



Technology Executive Committee

25 August 2026

Thirty-third meeting

15–18 September 2026 (18 September 2026 TEC-CTCN Advisory Board Joint Session)

Draft key messages and recommendations to the COP and CMA on advancing community-based early warning systems

Cover note

A. Background

1. As per activity A.3.1 of the rolling workplan, the Technology Executive Committee (TEC) is to identify and analyse emerging and transformational technologies for adaptation (e.g. early warning systems and disaster risk management), including the role of finance and the private sector in supporting their deployment.
2. At TEC 30, the TEC considered and welcomed a proposal by the International Organization for Migration (IOM) on potential areas for collaboration. The TEC agreed to consider engagement with IOM on emerging and transformational adaptation technologies.
3. At TEC 31, the TEC agreed to develop a policy brief on advancing community-based early warning systems, with a focus on people-centred early warning. The policy brief is to emphasize on low-technology, accessible, last-mile solutions that are aligned with the pillars of Early Warnings for All initiative of the United Nations Secretary-General,¹ highlight adaptation-friendly technologies and include consideration of migrants and other mobile populations. The TEC requested the open-ended activity group to prepare the first draft of the policy brief for consideration at TEC 32.²
4. At TEC 32, the TEC requested the open-ended activity group to prepare a revised draft for consideration at TEC 33, including key messages and recommendations, taking into account the feedback provided by TEC members.

B. Scope of the note

5. The annex to this note contains the draft key messages and recommendations from the revised draft policy brief on advancing community-based early warning system.

¹ See: <https://www.un.org/en/climatechange/early-warnings-for-all>.

² See document: [TEC/2026/32/23](#).

C. Possible actions by the Technology Executive Committee

6. The TEC will be invited to consider and agree on the key messages and recommendations to the COP and CMA for inclusion in the TEC annual report for 2026.

Annex

Draft key messages and recommendations to the COP and CMA on advancing community-based early warning systems

A. Key messages

1. Technical coverage does not necessarily constitute effective coverage. An early warning system succeeds only when warnings are received, understood, trusted and translated into feasible protective action by the full population at risk.
2. People-centered early warning systems are socio-technical systems. Technology must be combined with local knowledge, inclusive governance, institutional capacity, trusted relationships and preparedness arrangements across the entire warning chain.
3. Community-driven, low-technology and hybrid approaches are essential complements to national and regional systems. Their value lies in their accessibility, reliability and capacity to maintain warning dissemination when connectivity, electricity or formal communication systems are limited or disrupted.
4. Mobility must be treated as a core design consideration. Warning systems based on fixed populations, formal registries and stable administrative boundaries risk excluding displaced people, migrants, pastoralists and other mobile populations, as well as residents of informal and rapidly changing settlements.
5. Trusted local intermediaries are part of the warning system, not auxiliary communication channels. Local governments, community organizations, volunteer networks and displacement-site structures play a decisive role in contextualizing warnings, reaching excluded groups, verifying reception and connecting warnings to preparedness and evacuation.
6. Last-mile delivery requires financing, capacity and technology to be addressed together. Investments in forecasting or equipment will have limited impact unless local institutions also have clear mandates, trained personnel, operational resources and the authority to act.
7. Risk-informed targeting strengthens the effectiveness of investment. Combining forward-looking climate information with displacement, mobility and settlement analysis can help identify where early warning and preparedness resources are most urgently required.
8. Financing architecture influences who can act. Predictable subnational resources, decentralized contingency funds, anticipatory financing and simplified small-grant mechanisms can enable local actors to sustain warning and preparedness functions that larger, project-based funding frequently overlooks.

B. Recommendations

1. **In establishing enabling governance arrangements, mandates and inclusive system design, policymakers and national authorities may wish to take into account the following recommendations:**
 - (a) **Embed people-centered governance throughout early warning systems.** Governments and implementing partners should establish clear and sustained roles for local governments, community organizations and at-risk populations in the design, testing, dissemination, evaluation

and improvement of early warning systems. Community participation should extend beyond consultation to meaningful involvement in decision-making and implementation.

- (b) **Combine national capabilities with context-appropriate low-tech and hybrid solutions.** National meteorological, hydrological and disaster management authorities should integrate authoritative forecasts and standardized warning protocols with locally appropriate dissemination mechanisms, including community radio, visual and acoustic signals, basic mobile services and face-to-face communication. Redundancy should be treated as an essential design principle rather than duplication.
 - (c) **Integrate mobility and displacement into warning-system design.** Governments should assess how population movement, informal settlement, cross-border mobility and changing urban exposure affect warning coverage. Dissemination and preparedness arrangements should include multilingual and low-literacy communication, identity-neutral access to alerts and safe locations, and targeted measures for people who may not appear in formal registries or telecommunications databases.
 - (d) **Strengthen the institutional role and capacity of trusted local intermediaries.** Local authorities, volunteer networks, women's organizations, migrant associations, religious and traditional leaders, and community or site-management structures should be formally connected to national warning and disaster risk management arrangements. Investment should support training, simulation exercises, two-way feedback, rumor management and the identification of people requiring assisted evacuation or other forms of support.
2. **In ensuring predictable resources and targeted investment, finance and planning institutions, climate funds and development partners may wish to take into account the following recommendations:**
- (a) **Finance operational continuity, not only initial investment.** Early warning financing should cover the recurring costs required to sustain dissemination and preparedness, including local training, drills, volunteer mobilization, communication, contingency planning and the maintenance or replacement of basic equipment. Funding should build on existing national and community systems and avoid fragmented, short-term or technology-led projects that cannot be maintained.
 - (b) **Improve local access to flexible and anticipatory financing.** Governments, climate funds and development partners should expand decentralized contingency funds, forecast-based financing, small-grant windows and other simplified mechanisms that allow municipalities and locally led organizations to act before hazards occur. Funding arrangements should be adapted to the capacities and constraints of SIDS, LDCs, fragile and conflict-affected settings, rapidly urbanizing areas and displacement-affected communities.
 - (c) **Use forward-looking risk and mobility analysis to target investment.** Climate projections, hazard information, displacement data, mobility analysis and urban growth scenarios should be brought together to identify current and emerging concentrations of risk. These findings should inform national and subnational early warning priorities, preparedness planning, spatial planning and the allocation of climate and disaster risk finance.
3. **In strengthening operational delivery, locally appropriate innovation and continuous learning, implementing partners, local actors and technology partners may wish to take into account the following recommendations:**
- (a) **Promote locally appropriate innovation and technological capacity.** Where feasible, governments and partners should support local institutions, researchers and enterprises to adapt, produce, repair and improve appropriate early warning technologies. Such support should respond

to locally identified needs and strengthen national capacity without displacing simple and reliable community mechanisms or creating dependence on systems that cannot be sustained.

- (b) **Strengthen interoperability and partnerships while protecting universal access.** Public–private and regional partnerships can extend warning coverage through telecommunications, broadcasting, open data and standardized protocols such as the Common Alerting Protocol. These arrangements should remain under appropriate public oversight, support nationally owned systems and ensure that life-saving information is accessible regardless of documentation, income, device ownership or connectivity.
 - (c) **Monitor whether warnings lead to action. Evaluation frameworks should move beyond measuring** the production or transmission of warnings and assess whether different population groups receive, understand, trust and act upon them. Community feedback and lessons from exercises and hazard events should be systematically used to improve warning content, dissemination pathways and preparedness arrangements.
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