



## **Testing the impact on natural risks' awareness of visual communication through an exhibition**

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The need to communicate about natural disasters in order to improve the awareness of communities at risk is not a matter for debate anymore. However, communication can be implemented using different media and tools, and their effectiveness may be difficult to grasp. Current research on the topic is usually focused on assessing whether communication practices meet users' needs, whereas impact assessment is mostly left out. It can be explained by difficulties arising from (1) the definition of the impact to measure, i.e. awareness, and the appropriate indicators to measure it and its variations, and (2) the implementation of a research design that allows assessing these impacts without bias.

This research aims at both developing a methodology to measure risk awareness and to use it for testing the effectiveness of visual communication. The testing was conducted in the Ubaye Valley in France, an alpine area affected by multiple hazards, from December 2013 to mid-February 2014. The setting consisted of an exhibition in the public library of the main town, Barcelonnette. The main natural hazards of the study case (i.e. landslides, avalanches, flooding, debris flows and earthquakes), as well as structural and non-structural measures were presented to the general public using local examples of hazards events and mitigation. Various visualization tools were used: videos, Google earth map, interactive timeline, objects, mock-ups, technical devices as well as posters with pictures, drawings and graphs.

In order to assess the effects of the exhibition on risk awareness, several groups of children and adults were submitted to a research design, consisting of 1) a pre-test, 2) the visit of the exhibition and 3) a post-test similar to the pre-test. Close-ended questions addressed the awareness indicators according to the literature, i.e. worry level, previous experiences with natural hazards events, exposure to awareness raising, ability to mitigate/respond/prepare, attitude to risk and demographics. In addition, the post-test included several satisfaction questions concerning the visual tools displayed in the exhibition. A statistical analysis of the changes between the pre- and post- tests allows to verify whether the exhibition has an impact on risk awareness or not. In order to deduce the attractiveness of each visual tool independently, the visitors' paths are tracked using RFID (Radio Frequency Identification) technique, from which their time spent around certain visuals can be assessed. These results also help to analyze the changes in risk awareness measured by the pre-test/post-test design. Direct observation of visitors' reactions and behaviors completed the methodology.

This research hence helps to assess which visual tools are more suitable to communicate such topics not only to a community as a whole, but also to its sub-categories (e.g. adults vs. children, people with experience of natural disasters vs. people without). Moreover, it provides methodological improvements concerning effectiveness research in the field of risk communication.

The first results of this research will be presented and discussed.