

A Usable Science Workshop

EARLY WARNING SYSTEMS: Do's and Don'ts MEETING

20–23 October 2003
Shanghai, China

Tentative Draft as of 22 September 2003

The objective of convening an international early warning usable science workshop is to identify lessons as well as the limitations of lessons – in short, early warning “do's and don'ts” – from the wide range of disciplinary expertise and experiences of those who have worked with, helped to develop, or participated in early warning systems or assessments of them or issued warnings, especially hydro-meteorological hazards. Many of those systems are in operation today and are used to warn the public about impending climate- or weather-related hazards. The collective expertise and experiences at the workshop can be used to inform government officials as well as decision makers in various organizations (international, national, corporate and non-governmental) about how to prepare increasingly more effective warnings to inform the media and the general public how to interpret such warnings. In sum, our overriding objective is to identify ways to make early warnings of potential climate-related, environmental and other “threats” more credible, reliable and therefore useful.

By coincidence, this workshop is being convened almost ten years to the day after our first “usable science” workshop on “Usable Science Against Famine: Food Security, Famine Early Warning and El Niño” held in 1993 in Budapest, Hungary. While that meeting and publication focused on food security in sub-Saharan Africa, this meeting seeks to assess early warning systems in general but with possible lessons for specific warning systems.

Sunday night, 19 October

7:00 pm to 9:00 pm

Informal get-together at the LaoFanDien Hotel.

Monday, 20 October

8:30 am to 9:30 am

Introductions by CMA, NCAR, NSF, and Shanghai city officials
(Venue is away from hotel)

9:30 am to 10:15 am

Why this meeting?

Roundtable introductions

10:15 am to 10:30

ISDR overview of Bonn EWS Conference held 16-18 October 2003

10:30 am to 11:00 am – Break

11:00 am to 11:45 am

Brief discussion of types of EWS

- In space (global, regional, national, local)
- In time (quick onset, slow onset change; frequent, infrequent)
- In function (food, energy, water, health, safety, terror; threat to life, property, environment)
- In hazard (weather, climate, health, geo-hazard, terrorism)

11:45 a.m. to 12:30 pm

Aspects of EWSs: The Basics

- How early is early? What constitutes a warning? What is encompassed in an EW system?
- Goals of an EWS?
- Does early warning involve creating effective preparedness?
- EWS as a balance among costs, timeliness and reliability.

["Some accept a vague sense of future conflict while others demand a precise prediction that includes the scale, nature, timing, and location of the violence" (W. Dorn, n.d., www.rmc.ca/academic/gradrech/dorn26_e.html)]

["Early warning systems are only as good as their weakest link. They can, and frequently do, fail for a number of reasons". (Andrew Maskrey www.unisdr.org/unisdr/docs/early/local/structure.htm)]

12:30 pm to 2:00 pm (at Hotel) – Lunch

2:00 pm to 2:45 pm

Early warnings in a changing world

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| <ul style="list-style-type: none"> • Agriculture (FAO crop assessments) • Water (quantity, quality) • Health (e.g., SARS; epidemics) • Public safety (slides, epidemics, floods) • Fisheries (overfishing; overcapacity) • Desertification • Complex humanitarian crises | <ul style="list-style-type: none"> • Climate change (greenhouse gas emissions) • Extreme meteorological events (EMEs) • Drought (rural, urban; agricultural, hydrologic, meteorological) • Floods (flash floods; slow onset) • Pests (e.g., locust) • Tropical storms • Dust storms |
|---|--|

[Brief presentations of interest in EWS by participants (some are focused on climate-related areas and an overview of potential value of hydro-meteorological early warning systems)]

2:45 pm to 3:30 pm

EWS in theory and in practice: foreseeability, transparency, and accountability

- Are early warnings the same as forecasts? Projections? Trends? Risk assessments?
- Should there be “accountability” for early warnings?
- What ought to be vs. what is the value of an EWS?
- What are the reasons that early warnings are ignored?

[“Unfortunately, taking available warning seriously always carries the ‘penalty’ of deciding what to do about it...The main problem is mustering the political will to both listen and act” (Edwin Bakker, “Early warning by NGOs in conflict areas”)]

3:30 pm to 4:00 pm – Break

4:00 pm to 4:45 pm

Expectation for early warning systems

- Do we expect too much from an EWS?
- Hype vs. Hope using EWS. Should we lower our expectations about what they can do for society?

4:45 pm to 5:30 pm

Sustainable development, EWSs, and politics

- EWS and sustainable development: What is the link?
- Is there a role for disaster diplomacy?
- What are the political aspects of early warnings and EWSs?

[“Early warning systems should, thus, be seen as a ‘last line of defense’ dealing with unmanaged risks. They must, therefore, be developed as an important component of much wider national risk management and reduction strategies” (A. Maskrey).]

[“Early warning is not a politically neutral act” (Schodt and Gerner, p. 22)]

Tuesday, 21 October

8:30 am to 9:15 am

Reviewing the notion of ‘lessons learned’

- Are lessons learned with regard to existing or preceding early warnings?

- Are we learning lessons or just identifying them?

["Because history moves at high speed in such places [Brazilian rainforest], it has a persistent habit of leaping ahead of our analytical grasp, rendering obsolete hard won conclusions that now seem to apply only to a previous period" (Joao Campari, PhD thesis, U of Texas, n.d.)]

