
Reducing water-related disasters through early warning systems

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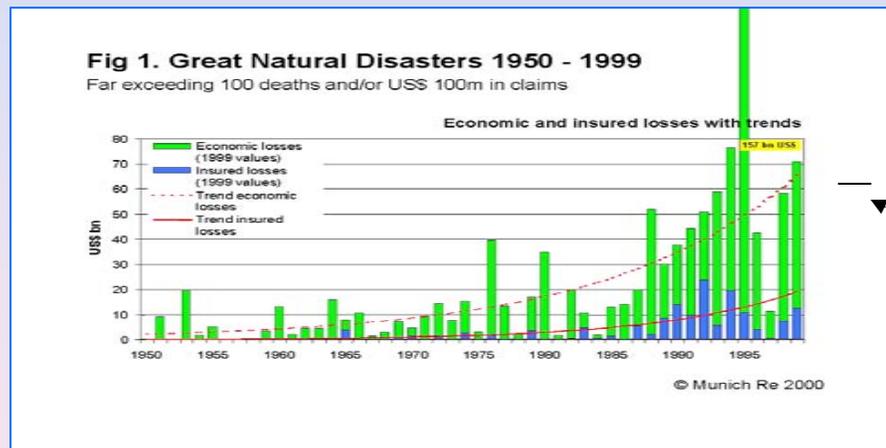
- ❑ Disaster risks - rising and changing
- ❑ The UN's strategy - the ISDR
- ❑ New initiatives on early warning
- ❑ Early warning in the World Conference on Disaster Reduction outcome
- ❑ Opportunities and conclusions



Platform for the Promotion of **Early Warning**

Disaster risks - rising and changing

- ❑ Five-fold rise in disaster over 1960s -1990s
- ❑ Mostly hydro-meteorological origins
- ❑ Poor people and countries most affected
- ❑ Loss of life versus loss of assets
- ❑ Major handicap to development



In 2003, natural catastrophes resulted in more than 50,000 deaths and over US\$ 60 B in economic losses
Source: Munich Re

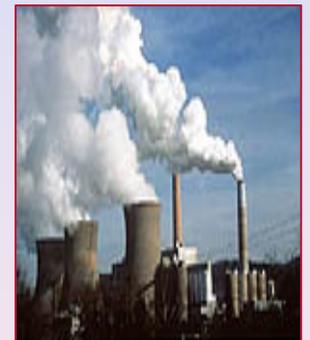
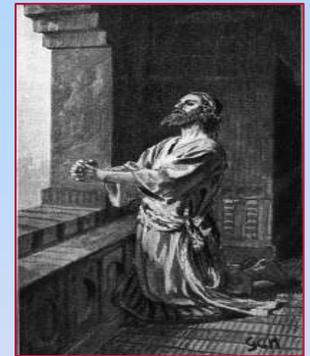
Disasters require a vulnerable population

- ❑ More people and poor people in risky situations
- ❑ Unsafe development: floodplain settlement, coastal exploitation, mega-city growth, unsafe houses, wetland destruction, river channeling, deforestation, soil erosion and fertility decline
- ❑ Exacerbated by poverty and disease, conflict and population displacement
- ❑ The threat of changes in the climate

Growing disasters are a sign of unsustainable development

Changing views of climate and disasters

- ❑ *The pre-science era* - spiritual/religious, omens, fatalism, disasters as punishment or "acts of the divine"
- ❑ *The stability and statistics era, 19th C onward* - Climate seen as stable, data series as powerful basis for risk management, the "100-year" event
- ❑ *The global climate system era, post 1970* - Satellites show "climate system", global monitoring, computer models reveal climate change, ENSO, seasonal forecasts
- ❑ *Current era of change and uncertainty* - Climate change, natural fluctuations (e.g. 1970s Sahel), disasters a growing concern, high stakes, growing human vulnerability



A systematic approach to reducing risks

Since disasters are a human phenomenon, we can change our ways to reduce our risks



- ❑ Shift the focus from hazards to risk management
- ❑ Understand the nature of the risks - both the hazards and the vulnerabilities
- ❑ Put in place the tools and methods to assess, predict, ameliorate, and respond to risk,
- ❑ Ensure strong political support, administrative capacity and community engagement

The UN's strategy - the ISDR

- ❑ The International Strategy for Disaster Reduction: the follow-up to IDNDR, centerpiece of UN efforts
- ❑ Coordinated international effort to reduce risks
- ❑ Inter-Agency Task Force (UN, regional and civil society organizations)
- ❑ A vehicle for stimulating and coordinating action
- ❑ Secretariat roles: Policy development, Advocacy, Information, and Partnerships

On December 10, 2003, the UN General Assembly passed two detailed resolutions calling on governments and UN agencies to work more actively to reduce the risks of disasters.

Some highlights of ISDR activities

- ❑ Disaster risk reduction recognized in the WSSD and its Johannesburg Plan of Implementation. Also promoted in other forums (e.g. UNFCCC COP-9&10, World Urban Forum, WWF-3)
- ❑ Regional outreach programs Africa (based in Nairobi) and Latin America and Caribbean (San Jose), soon in Asia.
- ❑ Products: "Living with Risk", a compendium of worldwide disaster risk reduction experience; Framework for monitoring and guiding risk reduction policy and practice; Review of progress on Yokohama Strategy and Plan of Action for a Safer World
- ❑ IATF working groups on early warning, vulnerability, wildfire management, drought. Major conference on early warning in Bonn, 2003 has led to new ISDR office in Bonn.

