

Early Warnings for All

Chinatsu Endo

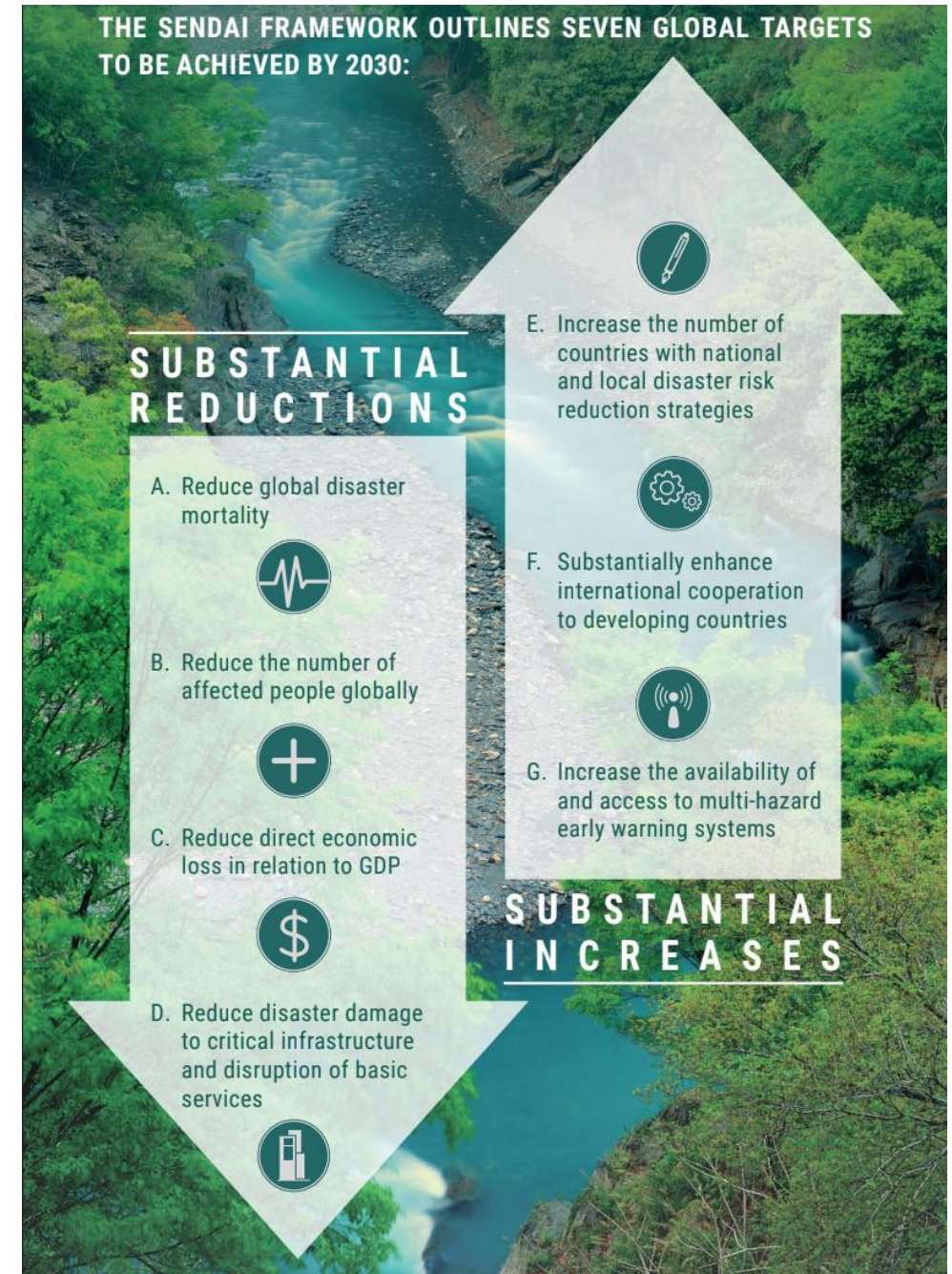
16th AOGEOS Symposium
3 September 2024, Tokyo Japan



Sendai Framework

Target G.

