Panel Discussion Summary

Getting Ahead of Disasters by Connecting Early Warning and Anticipatory Action That Works for All

Location: International Humanitarian Studies Association Conference, Istanbul
Date: 15 October 2025

The 8th International Humanitarian Studies Association Conference took place simultaneously in Istanbul, Turkey and Bergen, Norway, on 15–17 October 2025, bringing together 300+ researchers and practitioners across the humanitarian, development, and peacebuilding sectors.

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Session overview

Early Warning Systems (EWS) are widely recognized as one of the most effective tools to reduce disaster impacts and save lives. Yet warnings only make a difference when they translate into timely, feasible action — something that research and practice consistently show does not always happen, particularly for marginalized and at-risk groups.

At the 2025 International Humanitarian Studies Association (IHSA) Conference in Istanbul, the Global Disaster Preparedness Center (GDPC) convened a panel bringing together researchers and practitioners from eight organizations. Drawing on empirical research, programmatic evidence, and emerging tools from diverse contexts, the panel examined how early warning systems can be more effectively linked to anticipatory action (AA), especially for communities that are often excluded from formal disaster risk management systems.

Across the presentations, speakers highlighted several recurring themes: the limits of technically robust but socially disconnected warning systems; the importance of localization, trust, and lived experience; the enabling role of anticipatory finance and cash; and the need to recognize communities not merely as recipients of warnings, but as active agents with knowledge, capacities, and solutions of their own.

Panel Speakers

Name and Affiliation	Presentation
Pradytia Pertiwi Lecturer in Psychology, Universitas Gadjah Mada | Indonesia	*The Inclusivity of Volcanic Hazard Early Warning Systems: Experiences of Persons with Disabilities in Indonesia*
Mihir R. Bhatt Director, All India Disaster Mitigation Institute (AIDMI) | India	*Extreme Heat Early Warning for Anticipatory Actions: Lessons from Small Businesses in India*
Decide Mabumbo Senior Researcher, International Water Management Institute | South Africa	*Ahead of the Storm: Cyclone Ana's Lessons for Inclusive Early Warning and Action in Zimbabwe*
Osebi Adams Senior Early Warning and Anticipatory Action Manager, Save the Children	*A Journey to Resilience: Cash for Anticipatory Action in Nigeria*

International | Nigeria	
Mohamed Jelle Director, Evidence for Change (e4c) | Somalia	*From Data to Decision-Making: Strengthening Humanitarian Response through Localized Surveillance in Somalia*
Gefra Fulane Research Coordinator, International Federation of Red Cross and Red Crescent Societies (IFRC) | Switzerland	*The Community Trust Index and the Future of Locally Led Early Warning Systems*
Tirsit Sahledengle Assistant Professor, Addis Ababa University | Ethiopia	*Community-Developed Early Warning and Early Action Systems: The Case of South Omo Communities of Ethiopia*
Shristi Piya Chief Development and Impact Officer, Rumsan | Nepal	*Leveraging Blockchain for Anticipatory Humanitarian Action in Nepal*

