



Training Workshop on Multi-Hazard Early Warning Systems with focus on Institutional Coordination and Cooperation

1-3 October 2009

Pula, Croatia

(http://www.wmo.int/pages/prog/drr/events/Pula/index_en.html)

CONCEPT NOTE

1. Background

Early Warning Systems (EWS) are increasingly recognized at the highest political level as a critical tool for saving of lives and livelihoods. There are increasingly more investments by governments, international development agencies and bilateral donors to support the development of these systems at the national level. However many challenges on legislative, financial, organizational, technical, operational, training and capacity building aspects remain to ensure that EWS are implemented as an integral part of disaster risk reduction strategies, with a multi-hazard framework.

Governments are responsible for the protection of lives and livelihoods of their citizens, and issuance of their national warnings (through a designated authoritative source). The Second International Early Warning Conference (hosted by Germany, 2003) specified that effective early warning systems are comprised of four operational components engaging coordination across many agencies, to ensure that,

1. Hazards are detected, monitored, forecasted, and hazard warning are developed;
2. Risks are analyzed and this information is utilized for the design of the system and incorporated in the warning messages to ensure they are understandable;
3. Warnings are issued (by a designated authoritative source) and disseminated in a timely fashion to authorities and public at-risk;
4. Community-based emergency plans are activated in response to warnings to reduce potential impacts on lives and livelihoods.

As revealed from many past disasters, failure in any of these components leads to the failure of the entire system, which could result in higher casualties and losses.

Learning from experiences of countries with good practices helps other governments and their agencies with the development of their systems. The World Meteorological Organization (WMO) has developed a systematic process for documenting good practices in early warning systems, based on criteria established through consultation with experts. A standard template for documentation of good practices has been developed to help countries in documenting their experiences consistently.

To-date four national good practices have been documented through a multi-agency approach. These include, (i) Bangladesh Cyclone Preparedness Programme, (ii) Republic of Cuba Tropical Cyclone Early Warning System, (iii) French "Vigilance" System and, (iv) Shanghai Multi-Hazard Early Warning and Emergency Preparedness Programme. Other good practices in a number of countries such as the United States of America and Italy were identified at the Second International Expert Symposium on Multi-Hazard Early Warning Systems (hosted by WMO and Meteo-France, May 2009). Analysis of these cases has indicated that:

- Implementation of the four components of early warning systems requires close collaboration and coordination across a cadre of institutions from different sectors, with different expertise at national to local levels.

- Implementation and sustainability of these systems requires sustained political commitment and dedicated investments as an integral part the government's disaster risk management planning and budgets (national and local).
- These systems should be backed by legislation, which explicitly defines roles and responsibilities of various authorities and agencies along the different components of the systems at national to local levels.
- The coordination within and across agencies is supported by standard operating procedures defining who must do what, when and how.
- Systematic drills, feedback and evaluations of the various components and the system as a whole are instrumental for effective implementation and improvement of the systems over time.
- Educational programmes (formal and informal) have been instrumental in raising public awareness and appropriate public response in case of a potential disaster.
- Appropriate emergency preparedness actions are triggered on the ground, based on predefined warning (threat) thresholds

Based on detailed synthesis of these good practices and consultation with experts, WMO has developed the first guidelines on "Capacity Development in Multi-Hazard EWS, with Focus on Institutional Coordination, Collaboration." Using these materials, WMO has designed a training workshop, which is carried out in conjunction with national and regional cooperation projects focused on the development of national disaster risk reduction and early warning systems capacities.

2. Target audience and expected outcomes of the workshop

The training workshop on "Multi-Hazard Early Warning System" scheduled to be held in Pula, Croatia (1-3 October 2009) is part of the WMO project on "Regional Cooperation in South Eastern Europe for meteorological, hydrological and climate data management and exchange to support Disaster Risk Reduction", funded by the European Commission Directorate General for Enlargement.¹ This workshop is sponsored by WMO, UNDP, Meteorological and Hydrological Service of Croatia.

This training workshop is focused on policy, high-level planning, legislative and institutional aspects of early warning systems.

The workshop is targeted at Directors and/or senior executives of National Meteorological and Hydrological Services and National Disaster Risk Management Agencies.

During this workshop, leading national experts, from countries with demonstrated good practices, will present their national early warning systems. The workshop also involves interactive discussion sessions utilizing guidelines on "Capacity Development in Multi-Hazard EWS, with Focus on Institutional Coordination, and Cooperation."