Increase the availability and access to multi-hazard early warning systems



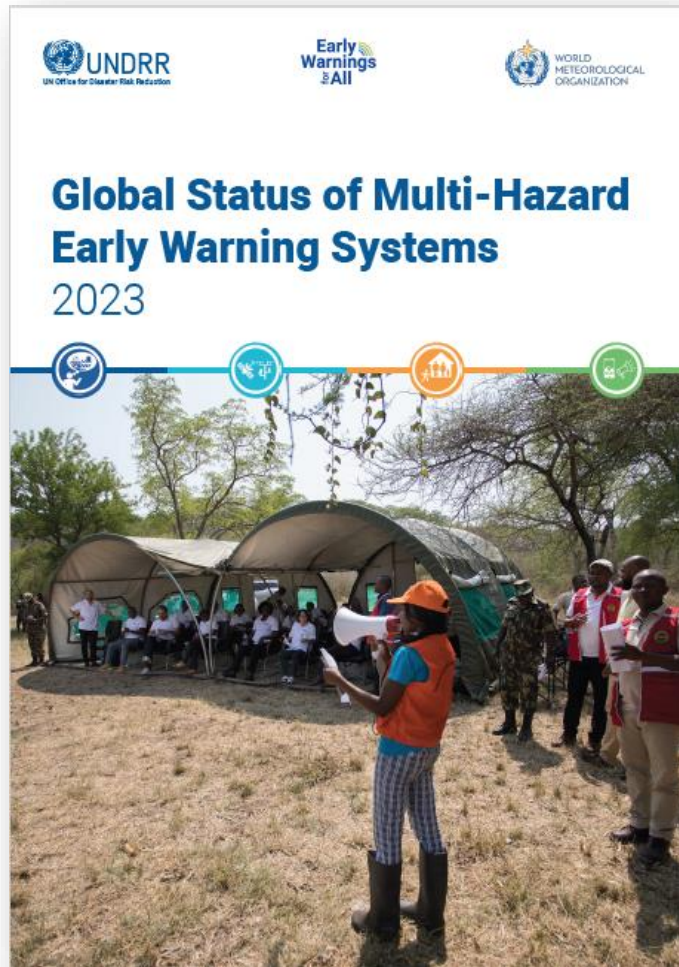
Early Warning as a Proven Adaptation Measure

It saves lives.

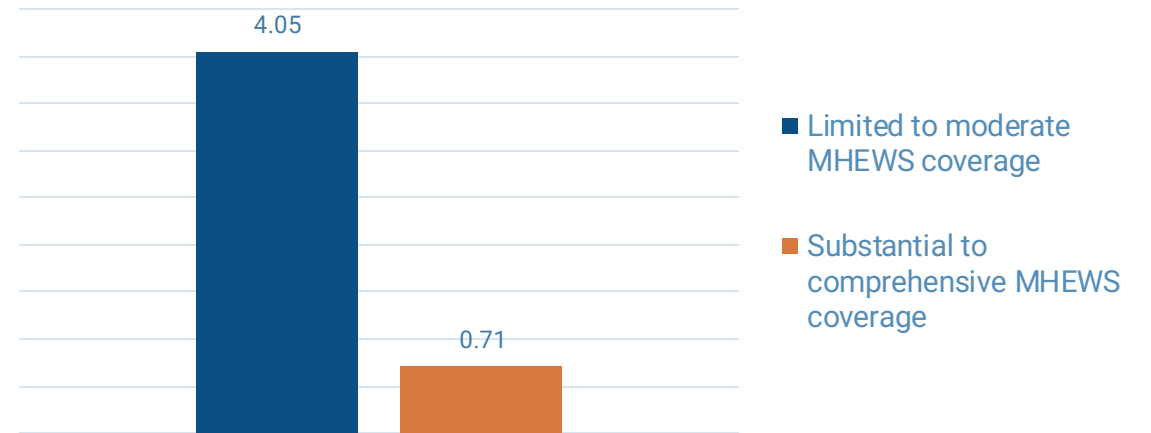
It provides more than a tenfold return on investment*.

