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The International Platform on Earthquake Early Warning Systems (IP-EEWS)

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The Sendai Framework for Disaster Risk Reduction 2015-2030 recognizes the need to "substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030" as one of its global targets (target "g"). While considerable progress has been made in recent decades, early warning systems (EWSs) continue to be less developed for geo-hazards and significant challenges remain in advancing the development of EWSs for specific hazards, particularly for fastest onset hazards such as earthquakes. An earthquake early warning system (EEWS) helps in disseminating timely information about potentially catastrophic earthquake hazards to the public, emergency managers and the private sector to provide enough time to implement automatized emergency measures. At the same time, these systems help to reduce considerably the CO_2 emissions produced by the catastrophic impacts and subsequent effects of earthquakes, such as those generated by fires, collapses, and pollution (among others), as well as those produced in the recovery and reconstruction processes. In recent years, EEWSs have been developed independently in few countries: EEWSs have shown operational in Japan and Mexico, while other regions in California (USA), Turkey, Italy, Canada, South Korea and China (including Taiwan) are in the development stages or under restricted applications. Many other countries in the Indian Subcontinent, Southeast Asia, Central Asia, Middle East, Eastern Africa, Southeast Africa, as well as Central America, South America and the Caribbean, are located in some of the most seismically active regions in the world, or present moderate seismicity but high vulnerability, and would strongly benefit from the development of EEWSs. Given that, in many instances, the development of an EEWS still requires further testing, increased density coverage in seismic observation stations, regional coordination, and further scientific understanding, there is a strong need to enhance the technical and operational capacities required for these systems and to further understand the implications for policy. In an effort to address this gap, in December 2015, UNESCO launched the International Platform on Earthquake Early Warning Systems (IP-EEWS). The main objective of the Platform is to assess the current state of the art in the development and operationalisation of EEWS globally, foster dialogue and international cooperation for capacity building around these systems, and therefore promote and strengthen EEWS in earthquake-prone countries worldwide. This paper will discuss the opportunities and challenges for the development and operationalisation of these systems, as well as the specific aim, objectives and expected contributions of this newly established Platform. The following ten countries are already represented in IP-EEWS through leading scientific experts in top institutions: USA (University of California Berkeley), Japan (Meteorological Research Institute), Mexico (Centro de Instrumentacion y Registro Sismico), Italy (University of Naples Federico II), Switzerland (ETH - Swiss Federal Institute of Technology Zurich), Spain (Universidad Complutense de Madrid), Turkey (Kandili Observatory and Earthquake Research Institute, Boğaziçi University), Germany (GFZ - German Research Centre for Geosciences), China (University of Beijing), and Romania (National Institute for Earth Physics). More countries are expected to join the initiative.