

## Communication of Geohazard Information to Non-Specialists



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Geoscientists have an essential role to play in helping to reduce the risks to people, and to property, that may be associated with natural geological and physical hazards, such as landslides, subsidence and flooding ('geohazards').

That role is perhaps primarily concerned with *understanding the nature of the hazards*, in terms of the locations likely to be affected and their magnitude and frequency characteristics. Geoscientists are also traditionally involved in helping to devise *engineering solutions* to reduce the likelihood and/or scale of the hazards (e.g. through foundation design, slope stabilisation or flood defences). But they also have an increasingly important and potentially vital role to play in the *communication of hazard information* to planners, emergency services, insurers and others, in order to enable risks to be reduced in other, complementary ways.

The starting point for any given hazard involves the geoscientist's traditional role in developing a thorough understanding of the hazard itself (What is the cause? Which areas are likely to be affected? How serious are the consequences likely to be? How frequently will incidents occur? and can the risk be avoided or controlled by affordable engineering solutions?).

Where there is likely to be any significant residual risk, which cannot be controlled, there is a need to develop additional strategies to reduce that risk. Depending on the nature of the risk, these may involve *forward planning*

(to guide future development to less hazardous areas); *development management* (to provide site-specific checks to ensure buildings and structures are suitable for their location and suitably resilient); *emergency action plans*, to evacuate or protect people in real time during a hazard event; and/or the provision of suitable and affordable *insurance cover*, to protect businesses and livelihoods, allowing them to recover after an incident.

The nature of the information and guidance required by the various non-specialists involved will be different in each case. Geoscientists need to understand what needs to be done, and by whom, in order to provide the right information. Just as importantly, the information needs to be presented in a way which can readily be understood *and acted upon* by each different 'target audience'. This does not just mean simplification, but it does mean avoiding the use of technical 'jargon' and avoiding any presumption of prior knowledge. The information needs to be carefully explained and focused on the specific requirements of each audience.

This paper draws upon a number of international case studies to develop general guidance on how geoscientists can contribute effectively in this way. The examples used include planning responses to karst-related subsidence, emergency response to landslides in deeply weathered tropical soils, and insurance responses to fluvial flood hazards.