9:15 am to 10:00 am

The Politics of Early Warning

- Warning needs vary from user to user (governments, corporations, individuals, cultures).
- Do we need more than one EWS to tailor them to various user needs?
- Do we need more than one official EW?

["Decision makers are often reluctant to act, and the problem is one of publicity not probability".]

["The disruption of normal NGO operations is in itself an early warning signal that conditions are deteriorating...NGOs are sometimes the only sources of information..." (E. Bakker)]

10:00 pm to 10:30 am – Break

10:30 am to 11:15 am

The Cascade of EWSs

El Niño is a hazard spawner.

[(e.g., El Niño forecasts warn regions about local and regional hazards, sparking other early warning systems to issue their alerts.)]

[Handout of major lessons from EW for political and military conflicts (based on S. Schmeidl) "It is hard to measure the success of an early warning and conflict prevention". "There is a tendency to point to the abundance of failures and become cynical about early warning and conflict prevention" (p.41).]

11:15 am to 12:45 pm

What is SWOC?

- SWOC (Strengths, weaknesses, opportunities, constraints) assessment for the following aspects of an EWS:
 - 1) selection of indicators
 - 2) monitoring indicators
 - 3) issuing the warning
 - 4) communicating the warning
 - 5) receiving the warning
 - 6) believing the warning
 - 7) acting on the EW
 - 8) consistent funding stream for an EWS

[Schodt and Gerner (1998) identified 6 ways that CHC early warning might fail: strategic deception; conventional concealment; institutional ignorance; reflexive reaction; exogenous shifts; systematic complexity. They noted that the most common exogenous factor causing EWS to fail is environmental stress.]

12:45 to 1:45 pm – Lunch

Free afternoon

Visit to CMA; Shanghai

8:00 pm to 10:00 pm – at the hotel

Hollow Square at the Hotel ---- TOPIC related to China and its use of EWSs

Wednesday, 22 October

8:45 am to 10:00 am

SWOC revisited (continued discussion)

- Small group findings about SWOC aspects presented and discussed

10:00 am to 10:30 am – Break

10:30 am to 11:15 am

Reliability and credibility of an EW

- How to deal with probability?
- Is the notion of “Foreseeability” useful for early warning?
- How can one measure the effectiveness of an EWS: Absence of event, impacts, deaths, destruction when compared to previous similar events?
- Quantitative and qualitative input to an EWS?
- Can EWS use anecdotal information?
- Are ‘signals’ useful to detect changes?
- What might be the role of indigenous early warning indicators?
- What types of indicators are useful? (quantitative, qualitative, anecdotal, scenarios)

[In politics, the quantitative input is secondary to the qualitative input (Schodt and Gerner, 1998, p. 28).]

11:15 am to 12:00 pm

Communicating what to whom?

- Whom to warn about what and when?
- Does color matter?

[Communicating early warning system output: to whom? By whom? How? When? (How to reach the affected, e.g., poor, single-parent homes, rural, lacking technology)

[“The mere existence of information does not mean it will be available in a timely fashion, that it will be interpreted correctly or that it will be acted upon” (p. 8).]

["Drought is when the government tells you there is no water"]

["I don't know anything about different types of disaster or about the signals – I only know that the danger is dangerous. I also listen to the garoom garoom." Howell, as quoted in 2003/

12:00 to 1:30 pm – Lunch

1:30 am to 2:15 pm

Institutional factors: Bureaucratic responses to EWSs

What is the role of bureaucratic responsibilities (responsibility is based on the word 'response')?

[There is a need, according to Schmeidl, to overcome an institution's mandate limitations. Schrod and Gerner (1998) have identified various institutional constraints on using EW issued from outside its own organization (p. 3) and also noted that, for a variety of reasons, "institutions ignore evidence" (p.9) which is "a major source of early warning failure".]

2:15 pm to 3:00 pm

"The role of the media and NGOs in EWS";

the globalizing aspects of international media reporting of EW (i.e., El Niño). Does this tend to limit the 'deniability' of decision makers?

3:00 pm to 3:30 pm – Break

3:30 pm to 4:15 pm

An EW for new EWS-related developments?

the value of a "positive EWS" for changes and progress in monitoring, detection, technology, technique, understanding of hazard (or EWS-related warnings)]

Thursday, 23 October

9:00 am to 9:45 am

"Late lessons, early warnings": An open discussion

- "discounting the past": Is there a time bias for 'lessons learned' -- "that worked then but this is now"? Things have changed?"
- What is the value of the "precautionary principle"? Are there thresholds for enacting the precautionary principle?

9:45 am to 10:30 am

Early Warning Capacity Building

- Is the call for 'capacity building' sincere or just a palliative?

["Early warning capacity building would create a sense of ownership within these systems"
(IJAS no. 2)]

10:30 am to 11:00 am – Break

11:00 am to 12:15 pm

Future Activities

- Is there a need for early warning education and training?
- Is capacity building by proxy an option?
- What are the different ways to identify "value" of an EWS?
- Where might we go from here?

[Early warning systems "should reduce the very large set of possible futures to a much smaller set of plausible events" Schodt and Garner (p. 3)]

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References:

IJAS

Schodt and Garner