**Adapt now: a global call for leadership on climate resilience, Global Commission on Adaptation (2019)*

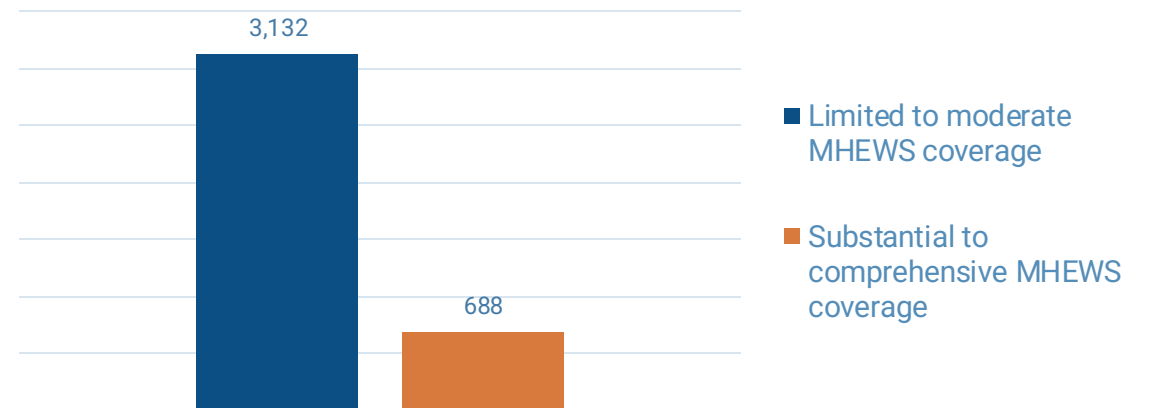




Disaster-related mortality per 100,000 population



Disaster affected people per 100,000





But we are not quite there yet.

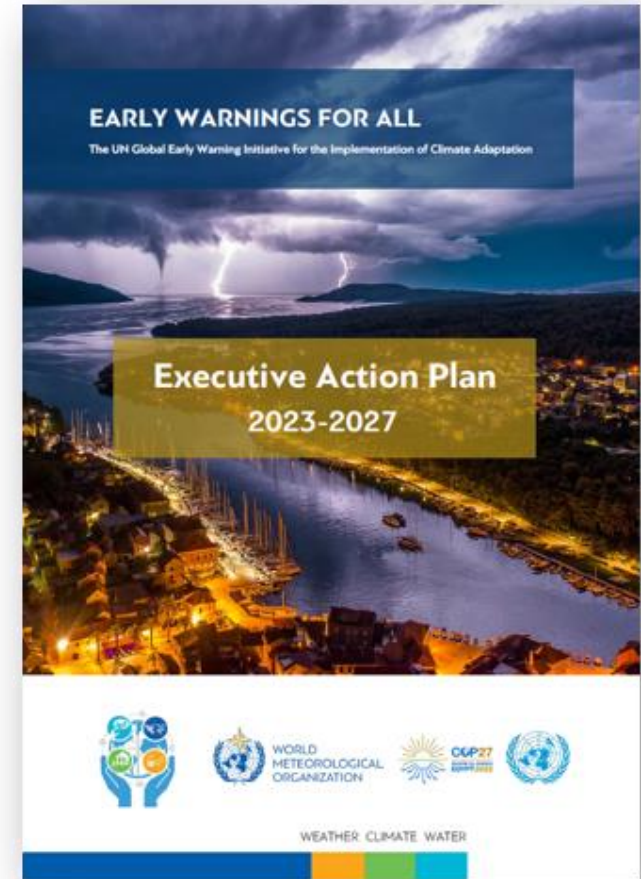
Only half of the world is covered by multi-hazard early warning systems (MHEWS).

Extreme weather events continue to cost the countries billions of dollars in economic losses.

Significant gap in least developed countries (LDCs) and small island developing states (SIDS).

Early Warnings for All

- Launched at the COP27 in 2022, by the UN Secretary General.
- Calls to addressing immediate gaps and establishing sustainable multi-hazard early warning systems- **make every person on Earth protected by MHEWS by 2027.**
- The initiative promotes every country to elevate the efforts to achieve the goal.



Four Elements of end-to-end multi-hazard EWS



Disaster risk knowledge

Systematically collect data and undertake risk assessments

- Are the hazards and the vulnerabilities well known by the communities?
- What are the patterns and trends in these factors?
- Are risk maps and data widely available?



Detection, observations, monitoring, analysis and forecasting of hazards

Develop hazard monitoring and early warning services

- Are the right parameters being monitored?
- Is there a sound scientific basis for making forecasts?
- Can accurate and timely warnings be generated?



Preparedness and response capabilities

Build national and community response capabilities

- Are response plans up to date and tested?
- Are local capacities and knowledge made use of?
- Are people prepared and ready to react to warnings?



