



Australia Awards

Health Impacts of Climate Change from the Perspectives of Communities and Health Systems: A Case Study from Battambang Province

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Research Team



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1. Background

- Climate change poses serious threats to human health and well-being
- Cambodia's tropical climate makes it highly vulnerable to: flooding, droughts, and rising temperatures
- Between Aug-Sep 2023, **40,942 families in 17 provinces** were affected by severe flooding (*Humanitarian Response Forum*)
- Battambang province context:



Flooding in 9 districts



6,117 households affected



1,920 households evacuated



1 reported fatality

National October 4, 2023

In Pictures: Over 600 families evacuated from severe flooding in Battambang

Khmer Times



Source: <https://www.khmertimeskh.com/501371211/in-pictures-over-600-families-evacuated-from-severe-flooding-in-battambang/>

2. Research Objective

To explore perceptions, experiences, and adaptation strategies related to climate change among rural communities and healthcare systems, with a focus on the effects of flooding on health



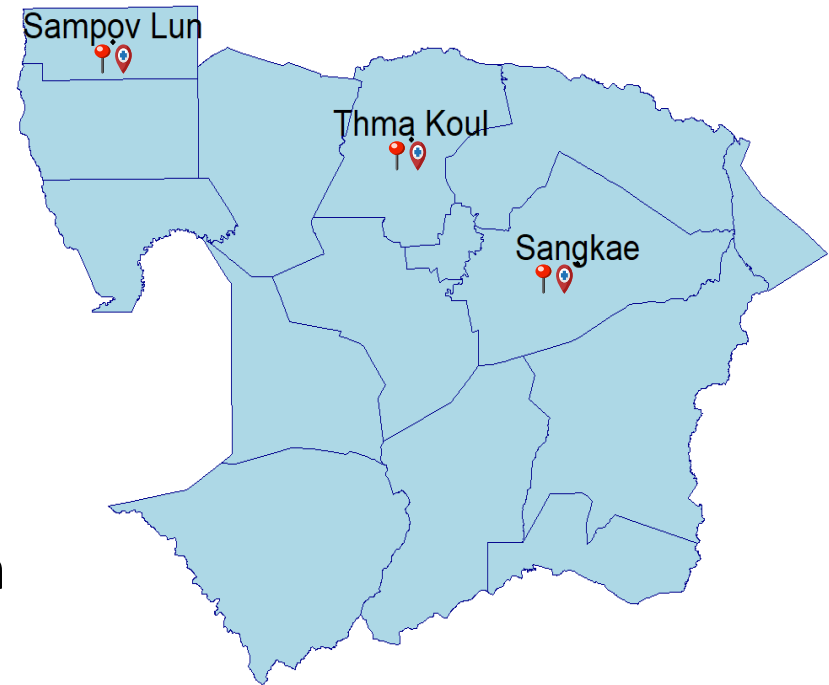
3. Methods

Study setting:

- Three flood-affected districts in Battambang Province
 - ✓ Sampov Lun (HC: Pech Chenda)
 - ✓ Sangkae (HC: Preaek Loung)
 - ✓ Thma Koul (HC: Ampil Pram Derm)

Study design: participatory research for action (Dec 2024)

Study Sites in Battambang Province



Key Informant Interview
(n = 13)



Focus Group Discussion
(n = 6)



Direct Observation
(HC = 3)

