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The Mitigation Effort Index (MEI). A new concept to asses the social and political factors in establishing risk levels. Application to volcanic risk.

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The traditional definition of risk (risk = hazard x vulnerability) where the hazard is the probability of the impact of natural phenomena (in time and space) and vulnerability (includes exposition) refers to the expected losses, including lives. In general, risk is valued economically but political decision-making purposes are presented in expected deaths. In this definition is accepted that the only agent acting is physical, from the point of view of natural phenomenon (i.e. strong winds, ash fall, pyroclastic density current) and action to reduce vulnerability (i.e. increase soundness of buildings), but does not take into account the mitigation efforts related to management. Some recent disasters have highlighted the need to assess the management, especially in the loss of lives (i.e. El Chichon, Nevado del Ruiz, Katrina)

The Mitigation Effort Index (MEI) evaluates preventive measures taken by the society to protect itself from a natural phenomenon. Analysed factors are organized into three response groups; scientific response; political and civil defense response and social response. Knowledge of this index can help you to design corrective measures to improve the response of society against the threat. The factors selection process is complex due to the wide variety of social, political, legal and even religious organizations that affect the management of a crisis. We have chosen the ones who should be present in any management of an emergency. To assess the reliability of the MEI index we applied it in several volcanoes.