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How Earthquake Early Warning Systems can affect scientist's liability? International perspective for domestic questions.

Cecilia Valbonesi
University of Florence, Florence, Italy (cecilia.valbonesi@unifi.it)

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Early Warning Systems (EWS) represent a technical-scientific challenge aimed at improving the chance of surviving of the population exposed to the effects of dangerous natural events. This improvement must necessarily face great difficulties in the application fields, because EWS may turn into serious responsibilities for people involved as scientists and engineers.

In this complex scenario is necessary to consider the differences among EWS (e.g. meteo, tsunami, earthquake) and their capability of predicting and avoiding the consequences of damaging events.

The development of EWS in Italy is not homogenous.

Some of these systems, such as Earthquake EWS (EEWS), are in a testing phase and we really need to learn a lot from the comparison with other Countries that have been adopting these solutions for years.

This recognition is very important, because the tragic and deadly events of the L'Aquila earthquake, the landslide in Sarno, and the recent eruption of Stromboli volcano have taught us that the relationship between science and law in Italy is really difficult.

So, before entering in the operative phase of the EEWS is necessary to start from a recognition of the international and national legislative and jurisprudential frameworks that supports the assessment of criminal and civil liability in the event of a "wrong" technical-scientific response, unable to decrease the consequences for people and infrastructures.

The future application of EEWS in our Country must be supported by a study and research of solutions that allow scientists and engineers to operate with more awareness and less fear of the consequences of this not renounceable progress.

In this framework, the different roles of those involved in the development and dissemination of EEWS are also relevant: the responsibilities of scientists developing the tools are not the same as those of technical operators who are called upon to disseminate the alert.

In all these cases, however, the offer of an EEW service represents a promise to the population to

face the harmful consequences of certain natural and disastrous events.

This promise certainly creates a legitimate expectation that, where betrayed, can give rise to criminal and civil liability for adverse events (manslaughter, negligence, unintentional disaster etc.).

Population, however, should not only expect to receive a correct alarm but must be put in the condition to understand the uncertainties involved in rapid estimates, to be prepared to face the risk, and to react in the right ways.