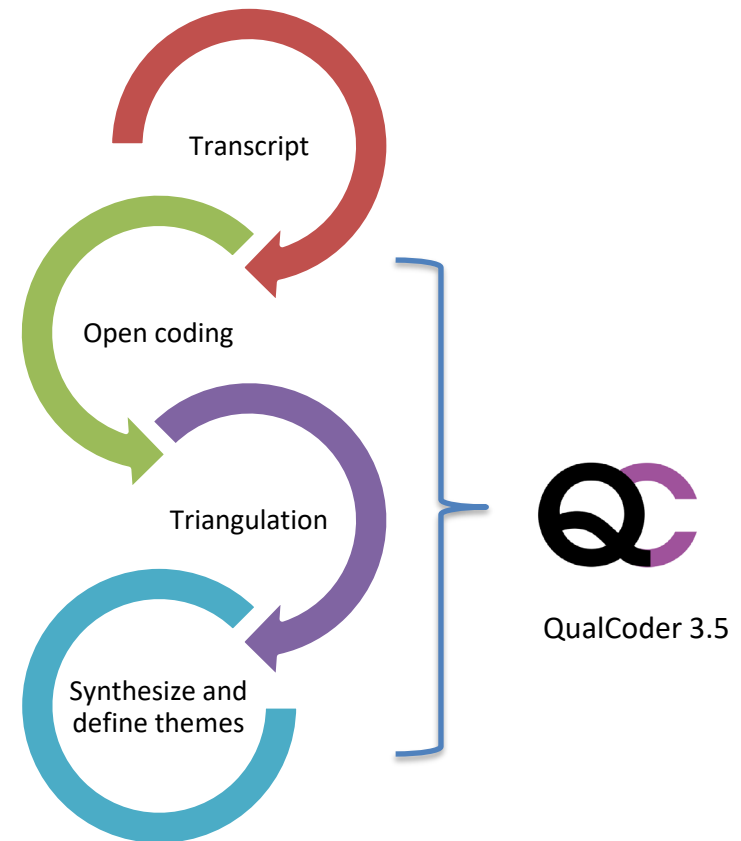
3. Methods (Cont)

Participants: a purposive sampling - residents living in the selected districts for ≥ 1 year prior to data collection

- FGD: villagers
- KII: healthcare workers, OD staff, village chief, and provincial-level disaster health risk management

Ethic: approval No. 424 NECHR on November 2024

Data analysis: Thematic content analysis



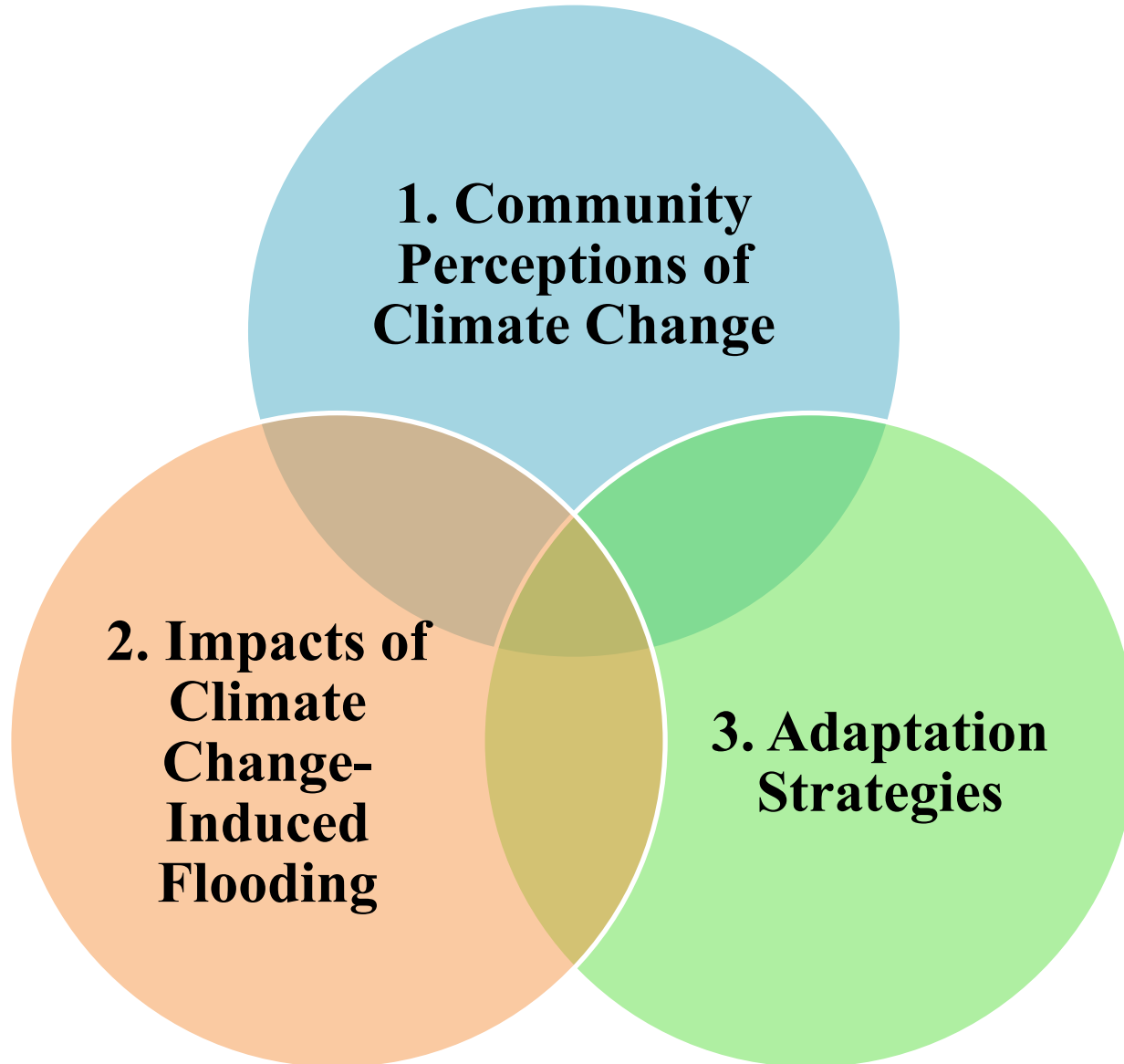
4. Results:

Summary study population demographics information

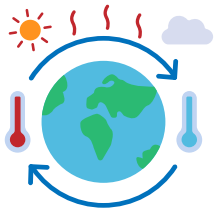
63 participants were invited through purposive sampling

	KII n = 13 (%)	FGD n = 50 (%)
Gender		
Female	3 (23.0)	30 (60.0)
Male	10 (77.0)	20 (40.0)
Age		
Mean (SD) - years	47.7 (\pm 8.4)	42.5 (13.3)
District		
Battambang	2 (15.4)	-
Sangke	2 (15.4)	14 (28.0)
Sampov Luon	5 (38.5)	19 (38.0)
Thmor Kol	4 (30.8)	17 (34.0)

4. Results: Themes



4. 1. Community Perceptions of Climate Change



Definition: rising global temperatures, shifting rainfall patterns, frequent flooding, and increased storms/strong winds.



Driver of climate change: deforestation, slash-and-burn agriculture, industrialization, plastic pollution



Association: report link between climate change and the increasing frequency and severity of flooding



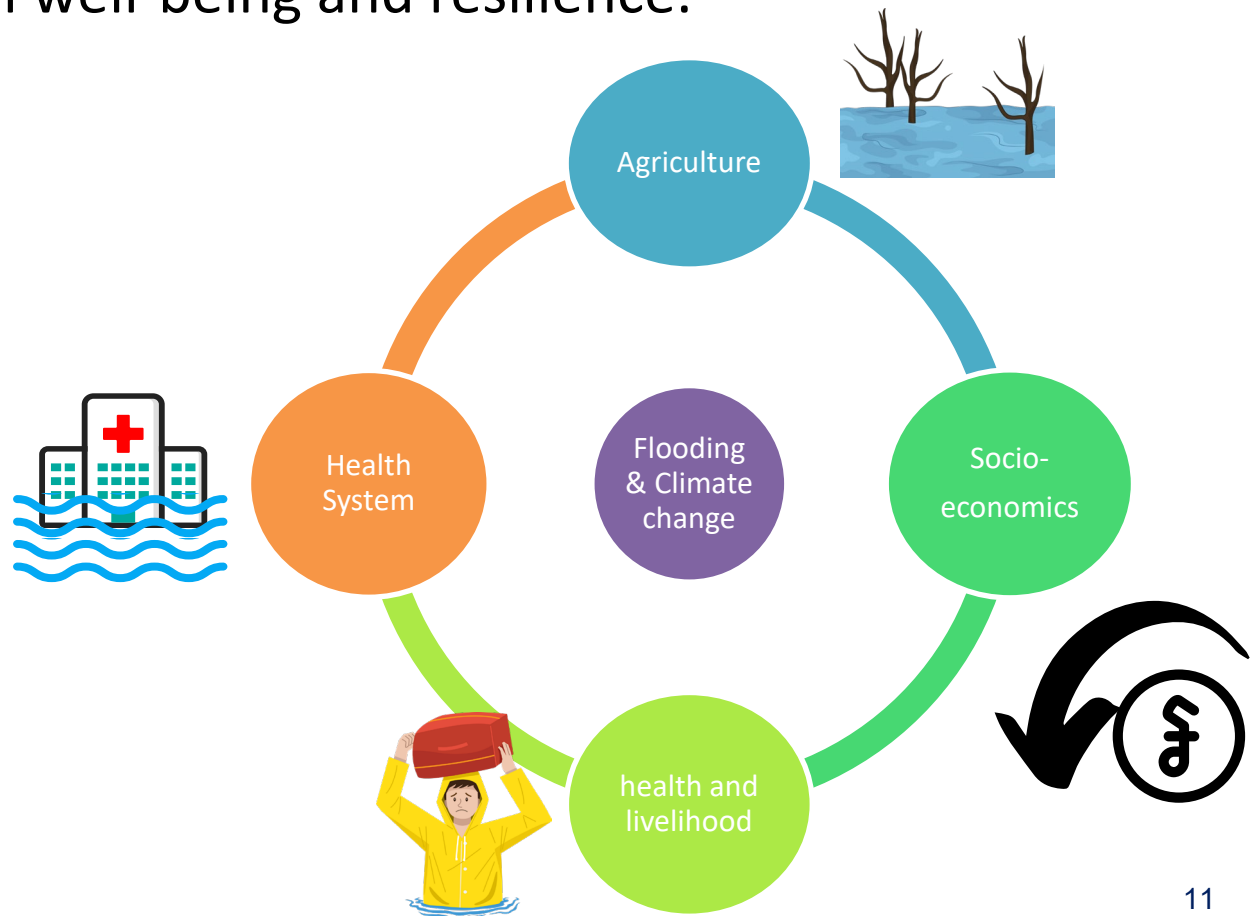
Types of flood: rapid flooding, monsoon flooding, flooding due to poor sewage systems or drainage

