JUNE 2024

EARLY WARNING SYSTEMS: THE ANSWER TO CLIMATE CHANGE?

A cartoon-infused summary of insights from the 4As research project

Based on the journal article "Learning from the past in moving to the future: Invest in communication and response to weather early warnings to reduce death and damage"

By Coughlan de Perez, E., Berse, K.B., Depante, L.A.C., Easton-Calabria, E., Evidente, E.P.R., Ezike, T., Heinrich, D., Jack, C., Lagmay, A.M.F.A., Lendelvo, S. and Marunye, J.

Tailor-made cartoons by H. Khan, E. Rojo and P. Suarez

1. IN A CHANGING CLIMATE, WE NEED EARLY WARNING SYSTEMS

Extreme weather events have already increased in frequency and severity in all regions of the world.

To avoid or reduce the deaths and damages that can be caused by these weather-related hazards, one of the most common adaptation strategies globally is investment in Early Warning Systems (EWS).

EWS have saved lives and reduced damages all around the world.

2. HOWEVER, THERE WERE EARLY WARNINGS FOR THE WORST DISASTERS IN THE LAST 20 YEARS

From Cyclone Nargis to European heatwaves, weather models have predicted the deadliest disasters before they happen.

In Somalia, the 2011 famine was forecasted months before it happened, and Hurricane Katrina in the US was named 6 days before making landfall in Louisiana.

There are many other examples!

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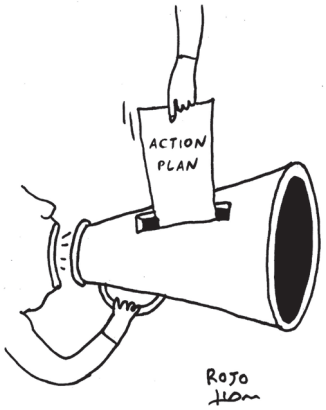


3. SO WHY WERE THE DISASTERS SO DAMAGING? WITHOUT ACTION, WARNINGS ARE USELESS

An early warning system needs more than a warning!

People need to be aware of the risk, the warning needs to be issued, it needs to be communicated to everyone, and then people need to have the ability to take action.

In these deadly and costly disasters, there were major failure points in communication of warnings and people's ability to act once the warning was received.

4. IF YOU'LL INVEST IN EARLY WARNING SYSTEMS, HERE'S OUR ADVICE

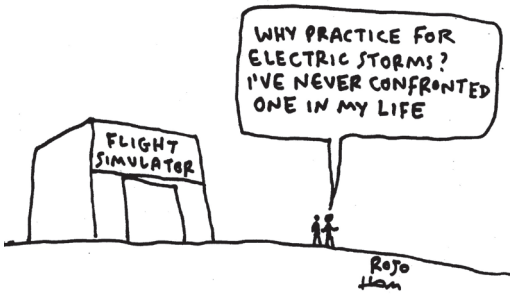
Globally, people are making major investments in Early Warning Systems, from "Early Warning for All" to the inclusion of early warnings in Green Climate Fund projects. There is growing recognition of the need for multi-hazard approaches.

Our recommendation is that those investments consider several major gaps in early warning systems, because improving the forecasts will not be sufficient to save lives.

a) Invest in preparing for action

We need infrastructure, like cyclone shelters, to be able to take action and evacuate when a warning is received.

We also need plans in place for when the warning is received: who will do what, and what supplies and money can be used to prepare in a timely manner?



b) Practice for the unprecedented

In many historical disasters, people did not prepare adequately because they did not realize that such a big event could happen in their location.

Especially given our changing climate, we need to imagine unprecedented events and do scenario planning to be sure we will be prepared if they happen.

Long-term infrastructure investments, especially ones that consider extreme possibilities, are critical to prepare for disasters.

c) Some people are locked out of weather forecast communication

Breakdowns in communicating weather information to the public were cited as major problems in most of the big disasters of this century.

To close this gap, investments in multiple communication channels like religious leaders and targeted outreach for people with special needs are critically needed to provide location-specific warning messages and impact-based forecasts.

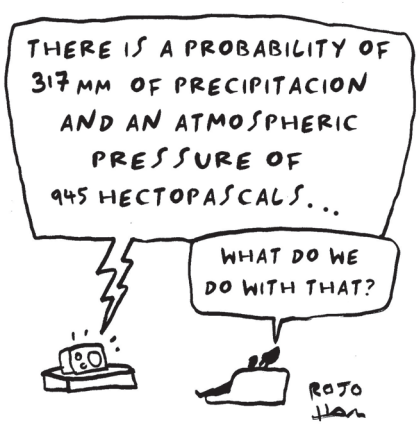
Everyone needs to get the message – and be able to understand the severity and possible impacts of an event.

d) Weather forecasts can also be improved, of course

While forecasts existed for previous events, they can still be improved.

We recommend investments in creating impact-based forecasts, which help people understand not just what the weather will be, but also what the weather will do. This includes multi-hazard forecasting, so people understand how different hazards might interact.

Producing warnings with as much lead time as possible can improve outcomes.



CONCLUSION

LOTS OF INFORMATION — ARE WE READY TO USE IT?

Improving the accuracy of weather forecasts is unlikely to offer benefits without resolving gaps in communication and planning for timely early action.

Warning, but what next?

In our changing climate, we can and must rethink investments so that early warnings are designed to feed into early action.

The Academic Alliance for Anticipatory Action (4As) is a consortium of researchers from seven universities working to increase the knowledge base on anticipatory action. 4As is led by Feinstein International Center, Friedman School of Nutrition Science and Policy at Tufts University in the U.S., partnering with Bangladesh University of Engineering and Technology, Eduardo Mondlane University in Mozambique, Makerere University in Uganda, University of Namibia, National University of Lesotho, and University of the Philippines.

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