Warning dissemination and communication

Communicate risk information and early warnings

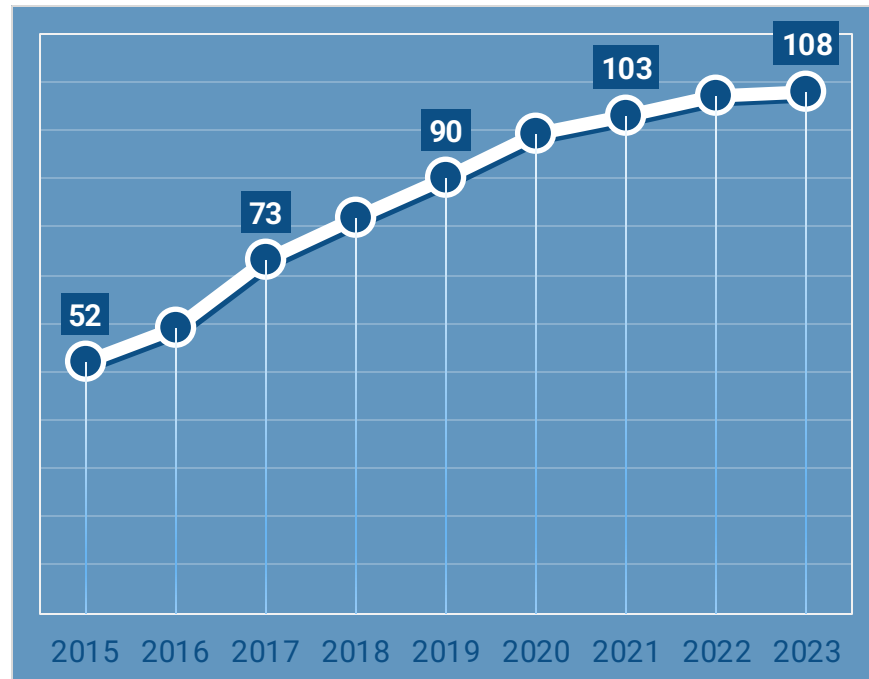
- Do warnings reach all of those at risk?
- Are the risks and warnings understood?
- Is the warning information clear and usable?



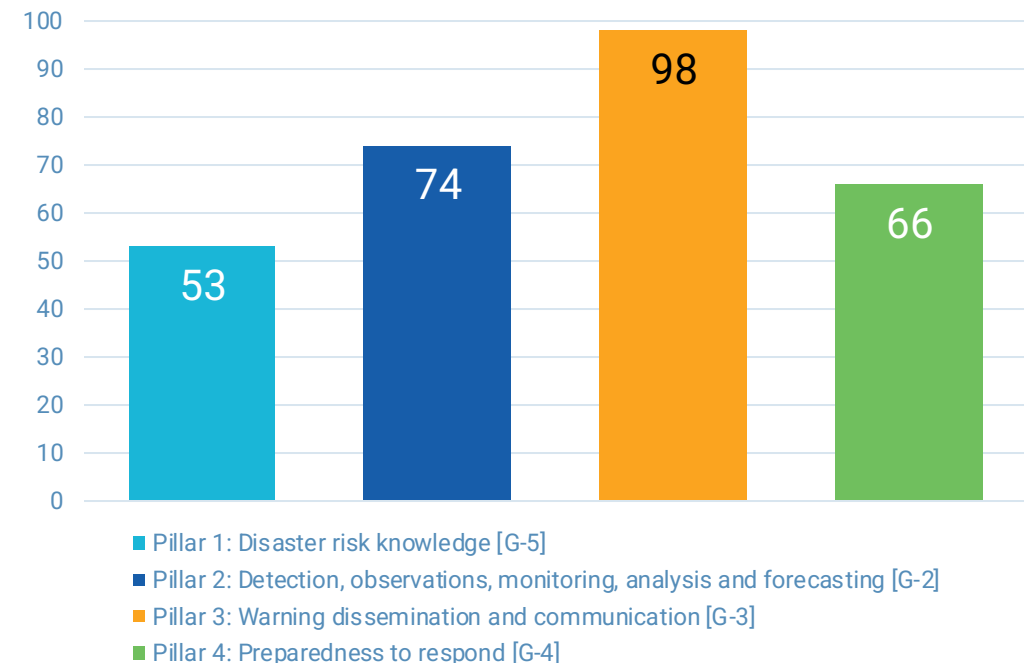
Growing number of countries with multi-hazard early warning systems

- 108 countries (55% of the world) reported having Multi Hazard Early Warning System [G-1], compared to 52 in 2015 (over 2x improvement).
- 98 countries reported on Pillar 3: warning dissemination and communication [G-3]; In comparison, 53 countries reported on Pillar 1: disaster risk knowledge.