4. 2. Impacts of Climate Change-Induced Flooding

- Flooding impacts communities, affecting their livelihoods, agriculture, food chain, health, healthcare systems, financial hardship, overall well-being and resilience.



FDG with villagers



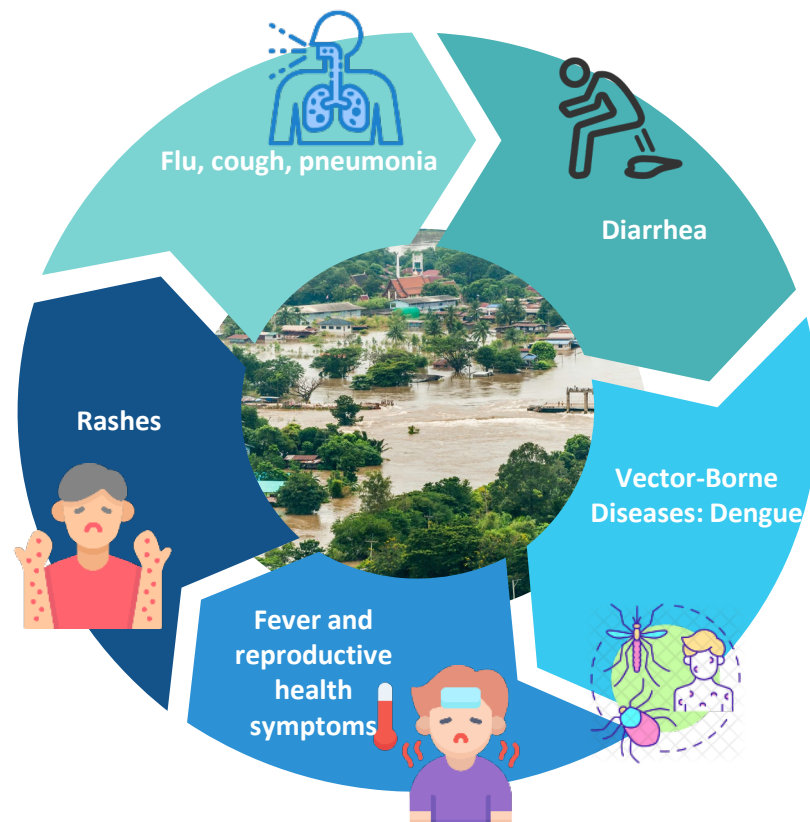
4. 2. Impacts of Climate Change-Induced Flooding (Community)

