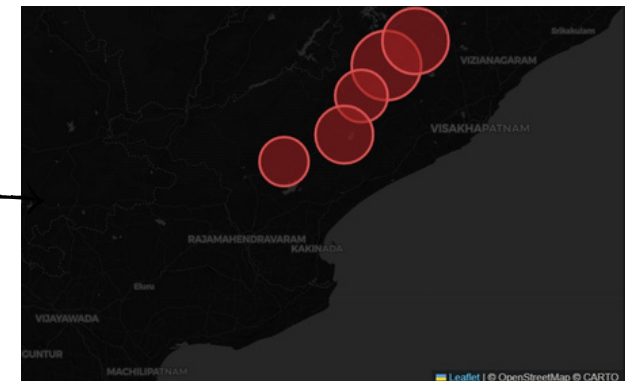
- AI-Powered Predictive Engine
- Fast, Automated, & Proactive

Continuous Stream of Real-Time Field Data (Symptoms, Location, etc.)

Risk Score =
AI_Model(Symptom Data,)

Thresholding: The model's output is categorized based on a pre-defined risk threshold.

- Low Risk < 0.5
- Medium Risk > 0.5
- High Risk > 0.8



FEASIBILITY AND VIABILITY



- Developed using a lightweight web stack, making it accessible on any device with a browser, with no app installation needed.
- Designed with an AI model that can be simulated with simple, effective rules for the MVP, guaranteeing a working demo for the hackathon.
- Architected to scale from a single village pilot to a full regional and national implementation.



Before: Paper register

The screenshot shows the 'Log New Patient Symptom' form in the JeevanDhara web application. The form includes fields for 'Select Patient' (a dropdown menu), 'Select Village' (a dropdown menu), 'Patient Age' (a text input with a hint 'e.g. 25'), 'Gender' (a dropdown menu), and 'Suspected Disease' (a dropdown menu). There are checkboxes for 'Diarrhea', 'Fever', and 'Vomiting'. A text area for 'Additional Notes' is provided with a hint 'e.g., patient's recent travel history, water source...'. Below the form is a section for 'Attach Test Results or Notes' with a file upload icon and text 'Upload a file or drag and drop (Max. JPG, PDF up to 10 MB)'. A green 'Continue' button is at the bottom.

After: ASHA Worker Reporting Form

The screenshot shows the language selection screen of the JeevanDhara application. It says 'Please Select Your Language' and displays nine language options in a grid: English, Hindi, Assamese, Bodo, Manipuri, Khasi, Mizo, and Nepali. Each option is represented by a button with a speech bubble icon containing the letter 'a'. A green 'Continue' button is located at the bottom right of the grid.

Multilingual UI for the people in the rural areas

IMPACT AND BENEFITS

- **Saves Lives by Enabling Proactive Prevention:**
- **Reduces Critical Response Time from Weeks to Hours:**
- **Improves Emergency Resource Allocation:**
- **Empowers Data-Driven Health Policy:**
- **Empowers ASHA Workers and Citizens:**

← **Resources Allocation**

Select The Intervention

Choose an Ongoing Intervention ▼

Allocate Resources

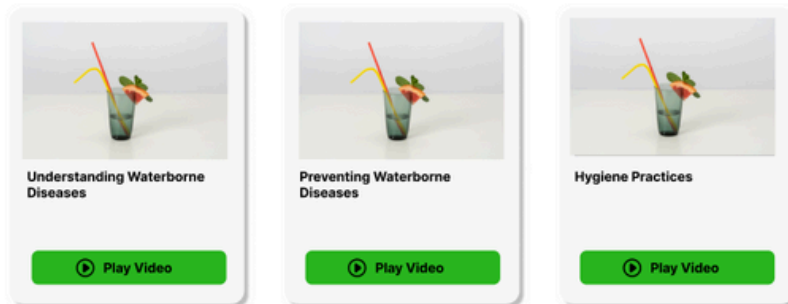
Medical Teams: Water Tankers: Medicine Kits:

Intervention Status

☐ Not Started ☒ In Progress ☐ Completed

Save Changes

← Education



RESEARCH AND REFERENCES



Comprehensive guidelines for Accredited Social Health Activists (ASHA), detailing their roles, selection process, training, compensation, and integration within India's National Rural Health Mission.

-National Health Mission

A cross-sectional study that investigates the high prevalence of waterborne diseases in the Karang Islet of Manipur, linking it to inadequate water, sanitation, and hygiene (WASH) practices among the residents.

**-Case Study by B. Surajkumar
Sharma and Ak. Bojen Meetei**

A mini-review that summarizes the significant burden of various infectious diseases in North-East India, attributing it to a combination of unique geographical, social, and infrastructural factors.

**-Indian Council of Medical Research-
Regional Medical Research Centre,
India**

A cross-sectional study that investigates the high prevalence of perceived stress, its academic sources, and the coping mechanisms among undergraduate medical students at a medical college in Delhi.

**-All India Institute of Medical
Sciences, Rishikesh**