





**WORKING SESSION**

**Early Warning (HFA Priority 2)**

**Brief & Concept Note**

**Brief**

1. **Why is this topic important?**

Over the past 10 years, in line with Priority 2 of the Hyogo Framework for Action, regions and countries across the world have made significant progress in strengthening multi-hazard, end-to-end early warning systems (EWS). Progress has been particularly evident in the development of observation and monitoring systems and the strengthening of communication/information on risks), as part of the overall efforts to strengthen disaster resilience. Moreover, the advances for example in climate modelling or in numerical weather prediction are making weather forecasting more accurate. In the most advanced countries, today’s five-day weather forecast is as accurate as the two-day forecast, 25 years ago.

Yet, many countries still have not benefited as much as they could have from this progress in early warning, and significant gaps remain, especially at the “last mile” of early warning systems. A key challenge has been in reaching the most remote and vulnerable population with timely, meaningful and actionable warning information. Further, despite the progress in early warning, the world has seen an increasing trend of losses from the impact of natural hazards such as storms in the United States, the Philippines, and Myanmar; floods in Europe, Thailand, India and Pakistan; droughts in Africa, heatwaves in Europe and Russia; earthquakes in China and Iran; and tsunamis in the Indian Ocean and Japan.

Global changes in societal structures, growing exposure of populations and assets, and climate change are resulting in a highly dynamic and complex state of disaster risk. This situation together with the increasing globalisation of risk calls for the strengthening of early warning systems (EWS) at all levels. Further, it calls for an integrated and holistic approach to multiple hazards and risks that is tailored to user needs across many sectors. In this regard, international and regional collaboration is critical and necessary, given the borderless nature of most natural hazards.

In this regard, the Working Session will present experiences and lessons learned in EWS and services in the last decade vis-a-vis the key elements of effective EWS (risk knowledge, monitoring and warning service, dissemination and risk communication, emergency response capacity, legal and institutional frameworks, and partnerships). The Working Session will also examine the way forward in shifting from single-hazard EWS to a Multi-Hazard Early Warning System (MHEWS) to ensure the efficiency and effectiveness of EWS in the service delivery for disaster risk reduction.

1. **What gaps need to be filled?**

The Working Session will address gaps related to:  
(1) the central role of national governments in EWS that are embedded in regional cooperation frameworks;  
(2) the need to link various EWS and/or their components where they are scattered and disconnected across sectors and levels in a country; and  
(3) the role of regional and international stakeholders in developing effective EWS for multiple hazards and risks and facilitating the transfer of good practices, solutions, and lessons learnt among regions, countries, cities, and local communities.

The Session will also highlight the issues and challenges for EWS under the new framework for DRR. These include the challenges for technical agencies, such as national geological, meteorological and hydrological services, to move beyond providing normal forecasts and warnings towards providing impact-based forecasts and risk-informed warnings, and to develop their capacity to assume a more active role in the delivery of services for disaster risk reduction coordinated by the national platforms for disaster risk reduction and management. Further, key issues include how to make early-warning systems more people-centred and effective for the end-users, including in the most vulnerable and remote communities at risk.

1. **What (new) commitments are expected to be achieved?**

The Session is expected to elicit multi-stakeholder commitments to action towards:  
(1) strengthening multi-hazard early warning systems (MHEWS) at all levels and for several sectors;  
(2) developing the capacities of national and local authorities to deliver early warning services in local communities down to the last mile; and  
(3) monitoring and reporting on the development of systems and their impact on loss

(4) international and regional cooperation in strengthening early warning services over the implementation period of the post-2015 framework for disaster risk reduction.

In this regard, the Working Session will conclude with an outcome statement that includes the voluntary commitment, initially by the organizing partners, to an international networking partnership for providing relevant technical support to government agencies in countries, facilitating technology transfer to operations, and assisting with mobilization of resources.

