

# Early Warning Systems

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## REFRAMING THE DISCUSSION

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# The Discussion

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For decades, the international community has discussed and debated how coordinated, collaborative international action can reduce the loss of life, property damage, and social and economic disruption caused by natural disasters.



# Shifts in Emphasis

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- From the development of disaster response capabilities
- To the need to strengthen risk reduction and control mechanisms and policies
- Most recently, to the design and implementation of better early warning systems
  - August 1997 - *Guiding Principles of Effective Early Warning*; IDNDR Early Warning Programme, Geneva
  - October 1997 - *Report on National and Local Capabilities for Early Warning*; IDNDR Early Warning Programme, Geneva (Maskrey et al)

# Where are we going?

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October 2003 – *Early Warning System Workshop: Early Warning Systems Do's and Don'ts*; Shanghai, China

International experts in disaster management and the science that informs it debated:

- “What is encompassed in an EWS?”
- Whether an EWS “must involve creating effective preparedness and response mechanisms?”
- “Do we expect too much of an EWS?”
- “Hype v Hope in the use of EWS?”
- “Should we lower expectations of what EWSs can do for society?”



# Are we there yet?

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- What has not resulted is coordinated, collaborative international action
- The lack of action is keenly felt within the international community:
  - January 2005 – *From Research to Action*; World Conference on Disaster Reduction, Kobe, Hyogo Japan
  - March 2006 – *From Concept to Action*; Third Early Warning Conference, Bonn
- *Hyogo Framework for Action 2005-2015*; Kobe, Hyogo, Japan – January 2005 - lacks clear cut and precise goals

# So, why aren't we?

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- System?
  - Bias toward technology
  - Specific functionality
  - Scalable but not heuristic

OR

- Capability?
  - High, low or no tech
  - Specific and Ad-hoc functionality
  - Heuristic



# ..and furthermore

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- ✓ **'Early'** places emphasis on the continuing need to improve and optimise
  - Science and technology
  - Local knowledge and observations
  - Emergency management processes
- ✓ **'Early Warning'** is the integration and extension of existing emergency management capabilities
  - Using the best available science and technology
  - Using local and traditional knowledge and custom

# Where should we be going?

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An effective early warning capability uses the best available science and technology within the all-hazards emergency management approach.

*Therefore, efforts to establish any local, national, regional and international early warning capability must be led by emergency managers, not by scientists and technologists.*

# How do we get there?

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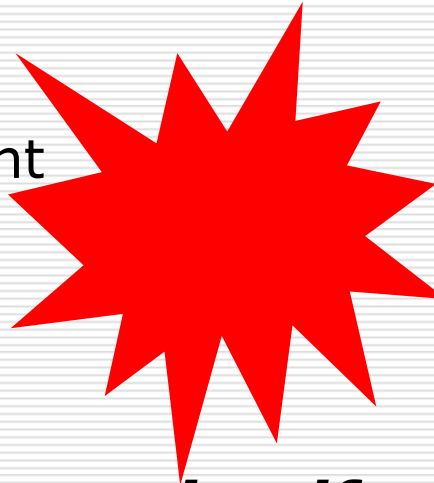
- *Emergency Management is a range of measures that bring together the everyday endeavours of private, voluntary, and government agencies in a comprehensive and coordinated way to deal with the whole spectrum of emergency needs.*
- To achieve effective risk reduction functionality, emergency management agencies must fully integrate science and technology into, but not allow them to drive, emergency management.
- Emergency management agencies must lead the development and govern the operation of early warning capabilities as an integration of the extensive hierarchy of emergency management services and processes.

# Reframing the Discussion

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End-to-end emergency management capability is

Getting ready in case a hazard event happens – the **Prepare State**



Dealing with a hazard event when it happens – the **Action State**

***The hazard event itself triggers our transition from one state to the other.***

# Governance Framework

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- Stakeholders agree and document in the overall emergency management communications strategy
  - Roles and responsibilities
  - Appropriate interfaces
  - Review and assessment cycle
  
- Emergency Managers must lead
  - Actively engage all stakeholders in development of early warning capability
  - Regularly engage all stakeholders in review, assessment and enhancement of early warning capability

# Most Important Stakeholder

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Early warning capabilities must be “people centric” because it is the Community that

- Owns the risk
- Has valuable local knowledge and historical experience
- Experiences the hazard event

*The Community, therefore, must be given all possible assistance in identifying the risk, and preparing for and dealing with the hazard event.*

# Strategic Service Providers

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Emergency Managers must communicate requirements clearly to, and work closely, with:

- Science – who must use best available science to provide risk information on hazards that may impact the community
- Technology – who must use best available technology to 'enable' science and emergency managers
- Media – who must support emergency managers in the on-going communication with the community
- Public Officials – who must actively support the emergency management measures being initiated



# Challenges

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Emergency Managers must take the lead in dealing with two recurring challenges:

- Potential impact of inaccurate or false warnings/alarms
- Potential for public panic



# Conclusion

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Emergency management must assume the role of 'Champion' and actively lead the dialogue at all levels, working with the community and strategic service providers — in particular science, technology, public officials and the media — to develop effective local, national, regional and international early warning capabilities.