Participants in the workshop will:

1. Benefit from experiences of other countries in establishing their effective early warning systems.
2. Engage in moderated discussions to analyze the early warning system in South East Europe countries, including capacities, gaps and needs in several aspects of their early warning systems (see table 1).
3. Converge to priority areas of action for strengthening institutional cooperation and coordination in early warning systems among National Meteorological Services, Disaster Risk Management Agencies and other stakeholders.

¹ The main objective of the project is to reduce the vulnerability of South Eastern Europe to natural hazards, and address losses of life, property and economic productivity caused by weather extremes and other natural hazards

Table 1: Aspects of Early Warning Systems presented and discussed during the Multi-Hazard Early Warning Systems Training Workshop

1	Background in the establishment of early warning systems in your country
2	Governance and Institutional Arrangements (national to local levels)
2.1	Policy, intuitional and legal frameworks to support emergency planning and response
2.2	National to local emergency planning and related linkages to early warning systems
2.3	Organizational structure for implementing the plans
2.4	Institutional capacities and concept of operations (coordination and operational collaboration)
2.5	Utilization of a multi-hazard approach
2.6	Key factors considered for sustainability of different components of early warning systems with a multi-hazard approach
3	Utilization of risk information in emergency planning and warnings
3.1	Organizational responsibilities and arrangements for the development of risk information
3.2	Hazard assessment, quantification and mapping (national to local)
3.3	Assessment of vulnerabilities and exposure (national to local)
3.4	Storage and accessibility of disaster and national hazard risk information
3.5	Development and utilization of hazard/risk information to support emergency planning and warnings
4	Hazard Monitoring, forecasting, and mandates for warning development
4.1	Organizational responsibilities for monitoring, forecasting and development of hazard warnings
4.2	Organizational collaboration and coordination for development of hazard warnings
5	Development of understandable, authoritative, recognizable and timely warnings
5.1	Warning message development cycle
5.2	Warning message improvement cycle
6	Warning dissemination mechanisms
7	Emergency preparedness and response activities (national to local)
7.1	Disaster preparedness and response planning and emergency response activation
7.2	Community response capacities
7.3	Public awareness and education
8	Development of warnings and related products and services for the disaster risk management user community
9	Improvement of overall operational framework of early warning systems
10	Examples of previous events where the operational early warning systems has led to improvements in emergency preparedness and prevention

3. Design of the Workshop

Background materials, the agenda and other information can be downloaded at:
http://www.wmo.int/pages/prog/drr/events/Pula/index_en.html.

The workshop involves three sessions, which are briefly described below:

Session 1

The opening and introduction session will present the background and objectives of the training workshop, as well as defines what is an effective early warning system. During this session, the results of the extensive consultation with early warning system experts, including the three

International Early Warning Conferences hosted by Germany (1998, 2003, 2006)², and two International Experts Symposia on Multi-Hazard Early Warning Systems sponsored by WMO (2006, 2009)³ will be presented. The components of effective early warning systems and criteria for good practices as established through this consultation process will be discussed.

Session 2

During this session, leading national experts from Republic of Cuba, The United States of America, Italy, France, and China from Disaster Risk Management Agencies and National Meteorological and Hydrological Services will deliver training sessions on their national early warning systems. A panel discussion on “Capacity Development in Multi-Hazard Early Warning Systems with Focus on Institutional Coordination, and Cooperation” will also be held to describe lesson’s learned from these good practices, factors that have led to their success and challenges that needed to be addressed.

Session 3

In this session, the participants will be divided into three working groups to review and analyse early warning systems capacities including policy, legislative, institutional, operational, financial issues gaps and needs in their countries. The expected outcomes of these working groups are recommendations for the development of national early warning systems strategies, institutional capacities and coordination mechanisms in South Eastern European countries. Working groups results will be then discussed during final discussions, involving all participants, and recommendations for priority of action developed at this session.

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² More information on the three International Early Warning Conferences, hosted by Germany, can be obtained at: i) First International Conference on Early Warning (1998) (<http://www.geomuseum.com/ewc98/>); ii) Second International Conference on Early Warning (2003) (<http://www.ewc2.org/pg000001.htm>); (iii) Third International Conference on Early Warning (2006) (<http://www.ewc3.org/>).

³ First International Experts’ Symposium on Multi-Hazard Early Warning Systems (MHEWS-I) was convened by WMO and co-sponsored by six international agencies (May 2006): http://www.wmo.int/pages/prog/drr/events/ews_symposium_2006. Second International Experts’ Symposium on Multi-Hazard Early Warning Systems (MHEWS-II) was convened by WMO and Meteo-France (May 2009) http://www.wmo.int/pages/prog/drr/events/MHEWS-II/index_en.html.