**Concept Note**

|  |  |
| --- | --- |
| **Schedule** | Saturday 14 March 2015, 17:00-18:30 |
| **Room and Venue** | Hagi Hall, Sendai International Conference Centre |
| **Organizing Team** | Governments: Japan (Japan Meteorological Agency (JMA), other National Meteorological and Hydrological Services (NMHSs), Germany – tentative  Major Groups: IFRC  UN: WMO, UNESCO, UNDP, UNESCAP, UNOOSA, ITU, UNITAR |
| **UNISDR Focal Points** | John Harding ([harding@un.org](mailto:harding@un.org)) |
| **Background and Rationale** | The HFA Priority for Action 2 highlights the need for, “*identifying, assessing and monitoring disaster risks and enhancing early warning.*” Since the adoption of the HFA, early warning systems (EWS) have become an integral component of many national disaster risk management strategies, guiding and enabling governments at national to local levels and communities to adopt preventive and preparedness measures for saving lives and property towards building resilience. The World Conference on Disaster Reduction in 2005 adopted plans to put in place an International Early Warning Programme, first proposed at the Second International Conference on Early Warningin 2003 in Bonn, Germany. As an implementation mechanism, the Platform for the Promotion of Early Warning was launched in 2004 and was operational until 2008.  There are four main components of EWS:   1. Risk knowledge: Risks are analyzed and risk information is incorporated in the warning messages; 2. Monitoring and warning service: Hazards are detected, monitored, and forecast, and hazard warnings are developed; 3. Dissemination: Warnings are issued (by a designated authoritative source) and disseminated in a timely fashion to authorities and the public at-risk; 4. Emergency response capacity: Community-based emergency plans are activated in response to warnings in order to reduce potential impacts on lives and livelihoods. |
| **Session Objectives** | 1. To review the progress made in the field of early warning at all levels, particularly with the implementation of EWS since 2005, and the trends in the development of EWS around the globe for various hazards and geographical contexts. 2. To identify prevailing gaps and needs in different components of EWS, . 3. To address the challenges for strengthening EWS, in particular, for shifting from single-hazard EWS to Multi-Hazard Early Warning Systems. Challenges include developing an agile system to respond to various user needs and developing regional support mechanism for early warning. The recommendations will be translated into commitments to action through networking or partnership. |
| **Discussion agenda and structure** | 1. Welcoming remarks (5 min) 2. Introductory keynote videos (10 min):    1. Specific examples of good practices and lessons learnt in EWS during HFA (5 min)    2. Issues, gaps and opportunities (5 min) 3. Panel discussion [ideally 5 panelists with 1 moderator], including short opening and closing statements by each panelist, with audience interaction, and wrap-up (70 min): Sharing of experiences and lessons learnt in the last ten years, issues and challenges [ideally 5 key issues], including: 4. Governance of EWS (e.g. centralized vs. decentralized systems, negative consequences of a missing EWS, partnerships, etc.) 5. Guidelines for ensuring interoperability of EWS 6. Applying advances in research and ICTs 7. Accountability (including liability) regarding early warnings 8. (Responding to user needs) Cost-effectiveness/benefit issues (incl. levels of protection), financing EW activities 9. Ensuring a people-centred approach to EWS 10. Concluding statement on outcomes and partnership commitment (5 min) |
| **Expected outcomes** | Upon the conclusion of this Working Session the following will have been achieved:   1. Specific examples of good practices and lessons learnt from disasters with regards to early warning over the last ten years presented and discussed. 2. Key issues and challenges, including gaps and opportunities, for EWS that should be addressed in the post-2015 framework for DRR identified and discussed. 3. Recommendations including proposed ways forward, for the development, implementation, and further betterment of EWS on all levels, considering the: 4. post-2015 framework for DRR as well as the GFCS, the SDGs, and the new climate change agreements by UNFCCC. 5. advantages of multi-hazard approach 6. strengthening partnerships among all relevant actors (users and experts) across all sectors 7. reaching and strengthening EWS at “the last mile” 8. context of prevailing and emerging risks due to a changing climate, environment, and society. 9. application of advances in science and technology (including information and communication technologies – ICT, information/data/knowledge management, Earth observation technologies in situ and from space/air, etc.). 10. Statement on the commitments to action, partnership, innovation, and up-scaled, accelerated implementation. |
