TRANSLATING WARNINGS INTO ACTIONS
HOW WE CAN IMPROVE EARLY WARNING SYSTEMS TO PROTECT COMMUNITIES

SHORT REPORT: SUMMARY PRESENTATION

Dr Andrew Tupper
Thanks: Dr Carina Fearnley, Professor Ilan Kelman
WHATEVER OUR ROLE, WE CAN MAKE THINGS BETTER

Conceptual summary of early warning system components (top layer) and foundational cross-cutting elements (bottom layer). Adapted from Trogrlić et al (2022), Fearnley et al (2021), WMO (2018), and others.
THE CRITICAL ROLE OF CONNECTIONS

Conceptual value cycle diagram (Tan et al 2022, adapted from Golding et al 2019), emphasising the ‘valleys of death’ between elements in a decision chain.
LESSONS FROM THE 1970 BHOLA CYCLONE

▪ 300,000++ lives lost after neglect of early warning system – cyclone risk was known internationally but local warning and response actions inadequate. Huge humanitarian and political consequences.

▪ Since then, there has been enormous progress in global tropical cyclone warning systems, leading to more warning time and warning confidence, and Bangladesh has become a powerful example of local action and a new social contract.

▪ Bangladesh Red Crescent Society operates the Cyclone Preparedness Program, a major, long-term program for assisting in warning dissemination, community response, and disaster recuperation. CPP has 203 employees and approximately 76,020 volunteers - globally recognised as a model programme in the disaster management field for the last four decades.

See: https://bdrcs.org/cyclone-preparedness-programmpp-cpp/
The 1912 Titanic disaster resulted in the development of the International Convention for the Safety of Life at Sea (known as SOLAS), which sets out minimum safety standards in the construction, equipment and operation of shipping, including the behaviour of mariners around known navigation and weather hazards.

SOLAS has saved countless lives, BUT vulnerable people (eg on overloaded ferries or refugee boats) still die at sea. Treaties can be signed, but the work of implementation never stops and involves effort at all levels.
LESSONS FROM MT PINATUBO

Pinatubo’s 1991 eruption shows some outstanding examples of governments, scientists, citizens working together to save 10000s of lives during a complex, cascading event (typhoon plus eruption). It should be a source of great pride to the global DRR community.

However, analysis still shows that warnings responses could have been improved. And global volcanic monitoring arrangements are still not sorted out (as demonstrated by Hunga Tonga-Hunga Ha’apai eruption in 2022). Our work is never done.

(Note – at Pinatubo signs of volcanic unrest were recognised first by the indigenous Aeta people, and reported to authorities through a civil society organisation, following which a major science effort was started by PHIVOLCS and USGS)

Source: Adapted from Tayag et al, 1996.
LESSONS FROM HURRICANE SANDY

- Sandy occurred after the rise of social media, showing us the importance of multiple channels but also the risk of some being left behind.
- It also gave us a wonderful example of personal, cut-through messaging (Gary Szatkowski, left). Decisions are made during emergencies based not just on warnings but on trust. Our trust in each other and connection to communities is everything during major events.
DRIVING GOOD PRACTICE

We are lagging behind global Sendai commitments for improving multi-hazard early warning systems.

Some (of the many) areas where we can make a difference:

▪ Everything is better if relationships are good. Projects are less chance to fail. Warnings are more chance of being effective. Our work on respectful relationships is never wasted no matter where we are in the system.
▪ Community empowerment is essential for effective warning systems. Many aspects to this.
▪ Multi-hazard approaches – we have many inconsistent warning systems globally and this causes confusion for communities, particularly around borders. Much hard work to do to improve things.
▪ Much work to do from science / technology side – eg Systematic Observations Financing Facility for improving global weather and climate observations – will result in earlier, better weather warnings. Many gaps in geohazard arrangements. Common alerting protocol (CAP) will help warning distribution. UN ‘Early Warnings For All’ initiative is a great example to accelerate action.
▪ Risk knowledge measures
▪ Impact-based forecasts and warnings.

This work is complex, never-ending, but, wherever we are in the system, we can and do make a difference. Keep it up!