Presentation Highlights

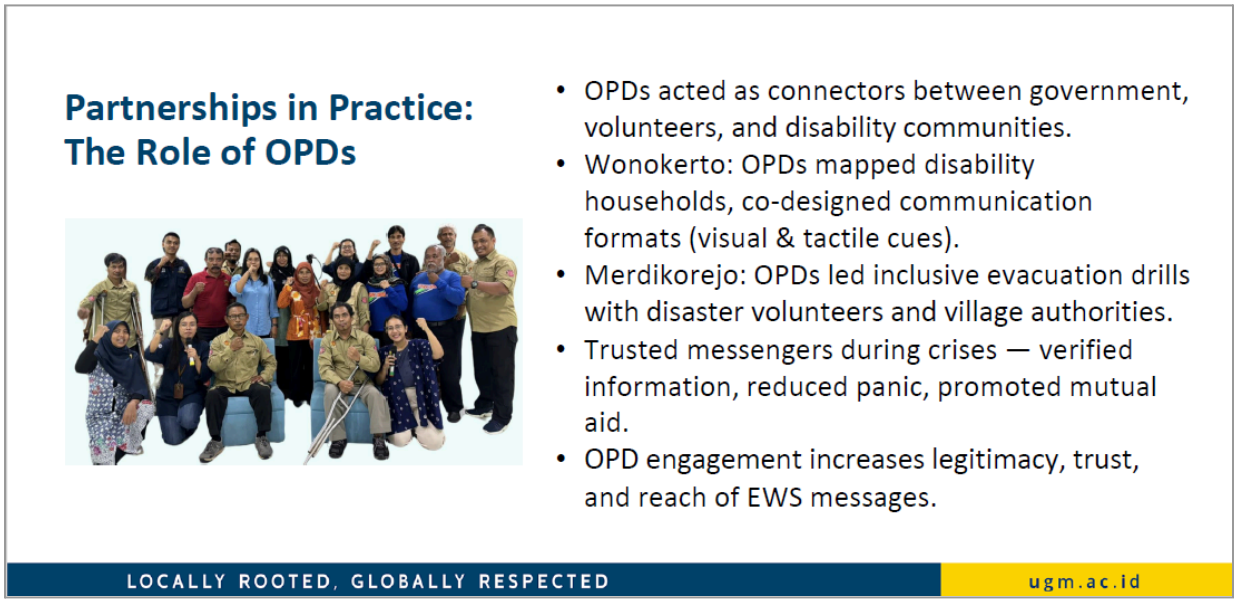
The Inclusivity of Volcanic Hazard Early Warning Systems: Experiences of Persons with Disabilities in Indonesia

Speaker: Pradytia Pertiwi, Universitas Gadjah Mada (Indonesia)

This presentation shared findings from a participatory mixed-methods study investigating the inclusivity of volcanic hazard EWS and the experiences of 182 persons with disabilities near Mount Merapi in Indonesia.

- **Coverage gaps:** The main government-installed EWS is a siren; however, only about 12% of participants were within audible range, highlighting that technological coverage does not guarantee access.
- **Social networks as core infrastructure:** Informal, community-based communication — known locally as Gethok Tular (word-of-mouth) — is the most effective and trusted alert channel. Dukuh (village leaders), mosque leaders, and family networks act as crucial, trusted messengers, demonstrating that trust and social capital are as important as technology infrastructure.

- **Action requires enabling conditions:** Warnings being heard does not automatically translate into action due to structural, social, and psychological barriers. Enabling action requires accessible transport, evacuation routes, accessible shelters, clear roles for caregivers, and emotional confidence to act.
- **Role of OPDs:** Organizations of Persons with Disabilities (OPDs) are essential connectors, conducting inclusive evacuation drills, mapping disability households, and co-designing multi-format communication cues (visual and tactile). Empowering local OPDs and volunteers is cost-effective and scalable.



Slide from Pradytia Pertiwi's presentation illustrating the role of Organizations of Persons with Disabilities (OPDs) in strengthening inclusive early warning systems in Indonesia.

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Extreme Heat Early Warning for Anticipatory Actions: Lessons from Small Businesses in India

Speaker: Mihir R. Bhatt, All India Disaster Mitigation Institute (India)

Drawing on lessons learned from AIDMI's action learning approach and field pilots, this presentation focused on the vulnerability of small businesses to extreme heat and the effectiveness of localized anticipatory actions in India.

- **Heat vulnerability:** Extreme heat is the deadliest weather hazard in India. Small businesses are highly vulnerable, facing productivity loss and health risks. India risks losing 5.8% of working hours (34 million jobs) by 2030 due to heat.
- **Gendered impacts and networks:** Women in the informal workforce face a double burden of income loss and caregiving. Women-led networks proved effective in disseminating alerts, reinforcing the finding that effective climate action is gender-inclusive.
- **Localizing actionable alerts:** Localized alerts are crucial, with a six-day advance alert identified as optimal for business planning. Actions implemented included rescheduling construction shifts to earlier hours (which reduced absenteeism/income loss by 10%) and vendors reducing perishable stocks.
- **Institutional and finance gaps:** Municipal heat plans often overlook small businesses, and a lack of anticipatory finance (insurance and grants) prevents warnings from becoming action.
- **Recommendations:** Localize and customize alerts, enable anticipatory action with resources, and link climate data to economic planning, including embedding EWS in municipal governance.

