United Nations Framework Convention on Climate Change

Agenda item 4 (a) ii. Emerging and transformational adaptation technologies: early warning systems

TEC GEO policy brief: Realizing Early Warnings for All: Innovation and Technology in support of Risk-Informed Climate Resilience Policy and Action

Technology Executive Committee, 29th meeting and TEC-CTCN AB Joint session

17-19 and 20 September 2024, Bonn, Germany

1- Updates on the work since TEC 28

Pemy Gasela
Activity co-lead for emerging and transformational adaptation technologies (Activity A.2.1.)
Technology Executive Committee (TEC)

Timeline of actions

- March 2023 – TEC 26: Agreement on the topic of EWS for the TEC work on adaptation technologies
- September 2023 – TEC 27: Launch of work in partnership with GEO under the EW4All and agreement on key elements of a joint knowledge product
- November 2023 – GEO Week: Engagement with the GEO community and gathering inputs and good practices
- December 2023 – COP 28: Engagement with relevant stakeholders to raise the visibility of the work and inform the development of the knowledge product
- February 2024: Draft annotated outline reviewed by the TEC activity group (and GEO/EW4All experts)
- March 2024: zero draft of the policy brief is under review by the TEC activity group
- April 2024 – TEC 28: Feedback on the 1st draft and discussion of preliminary findings
- June 2024: side event at SB60 and a UNFCCC blog
- July 2024: 2nd draft of the policy brief reviewed by the TEC activity group (and EW4All experts) for comments & feedback on section 3
- August 2024: Final draft of policy brief with KM&R reviewed/discussed by the TEC activity group meeting
- **September 2024 – TEC 29: Finalizing the draft policy brief and its KM&R**
- November 2024 – COP 29: Launch of the policy brief

Ongoing:

- Engagement with the EW4All initiative to ensure synergies and complementarity between this work and broader efforts under the initiative (i.e. 2024 Status Report on MHEWS)
- Coordination with Parties and observers for launch
- Promotion of this work through relevant outreach channels and engagement, as appropriate

Highlight from the work of the activity group since the launch of work

September 2023 - Launch of work as part of the EW4All

November 2023 - GEO Week and Ministerial Summit

SB 60 (10 June)- Side event: Innovation and technology in support of risk-informed climate adaptation and Early Warnings for All

Published UNFCCC blog

December 2023 - COP28 in Dubai

2- Updates on the final draft policy brief

Rui Kotani
Disaster Risk Reductions Coordinator and EW4All focal point, the Group on Earth Observations (GEO) Secretariat

Final draft & **policy brief**

Type: policy brief

Content: policy insights and technology options for advancing climate information and risk knowledge and fostering risk-informed adaptation policy and action in vulnerable contexts, including in LDCs and SIDS

Contributors: GEO community, EW4All partners, climate funds, UNFCCC constitutes bodies and other interested stakeholders

Target audience: policy-makers at the national levels who are involved in the formulation and implementation of DRR, climate change adaptation, loss and damage, and climate technology plans, policies and actions

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- Abbreviations & acronyms
- Forward & acknowledgements
- (Executive summary (=KM&R))
- Why this brief
- Introduction

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1.2. Tech needs & priorities
1.3. Barriers and enablers
1.4. Trends and key considerations in tech implantation

Section 2 Innovation & Tech solutions

2.0. Background
2.1. Production of RK
sensors, citizen science, AI
2.2. Use of RK
Simulation Models, IoT, GNSS & TRF, Cloud Computing
2.3. Access to RK
GIS, API, ARD & Data Cubes
2.4. Enabling Environment for improving RK
Capacity-building, Partnerships and Int'l Cooperation, Indigenous & Traditional Knowledge
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Section 3 KFM&R

- Key findings
- Recommendations

- References

Final draft & policy brief major changes made since TEC28

Introduction:

- Clarified the target audience of KM&R: “especially for policymakers and those design and implement projects”

Section 1:

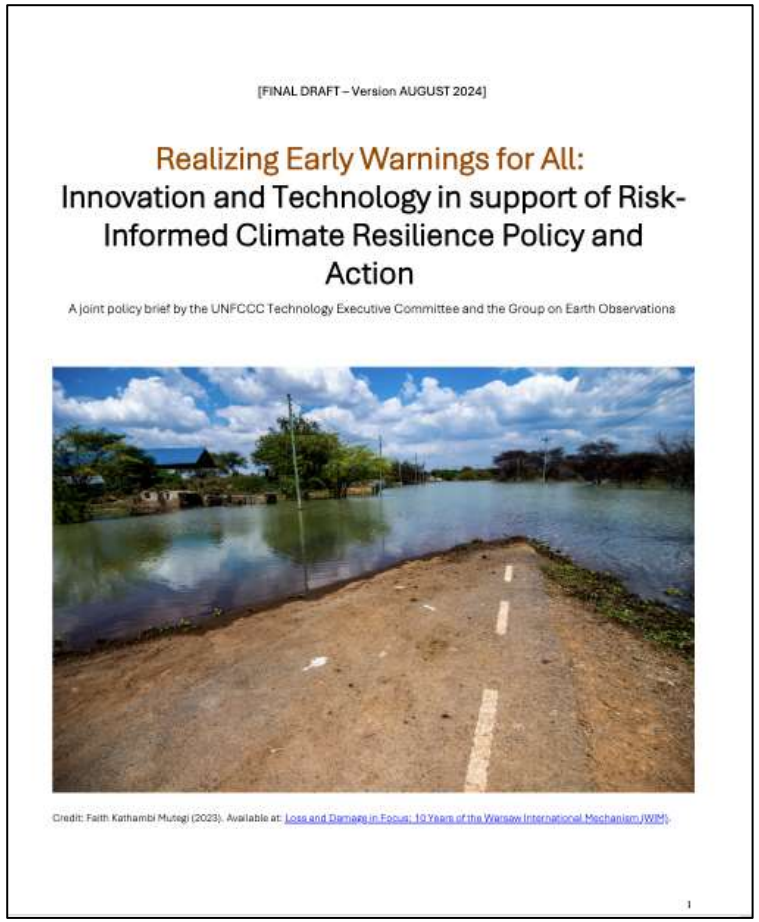
- Moved Lessons learned of funding entitles from Annex into 1.3 (Table 1)
- Updated statistics on regional and global status of MHEWS, based on consultation with UNDRR

Section 2:

- Added use cases to better showcase the linkages between tech applications and elements of Risk Knowledge (RK)
- Additional information and examples on gender-related aspects in the application and uptake of technologies

Section 3:

- Developed based on preliminary findings and inputs from the SB60 side events and comments
- Fully aligned with the 1-page Key Messages and Recommendations



[FINAL DRAFT – Version AUGUST 2024]

Realizing Early Warnings for All:
Innovation and Technology in support of Risk-Informed Climate Resilience Policy and Action

A joint policy brief by the UNFCCC Technology Executive Committee and the Group on Earth Observations

Credit: Faith Kathambi Mutegi (2023). Available at: Loss and Damage in Focus: 10 Years of the Warsaw International Mechanism (WIM).

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Feedback & guidance provided by TEC Activity Group, GEO experts, EW4All partners, climate funds, UNFCCC constitutes bodies

3- Looking ahead

Mira Markova
Programme Management Officer, United Nations Office for Disaster Risk Reduction (UNDRR)

Looking ahead

Timeline	Proposed milestones in the implementation of work on EWS
October 2024	Finalizing the document for publishing online (ttclear and EW4All websites) Coordination with the **2024 Status Report on MHEWS** by WMO/UNDRR for cross-referece
November 2024 at COP29	Launch of the document at **Earth Information Day**
Rollout as part of EW4All Pillar 1 through 2027	Operationalization through the Pillar 1 toolkit, as part of the EW4All rollout process; Alignment with Handbook on Use of Risk Knowledge for EWS & other key knowledge products; Rollout in countries through national workshops, trainings and learning labs; visibility through high-level events such as GPDRR, EW4All MSF, etc.
2025-2027	Potential follow-up work on EWS jointly with CTCN towards implementation

Looking ahead – rollout & operationalisation through EW4All

- **TEC GEO policy brief as part of Pillar 1 Toolkit**: concrete tools to build technical capacity in countries to strengthen national EWS implementation; operationalization through training modules

- **Handbook on Use of Risk Knowledge for EWS:**
  - **Purpose**: To guide practitioners on integrating risk knowledge into the design and operation of Early Warning Systems (EWS) for effective disaster risk reduction.
  - **Content**: Covers processes for using risk information across EWS pillars: monitoring, impact forecasting, communication, and preparedness actions.
  - **Target Audience**: National institutions, meteorological and hydrological services, disaster risk management authorities, and international organizations.

- **Online toolkit for wider outreach**: https://earlywarningsforall.org/site/early-warnings-all/implementation-toolkit

Thank you!