Risky behavior during flooding:

- Use of unclean or contaminated water
- Unsafe drinking water
- Limited access to nutritious food
- Poor personal hygiene sanitation
- Lack of safety signs in flood-affected areas



Reported health issues



Quotes:

“During floods, we observe more people sick with diarrhea, dengue, fever, and skin rashes due to unclean water.” *VHSG member*

“Most women had vaginal discharge due to lack of hygiene; I advised them to visit the health center.” *Female VHSG*

4. 2. Impacts of Climate Change-Induced Flooding (Health system)



Service disruptions: major interruptions in healthcare delivery due to damaged infrastructure and flooded access roads.



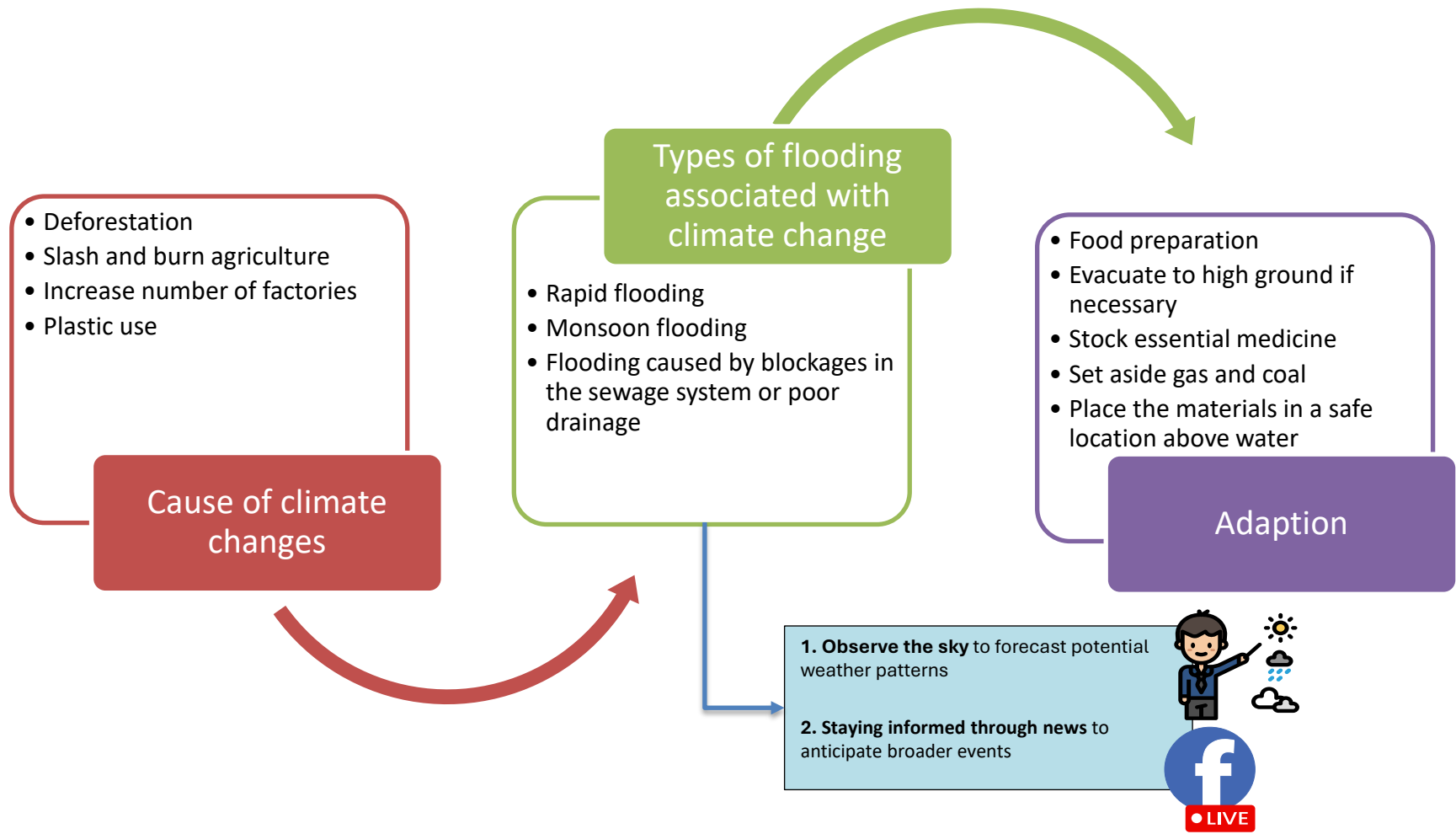
Reduced healthcare accessibility: physical barriers restricted patient access, especially for emergency services like birth deliveries.