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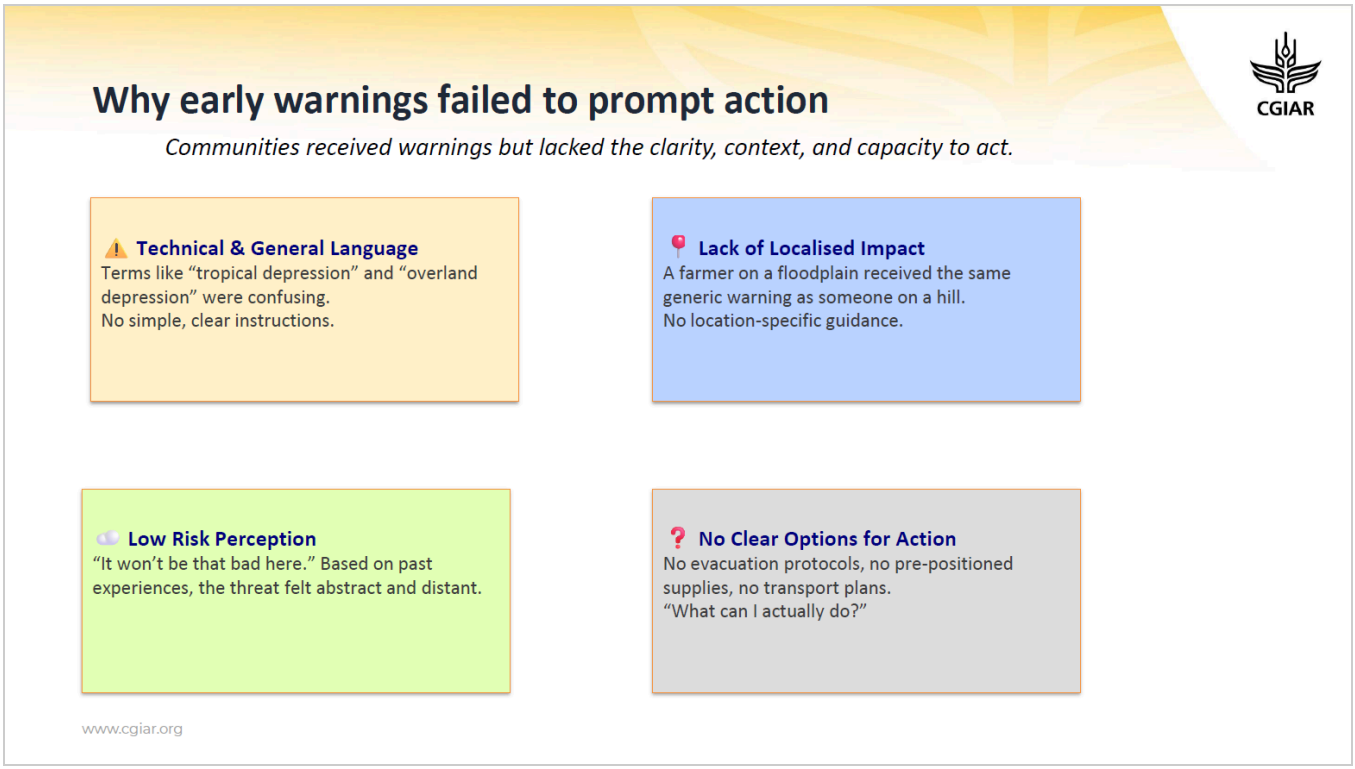
Ahead of the Storm Cyclone Ana's Lessons for Inclusive Early Warning and Action in Zimbabwe

Speaker: Decide Mabumbo, International Water Management Institute (South Africa)

This presentation reported findings from a qualitative case study examining the warning-action gap in Zimbabwe following Cyclone Ana (January 2022).

- **Warning–action gap:** Studying Cyclone Ana, the research found that 70% of those who received warnings failed to take timely action (delayed or absent action), while 30% received no warning at all due to poor networks.

- **Barriers to action:** Failures stemmed from warnings lacking clarity, context, and capacity. Barriers included using technical jargon ("tropical depression"), issuing generic warnings regardless of location (e.g., floodplain vs. hill), low risk perception, and lack of clear options for action (no evacuation protocols, supplies, or transport plans).