Number of countries reporting coverage of MHEWS

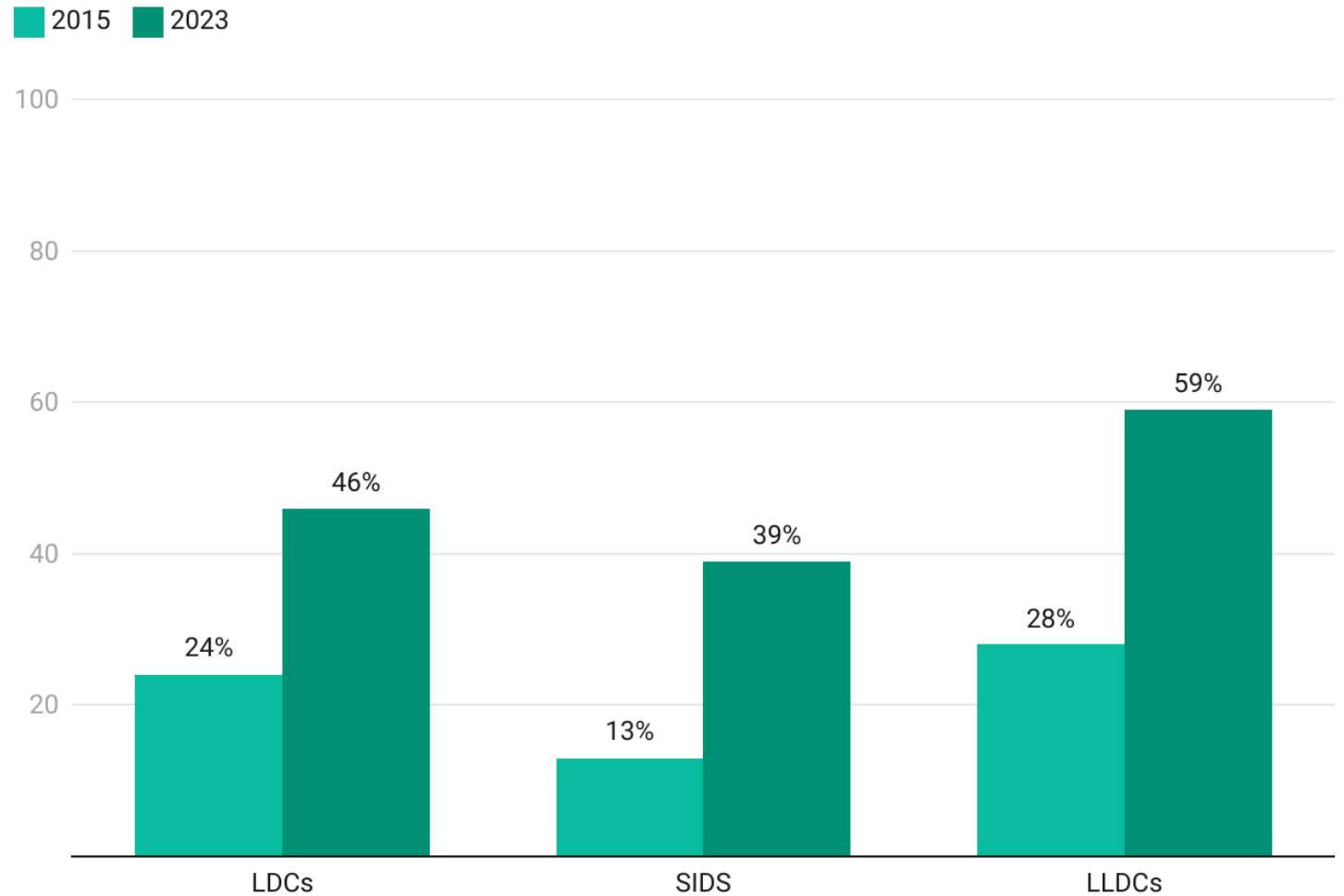


Number of countries reporting by EW4ALL Pillars



Investment required to support LDCs and SIDS where the coverage is low.

