

Humanitarian Innovation Hackathon



Hackathon Challenge B

Cyclone and severe storm resilient rural drinking water supplies

Challenge Task

Design appropriate drinking water infrastructure adaptations for either spring/creek sources or groundwater sources for rural communities in the Asia-Pacific region.

SDG targets

- SDG 6. Ensure availability and sustainable management of water and sanitation for all⁴.
- Target 6.1. By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- SDG 3. Ensure health lives and promote well-being for all at all ages⁵.
- Target 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

⁴ United Nations, 2023. SDG 6. Clean water and sanitation. <https://sdgs.un.org/goals/goal6>

⁵ United Nations, 2023. SDG 3. Good health and well-being. <https://sdgs.un.org/goals/goal3>

Overview

Cyclones (typhoons) and severe storms are increasing in intensity. Drinking water infrastructure for rural communities is particularly vulnerable to damage and pollution during these events. For many rural communities in the Asia-Pacific region drinking water is sourced from naturally available sources: springs, creeks and/or groundwater. The drinking water infrastructure generally consists of:

- No drinking water treatment (no chlorination or filtration equipment).
- If using springs or creek water then the water is directed into an elevated holding area (either dam or plastic holding tanks),
 - a. then water is gravity feed system through pipes (either plastic or aging metal) to the community.
- If using groundwater then water is accessed using open wells (tube wells) or bore hole pumps (hand or electric),
 - a. then carried in buckets or piped to the community.

During cyclone and storm events the drinking water infrastructure is frequently damaged (for example pipes break and tanks are blown over) and flood water pollutes the drinking water source via debris and faecal contaminants.

6 CLEAN WATER AND SANITATION



3 GOOD HEALTH AND WELL-BEING



THE GLOBAL GOALS
For Sustainable Development

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Innovation Awards**