Slide from Decide Mabumbo's presentation illustrating why early warnings during Cyclone Ana failed to translate into timely action.

- **Governance challenges:** Warnings failed due to systemic top-down planning — 64% of community members reported never being consulted in disaster planning — and reliance on outdated disaster risk management (DRM) law (1989).
- **Local resilience:** Communities relied on traditional warning signs (wind sound, bird flight, evening sky color) and local knowledge to prepare and respond (providing shelter, clearing debris) before external help arrived.
- **Key takeaways:** A warning is not enough; warnings must be localized, understandable, and actionable. Effective early action requires investing in the "last mile" through empowered local committees and pre-agreed funding.

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A Journey to Resilience: Cash for Anticipatory Action in Nigeria

Speaker: Osebi Adams, Save the Children International (Nigeria)

This presentation shared evidence and achievements from a pilot program implemented by Save the Children International, which tested the effectiveness of Cash for Anticipatory Action (CVA) combined with child-centered, community-led Early Warning Systems in flood-prone Nigeria.

- **Community-led systems:** Save the Children developed a child-centered, community-led approach using inclusive Community Early Warning and Anticipatory Action Committees (CEWAACs).
- **Resource-enabled action:** The EWS integrated community monitoring (e.g., water levels) with scientific forecast data. Group cash assistance supported CEWAACs for mobilization, procurement of tools, and Cash4Work activities (e.g., clearing drainage and building dikes). Household anticipatory multi-purpose cash assistance (MPCA) enabled "last mile actions".

Before and after pictures of blocked community drainage significantly contributing to flooding cleared through community cash4work activity as part of anticipatory action activities

- **Positive impacts:** CVA led to significant improvements in household income and expenditures and positively impacted food security. Crucially, the cash prevented households from resorting to severe negative coping strategies (like skipping meals or pushing children into labor).

- **Sustainability:** The community demonstrated ownership and sustainability by repeating the anticipatory action process on its own the following year, without external implementation.
- **Recommendations:** Tailor early warnings to local profiles, increase the amount and duration of cash assistance, and strengthen community resilience programs.

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Strengthening humanitarian response through localized surveillance in Somalia

Speaker: Mohamed Jelle, Evidence for Change (Somalia)

This presentation detailed the design, methods, and impact of the Nutrition and Mortality Surveillance (NMS), an ongoing community-based surveillance system used to gather frequent, localized, and actionable data on Internally Displaced Persons (IDPs) in Somalia.

- **Localized surveillance:** The NMS is a community-based surveillance system designed for Internally Displaced Persons (IDPs) in Somalia, leveraging a network of trained Community Health Workers (CHWs). Rather than surveying everywhere, teams purposely selected 1–3 camps per area (often ~100 households each) and assessed all households in those camps on a small, consistent set of nutrition and mortality indicators.
- **Addressing invisibility:** NMS addresses critical gaps because traditional EWS and large surveys often miss IDPs, newly displaced, and socially-marginalized groups, leading to delayed and mis-targeted resources.
- **Methodology and actionable Data:** The system uses streamlined digital data collection to provide frequent data (every six weeks during shocks) and leverages local trust. The data has been used to detect measles outbreaks, leading to targeted vaccination campaigns, and to identify camps with WASH deficits, enabling prioritized supply delivery.

- **Recommendation:** Policymakers should fund the NMS-style surveillance system *and* the response capacity needed to act on the data, as surveillance without capacity has limited value.

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Trust-Driven Early Warning through the Community Trust Index

Speaker: Gefra Fulane, International Federation of Red Cross and Red Crescent Societies, (Switzerland)

The presentation introduced the Community Trust Index (CTI), a new, standardized, mixed-method tool developed by the IFRC to measure community trust — the critical missing link required for early warnings to translate into effective, life-saving actions.