Proportion of LDCs, LLDCs, and SIDS reporting the existence of MHEWS. Source: SFM



Source: Global Status of Multi-Hazard Early Warning Systems 2023, UNDRR

Countries formulating EW4ALL national roadmap

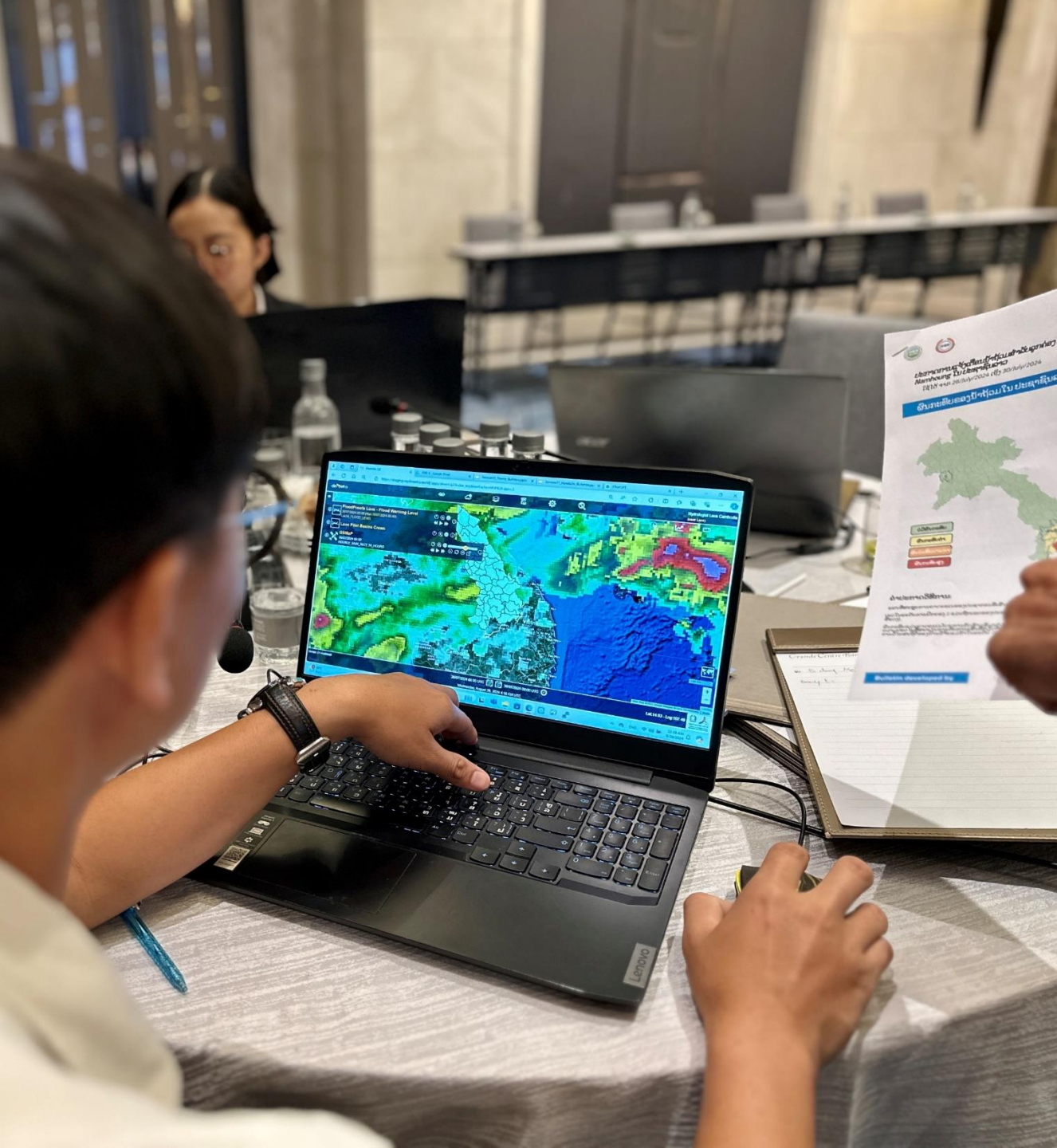
- Bangladesh
- Cambodia
- **Lao PDR**
- Nepal
- **Maldives**
- Fiji
- Kiribati
- Samoa
- Solomon Islands
- Tonga



Maldives



Lao PDR



Earth Intelligence in EW4ALL

Cambodia and Lao PDR



- From “what weather will be” to “what it will do”
- Impact-based flood forecasting system in Lao PDR and Cambodia, currently under development
- Hydrological & hydraulic modeling interacts with socio-economic vulnerability information
- Enables targeted response for the most vulnerable population and protecting critical economic assets.

Thank you.

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