.... and the WCDR



The International Conference on Early Warning, 16-18 October 2003, Bonn

- ❑ The goal – integrating early warning of disasters into public policy
- ❑ Regional preparatory meetings, multiple stakeholders
- ❑ Five focus areas agreed, including better data collection and forecasting, capacity building and *people-centered* warning systems
- ❑ Led to German support new ISDR-led platform (PPEW) to sustain necessary partnership action

A broader view of risk factors, a wider time frame

How to provide early warning and foresight of not only of storms, floods, etc, but also precursor factors... Declining environmental state? Risk-raising development projects? Social communications and capacity weaknesses? Trends in markets, prices, migration, conflict, health vulnerability?

| <u>Element</u> | <u>Day-Week-Month-Year-Decade</u> | | | | |
|--|-----------------------------------|-----------|--------|-----------|--------|
| Weather, tides, floods, soils | XXXX | | XXX | | |
| Reservoirs, snow pack | | XXXXXXXXX | | | |
| People exposed, conflict, migration | | XXXXXX | | | |
| Crop production, food prices | | XXXXXX | | | |
| Food reserves, food aid | | | XXXXXX | | |
| Environmental management | | | | XXXXXXXXX | |
| Industry, urban, infrastructure design | | | | XXXXXX | |
| Land use planning | | | | | XXXXXX |

An International Early Warning Programme (IEWP)

- ❑ Vehicle for more coordinated action on early warning
- ❑ Multi-stakeholder design and ownership
- ❑ Early warning platform is the facilitator
- ❑ Will be developed over 2005

Tasks of the early warning platform

- ❑ Promote early warning as disaster reduction tool, in UN and elsewhere
- ❑ Provide information on best practices, and stimulate development of new methods
- ❑ Build networks and sustain greater dialogue and shared agendas (and the international programme)

Effective EW systems - the 4-element framework

- ❑ Early warning involves a chain of actors and processes
- ❑ Narrow technical conceptions of EW systems leave weak links in the chain – where failures occur.

*Knowledge of
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*Technical
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*Dissemination
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*Knowledge
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Locusts: How donors caused unnecessary suffering and threw away \$100,000,000 of their own cash



Early warning in UN – a many-headed beast

- ❑ OCHA – humanitarian response and preparedness
- ❑ WMO – weather and climate observations and warnings
- ❑ FAO – agriculture projections and food security
- ❑ UNICEF – food security and food distribution
- ❑ WFP – food supply
- ❑ WHO – disease epidemics
- ❑ UNEP – environmental stress
- ❑ UNESCO – tsunami, water issues
- ❑ UN/ISDR – advocacy and coordination on risk reduction
- ❑ Others – UNU, UNCCD, UNFCCC,

*Different aims, clients, methods, deliverables, cultures...
and many opportunities for work better together*

World Conference on Disaster Reduction (WCDR)

Kobe, Hyogo, Japan, 18-22 January, 2005



- ❑ A new decadal thrust to cut disasters and integrate risk reduction into sustainable development agenda
- ❑ Review of progress on the 1994 Yokohama Strategy
- ❑ Intergovernmental process to develop new plan
- ❑ Thematic sessions to support plan's content
- ❑ Public sessions and events
- ❑ Commemoration of tenth anniversary of Great Hanshin-Awaji earthquake
- ❑ See website www.unisdr.org/wcdr

Early warning text for the intergovernmental outcome document (as at 13 Dec 2004)

"Develop early warning systems that are people centered, in particular, systems whose warnings are timely and understandable to those at risk, which take into account the demographic, gender, cultural and livelihood characteristics of the target audiences, which include guidance on how to act upon warning, and that support effective operations by disaster managers and other decision makers."

Other paragraphs seek

- ❑ The integration of EW systems into government policy and decision making, including systems testing and performance assessment
- ❑ The implementation of the Bonn EWC-II outcomes as called for by the General Assembly
- ❑ Development of infrastructure, databases, scientific/technical methods

Early warning and water risks - opportunities

- ❑ Promote new ideas on early warning in water risk agendas, and build EW into UN-Water, WWAP, WWDP, 4-WWF, etc
- ❑ Collate and disseminate good practice information on the application of EW to water risks
- ❑ Draw on water systems experience for improved definition of EW systems, e.g. guidelines, deliverables, benchmarks, performance measures, etc
- ❑ Develop project collaborations on improved systems for countries
- ❑ Build strong water risk contributions to the International Early Warning Programme (IEWP)

Conclusions

- ❑ New thinking on disasters (the paradigm shift)
- ❑ Wider view of early warning
- ❑ New EW initiatives – including PPEW and IEWP
- ❑ EW systematically identified in WCDR documents
- ❑ Opportunities for stronger interaction between EW and water risks communities

*More information at www.unisdr-earlywarning.org
and www.unisdr-earlywarning.org*