- **Why trust matters:** Although Multi-Hazard Early Warning Systems (MHEWS) are widespread, information alone is insufficient to save lives; trust is fundamental for warnings to trigger life-saving decisions.
- **The IFRC Community Trust Index (CTI):** The CTI is a mixed-method tool designed to measure how and why communities trust and act on warnings, aiming to provide standardized, comparable, and context-sensitive data.
- **Drivers of trust:** The CTI measures two drivers: Competence (technical performance) and Values (alignment with culture, ethics, and preferences).
- **Preliminary insights:** Pilot data in Nepal showed that trust in EWS was moderate (around 6/10). Low scores were recorded for *Participation* (communities felt they were not consulted in planning) and *Transparency* (organizations were not clear about how warnings or science were produced).
- **Contextual differences:** In Mozambique, awareness of community-based EWS was much lower in resource-poor, drought-prone areas (52.4%) compared to cyclone and flood-prone areas (93.5%).

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Community-Developed Early Warning and Early Action Systems: The Case of South Omo Communities in Ethiopia

Speaker: Tirsit Sahledengle, Addis Ababa University (Ethiopia)

This presentation shared findings from a research study examining community-developed early warning systems (CDESs) in the remote South Omo communities of Ethiopia, detailing how indigenous knowledge and spiritual indicators serve as a lifeline against hazards like flooding.

- **Context:** South Omo is home to 15+ ethnic groups and is shaped by the Omo River system; flooding has caused major impacts in recent years (including large-scale displacement in 2023).
- **Indigenous lifelines:** In remote South Omo communities, where formal EWS infrastructure is scarce and trust in central systems is low, community-developed EWS are essential.
- **EWS mechanisms:** Indigenous systems rely on *Divination* (dream interpretation by elders and cultural leaders) and *Ecological Indicators* (interpreting signs from flora, like rapid growth/blossoming near rivers, and animal movements as precursors to floods). Practices linked to warnings included rituals, building fences, and evacuating destitute/at-risk people.
- **Strengths and weaknesses:** These indigenous systems are highly trusted, culturally significant, and holistic (used for floods and conflict prevention). However, they suffer from infrastructural limitations, low inclusiveness for marginalized groups (women, PWD), and reliability issues due to dependency on specific individuals.
- **Conclusion:** Integration between these traditional, trusted systems and formal institutions is crucial for strengthening resilience at the grassroots level.

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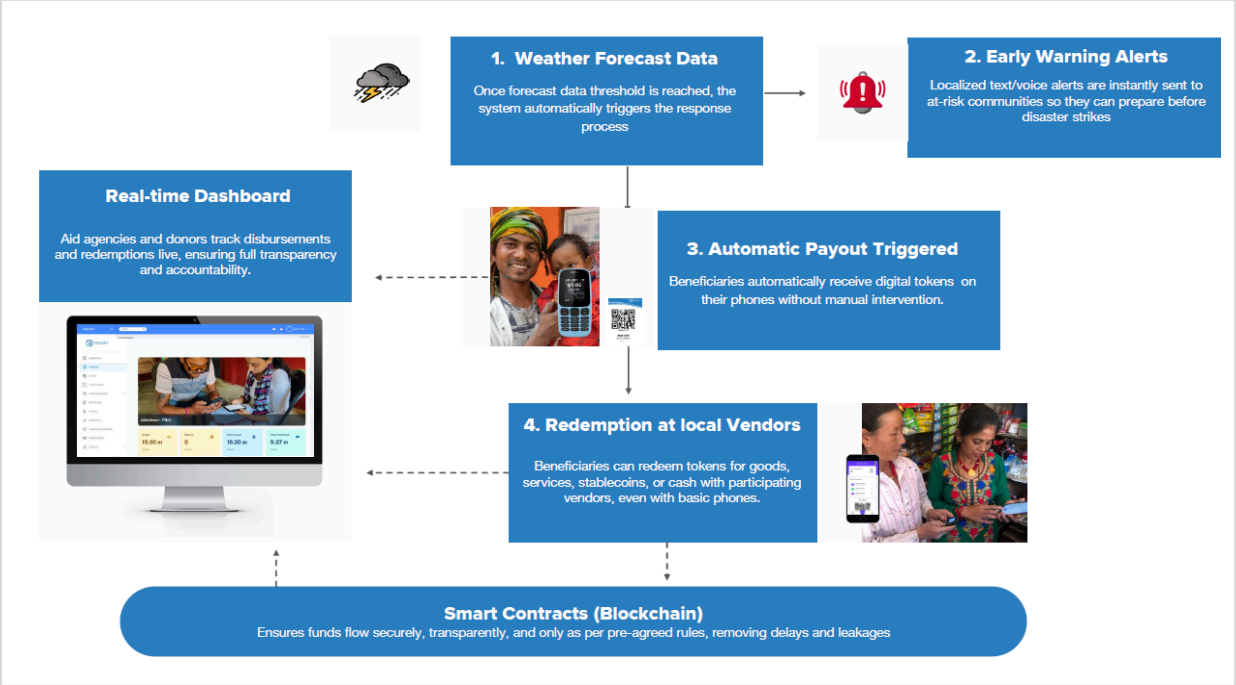
A Case Study on Using Blockchain for Anticipatory Action and Humanitarian Cash Assistance in Flood-Prone Areas of Nepal