Damage to vital infrastructure: Medical equipment, records, and waste management systems were affected, increasing contamination and health risks.

“We used to deliver babies during rapid flooding, which made it extremely difficult and high-risk for both us and the patients, as the entire area was flooded.” Midwife at health center.

4. 3. Adaptation Strategies (Community)



4. 3. Adaptation Strategies (Health System)



Mitigation at health center before and after flooding

1. Infrastructure reinforcement

2. Emergency preparedness: formed rapid response teams and information sharing

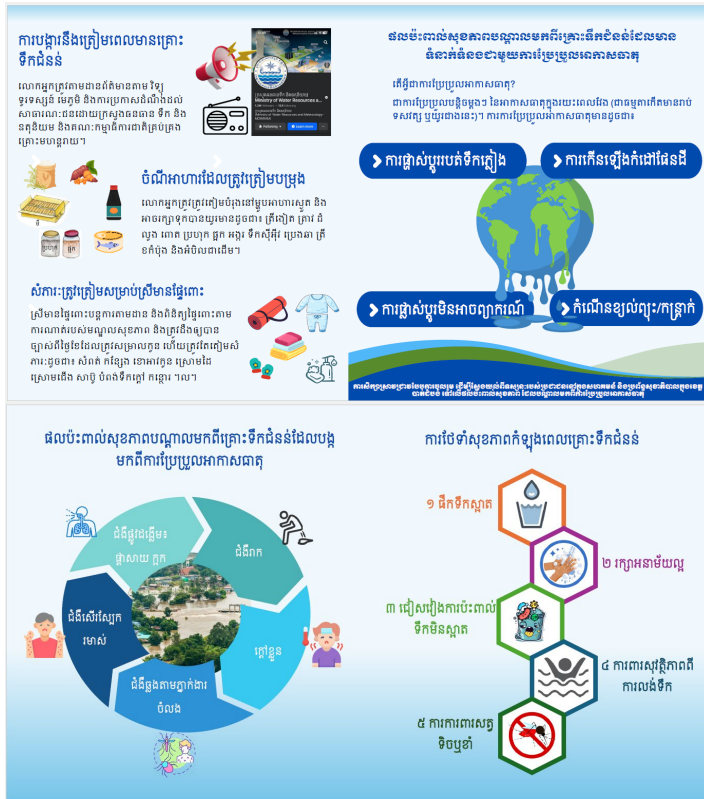
3. Medical supply protection: stockpiled and safeguarded essential supplies from water damage

4. Community Engagement: VHSGs delivered health education, early warnings, and supported relief coordination

Post-Flood Response:

- Restored services and addressed sanitation risks
- Used soil and sandbags to manage stagnant water
- Promoted hygiene and ensured care access for affected populations

5. Community Engagement



Leaflet



Community engagement activities

Using participatory action research to understand climate change-induced flooding in the community, with findings shared back with the community to raise awareness and promote engagement.

6. Conclusions & Recommendation

- Climate change-induced flooding poses serious risks to health, livelihoods, and healthcare systems in Battambang Province.
- Vulnerable populations faced challenges due to inadequate infrastructure and socioeconomic disparities.
- Community engagement and participatory approaches are effective in understanding local impacts and mobilizing action.

Recommendation:

- Strengthening health infrastructure, scaling community-led preparedness initiatives, and addressing socioeconomic determinants of vulnerability must form the cornerstone of Cambodia's climate adaptation agenda
- Investments in flood-resistant facilities, mobile health units, and intersectoral collaboration between health, environment, and disaster management agencies are urgently needed

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The Research Team

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Disclaimer

The opinions expressed in this research are those of the authors and do not necessarily reflect the views of Australia Awards Cambodia.

