



## KNOW-4-DRR Project

Enabling knowledge for disaster risk reduction in integration to climate change adaptation

adaptation

climate change

risk management

### PROJECT DESCRIPTION

Why (scientific) knowledge on natural hazards, especially that acquired in recent decades, did not turn into effective prevention policies and strategies, able to reduce damages and victims? The Know-4-drr project tried to answer this question, immediately pointing out that it is not actually required to transfer knowledge from one context (the scientific one) to another (the government and public administration context), but rather to understand what are the barriers and obstacles to the effective sharing of multiple knowledge owned by several subjects, including researchers and public administrations, as well as private or semi-private players, such as insurance companies, managers of infrastructure networks and citizens. The project has therefore shifted the focus from “transferring” to the idea of “sharing and co-producing”, on the belief that data and information can be transferred, but also that knowledge have to be re-interpreted and re-understood independently by every subject referring to his/her prior “wealth of knowledge” and culture. **If knowledge is expressed in action, and therefore in the ability to devise and implement preventive measures, it is necessary that those who bear knowledge really understand the implications and meaning of what they have learned.**

The project has therefore sought ways to involve the actors of the prevention processes and strategies that would enable them to share and also to co-produce knowledge. For example, some participatory workshops have been conducted, in which the participants - many of them belonging to public administration, civil protection bodies and insurance sector, as well as to organizations with preventive purposes at various levels, from the national one to the European Commission and United Nations level - were asked to deal with a serious role game on flood control rather than with an event simulation.



### OBJECTIVES

The goal was to build a common area where, for a limited period, the actors could actually interact and bring out common ways and differences in dealing with a problem of risk management. Another example is represented by the so-called “*living labs*”, which are more than simple case studies: they are territorial areas in which some project partners have a very close relationship with one or more actors, in order to experiment with them **new production processes** and, if possible, **new forms of implementing prevention strategies**.

Four living labs have been set up within the Know-4-drr project: one in Lorca (Spain), where the Spanish partner has conducted several activities with a high school of the town hit by the earthquake in 2011 and, subsequently, by a flood in 2012; one in Vietnam, where the DWF NGO has long been conducting a campaign to teach the residents how to build a house resistant to typhoons and it has used the project activities to raise awareness also among the authorities and the Government on the importance of such practices; one in the **Umbria region**, where, thanks to a long collaboration between the Polytechnic University of Milan and the regional Civil Defense, procedures and techniques for collecting and analyzing data on damages after floods have been tested; finally one in the **Po river basin**: within this *living lab*, thanks to the collaboration between the Polytechnic University of Milan and the River basin authorities, it was possible to experiment **new risk assessment models** in



support of the implementation of the Floods Directive (Directive 2007/60/EC), but also to discuss with the various regional and provincial players the implications of greater sharing of knowledge on prevention with local actors, such as mayors, and with the population.

Finally, the project has experienced communication modalities with a wider audience which were unusual for the researchers until recent times. Thanks to the Ticonuno partner it was possible, in fact, to realize some radio programmes on prevention (Radio 24) and some videos related to different aspects and experiences of the project (in addition to the project website, see also the following link: <http://www.triwu.it/category/terra-e-ambiente/page/2/>). Working with a professional communicator was really important for all the project partners; in fact, the ambitious objective of the project was not to inform on disasters, but to promote knowledge on risk prevention to a non-experts audience. Finally Know-4-drr has promoted cooperation and interaction between project partners and “advisers” who are very different from each other, both because they belong to different categories (research institutions, NGOs, private companies) and because they operate within different disciplinary fields and areas of expertise. This may seem a less important goal, but it cannot be neglected. Achieving results from an interdisciplinary work is still a challenge: the project experimented various strategies to facilitate this work and to enable real collaboration and integration.

## PROJECT PHASES

Over two years the project has covered some “stages” rather than some “phases”, since many activities were conducted in parallel. The first stage was to draw up a document aimed at sharing methods for a joint and interdisciplinary work. To be able to give useful information to develop knowledge through the common work of organizations, individuals, people with different interests and skills, it is first necessary to be able to do it within the project consortium. So several cases of natural disasters in all countries of the project participants have been analyzed and a map of the relationships among the various public and private entities, researchers and citizens concerning the sharing of information and knowledge was developed. This mapping highlighted several critical issues regarding the flow of information and knowledge: the drivers and barriers to the full sharing were analyzed. The third stage covered the realization of workshops, the conduct of living labs and finally the preparation of videos. The last stage, perhaps the most complex, concerned the **development of a conceptual model for a knowledge management system**. It is a fairly used tool in business, especially in large enterprises that need to quickly and efficiently provide their employees with skills and critical information. Obviously a knowledge management system for risks prevention must take into account the significant differences with the requirements of an enterprise related to knowledge: primarily because the potentially interested authorities, organizations and parties are manifold; secondly, because the goal of such a system is not fixed (improving business performance and turnover), but it has to be designed. Ultimately the objective, of course, was to enhance the effectiveness of the prevention policies.

## PROJECT RESULTS

Know-4-drr was a project funded as a support activity: i.e. designed to synthesize the results of previous projects in order to develop new EU policies, particularly in the field of research. However the project had also to build an experimentation field to be able to deliver some results, given that it had as object of its research such a complex issue as the knowledge of understanding of risks and risk management. Some tangible results achieved by the project are summarized below. Firstly, Know-4-drr has built good relations between the partners, some of whom continue to work together today on other projects; secondly, it was possible to involve within the project, more or less constantly, some institutional stakeholders of different levels (from the local one to the United Nations' level). The project as a whole has contributed to prepare the **GAR 15** (*Global Assessment Report on Disaster Risk Reduction 2015*), the report drawn up by the United Nations in view of the third UN World Conference on Disaster Risk Reduction (Sendai, Japan, 14th to 18th March 2015), during which “new guidelines for prevention of global risks” have been approved. Thirdly, the project has had an impact within the *living labs*, in some of them more markedly, but still getting the opportunity to concretely experience the suggestions and proposals developed both within research activities and during the various events that have been organized. **The developed audio and video material is indeed an interesting repository for the purpose of promoting a risk culture** that should be further enhanced, as it is currently being attempted by new projects. Finally, the development of the “skeleton” of a **knowledge management system** was brought to a more advanced stage than that originally foreseen (see Deliverable 3.1). Its design has allowed a multi-disciplinary group to interact and jointly build up an idea that could not arise merely from the activities of information scientists or engineers. It is not by chance that the project was able to build cooperation with *Ushahidi*, a platform that has made the crowdsourcing of information for supporting emergency management one of its major topics. The idea that a network of people, authorities and organizations should be the basis of a knowledge management system for risks prevention goes beyond the traditional forms of “transfer”, that the project considered as unsatisfactory since its inception. But the project naturally recognized that there are different forms of knowledge and that, like in a “virtual participatory market”, the different subjects are carriers of different types of knowledge, although obviously they are



mainly experts of one of these types. However, the possibility that one actor moves from a kind of knowledge to another one and that real knowledge-sharing can be obtained was strongly stressed. This is very important for the success of mitigation strategies: the results and products of scientific research often cannot be immediately translated into actions, because the awareness of the procedural steps, regulatory constraints, methods of decision in the political and administrative system as a whole is missing. Having greater awareness of the institutional and legal knowledge will also help the researchers to produce usable results, when they work in support of operational decisions on risk prevention. There are many diverse ways to continue the project, and in part it is already being done; however, it is very important to realize a prototype of the knowledge management system designed by the project.



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