Early Warning System for reducing disaster risk: the technological platform DEWETRA for the Republic of Serbia

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Disaster risk reduction has long been recognized for its role in mitigating the negative environmental, social and economic impacts of natural hazards.

Flood Early Warning System is a disaster risk reduction measure based on the capacities of institutions to observe and predict extreme hydro-meteorological events and to disseminate timely and meaningful warning information; it is furthermore based on the capacities of individuals, communities and organizations to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.

An operational definition of an Early Warning System has been suggested by ISDR - UN Office for DRR [15 January 2009]: "EWS is the set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.". ISDR continues by commenting that a people-centered early warning system necessarily comprises four key elements: 1-knowledge of the risks; 2-monitoring, analysis and forecasting of the hazards; 3-communication or dissemination of alerts and warnings; and 4- local capabilities to respond to the warnings received."

The technological platform DEWETRA supports the strengthening of the first three key elements of EWS suggested by ISDR definition, hence to improve the capacities to build real-time risk scenarios and to inform and warn the population in advance

The technological platform DEWETRA has been implemented for the Republic of Serbia. DEWETRA is a real time-integrate system that supports decision makers for risk forecasting and monitoring and for distributing warnings to end-user and to the general public. The system is based on the rapid availability of different data that helps to establish up-to-date and reliable risk scenarios. The integration of all relevant data for risk management significantly increases the value of available information and the level of knowledge of forecasters and disaster managers. Different data, forecast and monitoring products, which are generated by different national and international institution and organizations, can be visualized and processed in real-time within the platform. DEWETRA is a web application ensuring the capillary distribution of information among institutions. The system is used as an infrastructure for exchanging and sharing data, procedures, models and expertise among the Sector of Emergency Management (SEM), the Republic Hydro-Meteorological Service of Serbia (RHMSS) and the Serbian Public Water Companies (PWCs): Serbia Waters, Vojvodina Waters and Belgrade Waters.