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Risk management: application of early warning systems to emergency plans

C. Garcia (1), S. Sterlacchini (1,2), A. Pasuto (3), and M. De Amicis (2)

(1) University Milano Bicocca, Italy (carolina.garcia@unimib.it), (2) CNR - IDPA MIlano, (3) CNR - IRPI Padova

Warning System and emergency plans are two fundamental elements of risk management and governance, but unfortunately, most of the times, they are developed independently one from the other, as sequential steps not necessary linked.
The main goal of this research is to develop a methodology for applying Early Warning Systems - Community Based to the emergency plan using the results of social surveys and quantitative risk assessment, taking into account the administrative structure and the planning system of the study area, as well as the legislative obligations of each entity involved in the risk governance and emergency management.
Using a integrative scientific and social approach to natural hazards the research aim to contribute to fill the gap between scientists, policy makers, stakeholders and community.
Initially applied in Comunità Montana Valtellina di Tirano, Italy, the methodology involves the application of two comprehensive surveys. The first is addressed to stakeholders (including policy makers, emergency managers, emergency volunteers, consultants and scientists) in order to determine their needs, points of view, concerns and constraints. The second survey is addressed specifically to local community to assess risk perception, awareness, needs, capacity and level of trust towards stakeholders, besides asking for their willingness to participate in future risk communication activities.
The Early Warning System developed includes all the stages of the early warning process (hazard evaluation and forecasting; warning and dissemination and public response) and would be based on a multidisciplinary partnership that takes into account the different actors involved in the risk management in order to accomplish a more reliable and credible result, including an emergency plan specifically designed for each study area.
After evaluating the results of the surveys, information and education campaigns will be developed with the objective of reducing vulnerability of the population by increasing risk perception and improving response to early warnings.
Spatial planning and specifically decisions about future land-use are critical to mitigate the hazard and to reduce the vulnerability, therefore some inputs will be provided to the decision-makers on where additional risk identification, risk reduction and risk transfer measures are especially necessary.