



Increasing awareness and preparedness by an exhibition and studying the effect of visuals

Marie Charrière (1), Thom Bogaard (1), Jean-Philippe Malet (2), and Erik Mostert (1)

(1) TUDelft, Water Resources, Netherlands (m.k.m.charriere@tudelft.nl), (2) Institut de Physique du Globe de Strasbourg, CNRS UMR 7516, University of Strasbourg, France

Damages caused by natural hazards can be reduced not only by protection, management and intervention activities, but also by information and communication to improve awareness and preparedness of local communities and tourists. Risk communication is particularly crucial for mountainous areas, such as the Ubaye Valley (France), as they are affected by multiple hazards and are particularly sensitive to the potential effects of climate and socio-economic changes which may increase the risk associated with natural hazards significantly.

An exhibition is a powerful tool to communicate with the general public. It allows¹:

- (1) targeting specific audiences,
- (2) transmitting technical and scientific knowledge using a suitable language,
- (3) anchoring the collective memory of past events,
- (4) visualize and emotionalize the topic of natural hazards,
- (5) strengthening the communication between peers, and
- (6) highlighting local resources and knowledge.

In addition to these theoretical advantages, an exhibition may fulfill the requirements of a community. In the Ubaye Valley (France), this tool was proposed by the stakeholders themselves to increase awareness and preparedness of the general public. To meet this demand, the exhibition was designed following three general topics: (1) the natural phenomena and their potential consequences on the elements at risk, (2) the management and protection measures (individual and collective) and (3) the evolution of events and knowledge throughout past up to the present and the anticipation of the future situations.

Besides being a real risk communication practice, this exhibition will be the setting for an extensive research project studying the effect of the use of visualization tools on the awareness and preparedness of a community. A wide range of visuals (photos, videos, maps, models, animations, multimedia, etc.) will present many dimensions of locally occurring natural hazards and risk problems. The aim of the research is (1) to verify the theoretical advantages of visual communication, such as conveying strong messages and making them easy to remember², (2) to measure the change of awareness and preparedness after being exposed to such media, and (3) to propose guidelines for further development and use of visual tools for natural hazard risk communication.

To conduct this analysis, questionnaires and direct observation will be applied. The first method will allow to measure changes in knowledge and perceptions as the same questionnaire will be filled by visitors prior and after their attendance to the exhibition. Additional items of the questionnaire will deal with the opinions on the different visualization tools, i.e. fulfillment of needs and requirements of the visitors. Direct observation will be used for analyzing the relative attraction of each of the visualization tools. This research will help to determine which tool is more suitable to communicate to the community not only as a whole, but also by its sub-groups, i.e. children or adults, locals or tourists, etc.

¹Imra Project. 2011. Planning and implementing communication and public participation processes in flood risk management – Procedural guidelines and toolbox of methods.

²Nicholson-Cole S.A. 2005. Representing climate change futures: a critique on the use of images for visual communication. *Computers, Environment and Urban Systems* 29:255-273.