

Conclusions

Adequate risk communication is the keystone to make territories and communities evolve in systems able to challenge complex and multidimensional risk environments.

This chapter, 'Communicating risk among all', reflects on what communication means, and addresses three main questions: how to create trust and conditions that are mutually understandable among all the stakeholders involved; what the role of institutions and governance is; and what contribution technology may provide as part of an overall and shared system of knowledge of risks.

The reflection (subchapter 4.1) starts with the assumption that Interconnected and dynamic hazards and risks require the participation of all the involved actors, facing and defining shared problems in a collaborative and communicative manner, working together to build trust and common understanding in an open and problem-solving mode. The starting point for adequate risk communication is a clear understanding of failures in risk governance and communication processes. Through a selection of relevant case studies, lessons learned have been presented, along with suggestions for follow-up on actions to be taken after insights and knowledge are gained.

Among the main points highlighted are the importance of (1) clarifying risk and uncertainty communication objectives in relation to actors' roles and responsibilities before, during and after a crisis; (2) being aware of potential biases and possible opposing values among actors when communicating risks and uncertainties, as the knowledge of these values and biases makes communication more effective; (3) modelling a context-sensitive communication framework, to empower the dialogue with the intended audience.

This chapter shows that trust building is a fundamental focal point and the oil that facilitates an effective risk communication culture among diverse stakeholders. It provides an in-depth discussion, and presents long-term iterative processes based on good practices and lessons learned. Trust is crucial in risk communication, and is built through systematic sharing of information and experiences between stakeholders moderated by competent leaders acting as a catalyst, steering the group towards a learning culture.

The multidimensionality of risks requires long-term partnerships, which are the key to enhancing multidisciplinary collaboration to promote synergies between scientists, policymakers, practitioners and citizens. Embedding these synergies in stable networks builds trust and enables the exchange of information and best practices, education and training, and awareness raising in the area of risk management, governance and communication.

All these efforts rely on adequate support from governance and institutions, which then requires the enrichment of their usual hierarchical structures with networking capabilities. To build more resilient communities (subchapter 4.2), bottom-up approaches have to be set up alongside traditional governance approaches. That means that the public should not be perceived as merely a passive receiver of information and decisions, but is actually involved in risk assessment, preparedness measures, emergency plans, etc. at all levels of disaster risk management (DRM).



Hence, citizens ought to be involved in the decision-making process, by tailoring management systems to their needs. The future of DRM will require new and more inclusive bottom-up legislation, new organisational structures, methodologies and technology for consulting, empowering and engaging with citizens.

In this perspective, a paramount role is played by social media: there is, in fact, a strong need for institutions such as civil protection services and emergency warning systems to adapt to the changing reality of social media and the emerging use of consumer technology, and also to ensure that they have robust plans to tackle any ethical dilemmas that social media and technology usage may produce in the future.

Technology for risk communication (addressed in subchapter 4.3) also plays an important role in DRM. In this vein, risk sensing in particular is an innovative solution for risk forecasting and reflects the fact that a comprehensive knowledge approach is only possible and effective if we are able to predict (to 'sense') the relevant risk in a very capillary manner. Sensing indicates now that it is a special risk approach, based on a multipolar sensor setting combined with an integrated knowledge assessment process and intelligent reachback architecture.

Relevant risk-sensing techniques, such as multi-risk analysis, the SAMCO web platform, the public warning communication strategy and the related visual analytics reporting, have been presented and discussed; although still characterised by a high level of uncertainty, risk-sensing procedures constitute an integrated knowledge assessment process and support an agile reachback architecture that might act as an intelligent comprehensive sensor to give deep insight (and early warning) into complex scenarios.

This chapter has thus stressed the importance of adequate, multidimensional, inclusive risk communication, and provided stepping stones and solutions for all actors involved in risk communication. The current experiences that we are all sharing, in particular, are proving in vivo how the network of information and communication may help overcome the network of systemic risk.