Speaker: Shristi Piya, Rumsan, Nepal

This presentation provided a case study on the use of Rahat, a digital platform leveraging blockchain technology, to automate early warning alerts and anticipatory cash assistance in flood-prone districts of southern Nepal.

- **Blockchain for AA:** The Rahat platform aims to deliver anticipatory aid faster, more transparently, and directly in flood-prone areas of Nepal.
- **Automation and speed:** The system uses Smart Contracts triggered by forecast data thresholds to automatically issue inclusive SMS/IVR alerts and digital token payouts to beneficiaries' phones.



Slide from Shristi Piya's presentation showing the end-to-end workflow of the Rahat system — from weather forecast thresholds and early warnings to automatic cash payouts and redemption through local vendors.

- **Impact:** A pilot demonstrated significant speed: alerts reached recipients within 49 minutes (with a 55% success rate), cash was distributed within 5 hours 23 minutes, and 98% of beneficiaries took action before floods. Donor reporting was completed within 24 hours.
- **Learnings:** Using a mix of channels (SMS, voice, volunteers) is essential for inclusive reach. Key challenges included integrating forecast data due to API limitations and ensuring offline access for field staff in low-connectivity settings.

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Synthesis of Discussion and Q&A Themes

The collective discussion **highlighted several cross-cutting challenges and recommended solutions** necessary to ensure EWS/AA works for all:

Closing the Warning-Action Gap

- The primary challenge across contexts (Zimbabwe, Indonesia) is that **a warning is not enough**; systems fail when they lack clarity, context, and capacity to act.
- To trigger action, **warnings must be resource-enabled**, meaning they provide not just information but also resources (e.g., money, contacts, or access to accessible shelter) needed to take action.

The Critical Role of Trust and Social Capital

- **Trust is fundamental for warnings to prompt action**, necessitating measurement tools like the Community Trust Index.
- **Informal networks and local social capital are essential infrastructure**, often amplifying messages and filling the gaps left by formal technological systems. The **Red Cross/Red Crescent movement was specifically recognized as a community alliance with great potential** to advance early warning and action globally.

Integrating Indigenous Knowledge and Data

- There is a need to move beyond technical jargon and **integrate trusted traditional knowledge and wisdom** (like ecological indicators in Ethiopia or traditional classification systems in Zimbabwe) into EWS messages and plans.
- This **integration requires political will and legislative reform** (e.g., updating DRM law in Zimbabwe and establishing indigenous knowledge desks).
- Translating sophisticated technical and scientific data into simple, actionable language for communities remains a challenge that requires **participatory tools and involving local leaders to find relevant metaphors and context-specific communication**.

Institutional Alignment and Sustainability

- To sustain local innovations (e.g., community-led EWS), **governments must be involved in the co-design and implementation process from the beginning**; otherwise, innovations often end when project funding ceases.
- Success requires quickly **embedding innovations into the existing system**, such as recognizing heat death in municipal records or creating special budget items for extreme heat preparedness.
- **Policy frameworks**, including social protection measures, **need to be refined and targeted to proactively address climate resilience concerns**, such as the exposure of children to extreme heat.

Inclusivity and Targeting the Vulnerable

- The principle of **"put the last first" was recommended for improving early warning dissemination**: after each event, analyze who failed to receive the warning and why, and build from that learning.
- Inclusion requires providing **multi-format early warning information** (SMS, voice alerts, tactile cues) tailored to different disability categories, coupled with necessary resources for action.
- **Gender inclusion is critical**, as women often rely on social networks that accelerate warning dissemination compared to men.