| **Commitment / special announcement in support of a post-2015 framework for DRR** | Outcome statement and voluntary commitments (initially by the organizing partners) to an international network on multi-hazard early warning (IN-MHEW) to provide support to government agencies and other key stakeholders on strengthening multi-hazard early warning systems and services and implementing the priorities for action of the post-2015 framework for DRR, in particular:   1. up-scaling and accelerating implementation of multi-hazard early warning systems and services; 2. measuring progress in increasing the number of people, including vulnerable people, with access to early warning and risk information (proposed Target-7) 3. facilitating the consolidation of case studies and lessons learnt, the exchange of experiences among regions, countries, cities, and local communities; and the analysis of emerging related issues;, 4. building on the paradigm shift underway in responsible national or local agencies such as National Meteorological and Hydrological Services: 5. advancing from the current status as providers of forecasts and early warnings to providers of impact-based forecasts and risk-informed warnings; 6. assuming major roles in all aspects of disaster risk management to better support disaster management agencies and local communities in reducing disaster risk; and 7. providing better risk-based decision support services. 8. strengthening partnerships of (national) technical agencies (providing data on hydro-meteorological, geophysical and other hazards) with relevant disaster management organizations |
| **Expected number of participants** | 300 |
| **Background documents and resources** | * The International Early Warning Programme (IEWP) (<http://www.unisdr.org/2006/ppew/iewp/about-iewp.htm>) and its component, the Platform for the Promotion of Early Warning (PPEW) (<http://www.unisdr.org/2006/ppew/about-ppew/work-program.htm>) * UNEP, 2012. Early Warning Systems. A State of the Art Analysis and Future Directions” (by Veronica Grasso, now with GFCS, (https://na.unep.net/siouxfalls/publications/Early\_Warning.pdf, also summarized in the book “Early Warning Systems for Climate Change” edited by Ashbindu Singh, Zinta Zommers) * Villagrán de León, J-C et al., 2013. Alert and warning frameworks in the context of early warning systems (<http://www.ehs.unu.edu/file/download/11123.pdf>) * IFRC, 2009. World Disaster Report 2009 “Focus on early warning, early action” (<http://www.ifrc.org/Global/WDR2009-full.pdf>) * Global Information and Early Warning System (GIEWS) of FAO (<http://www.fao.org/giews/english/index.htm>) * Famine Early Warning Systems Network (FEWS NET, <http://www.fews.net/>), funded by USAID * Efforts by UNDP supporting LCDs: http://www.undp-alm.org/ews-and-climate-resilient-development, http://undp-alm.org/early-warning-systems-ews-different-types-hazards, <http://undp-alm.org/early-warning-systems-ews-key-sectors> * The GITEWS Project (German-Indonesian Tsunami Early Warning System), NHESS Special Issue, Editors: A. Rudloff, J. Lauterjung, and U. Münch; <http://www.nat-hazards-earth-syst-sci.net/special_issue100.html> * 2015 Report on Regional Unmet Needs in Early Warning in the Indian Ocean and Southeast Asia (under development, to be published by UNESCAP in March 2015) * IFRC and UNDP, 2014. Effective law and regulation for disaster risk reduction: a multi-country report (<http://drr-law.org/>) * IFRC, Community and Early Warning System Guiding Principles (<http://www.ifrc.org/PageFiles/103323/1227800-IFRC-CEWS-Guiding-Principles-EN.pdf>) * Golnaraghi, M (ed.), 2012. Institutional Partnerships in Multi-Hazard Early Warning Systems: A Compilation of Seven National Good Practices and Guiding Principles. * WMO, 2015 (in prep.) Synthesis of Status and Trends with the Development of Early Warning Systems. A Contribution to the Global Assessment Report 2015 |