

Resilient communities to hydrogeological and volcanic risk

Marotta E.¹, Avvisati G.¹, Colucci O.², Nave R.¹, Peluso R.^{1, 2}, Tomasone M.²

¹INGV Istituto Nazionale di Geofisica e Vulcanologia

²Freelance professional

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Recently the relationship between natural events and human activities has become more and more evident. Cause-effect connections may have a wide spectrum encompassing social, political, economical, technological and environmental areas. In the past impact analysis were conducted separately on each of them: it is now more and more clear how unsteadiness of some sector can create a chain of correlations between many of them which can end up in apparently unexpected effects. Increasing the capabilities of resilience in a certain area requires hence a multi-disciplinary approach which should take into adequate consideration sociological and economical aspects, combined with a deep knowledge of the environment and hazards. Even the best disaster management planning could be critically hindered when the population involved is not adequately prepared. The study of best practices helping to improve the resilience and reaction of areas exposed to different natural hazards and having different socio-cultural layers is hence crucial. A model to be considered is based upon directly involving the residents into controlling the environment (participated monitoring) and improving/detailing the mapping of risks and emergency areas (community based emergency planning). When the population is directly involved in such activities, it becomes naturally more aware of both risks and reaction measures, with a correspondent increase in resilience. A way to start a participated monitoring could be distributing to the residents low-cost, specifically designed devices, such as seismic micro-sensor and/or CO₂ gauges to be positioned in schools, public offices or private properties. This will help creating wide and dense monitoring networks of which the residents will be both caretakers and utilizers, in a “public involvement in science” scenario. Such approach would get results in both information/communication targeting the residents and in monitoring and early warning processes.