THE PF7 EU ELITE PROJECT: ELICIT TO LEARN CRUCIAL POST-CRISIS LESSONS
M.R. Gallipoli1, V. Lapenna1, S. Piscitelli1, J. Bellanova1, C. Coccetti1, R. Gimenez3, B. Goujon4, T. Grunnan2, J. Hernantes3, P. Kępka6, S. Kowalski7, G. Lang8, A. Laugé3, M. Maal5, A. Masi9, M. Mucciarelli10, M. Neuruhrer8, S. Ptak6, R. Raspa2, R. Van Santen11, J.M. Sarriegi3
1 Istituto di Metodologie per l’Analisi Ambientale, Consiglio Nazionale delle Ricerche, CNR-IMAA, Tito (PZ), Italy
2 Anci Umbria, Italy
3 Tecnun, University of Navarra, Spain
4 Thales Research & Technology, France
5 Norwegian Defence Research Establishment, Norway
6 The Main School of Fire Service, Poland
7 Gjøvik University College, Norway
8 Research Institute of the Red Cross, Austria
9 Scuola di Ingegneria, Università degli Studi della Basilicata, Italy
10 Istituto Nazionale di Oceanografia e Geofisica Sperimentale, Italy
11 I.S.A.R. German International Search and Rescue, Germany

Introduction. Learning lessons from others who have experienced similar situations is probably the most important step that people involved with crisis management can take to ensure that they are not left flatfooted when they are needed most (Grunnan and Maal 2014). In the wake of one of these events, crisis managers and first-responders analyse the actions they have taken, looking at what worked well and what did not. In the aftermath of crises, first responders will gather different experiences, and if the latter are not shared with others or written down, they can easily be disregarded (Kowalski et al., 2013; Maal and Grunnan 2013; Maal et al., 2013). By talking or writing about experiences it is possible to gain a deeper insight into what actually happened (Boin et al., 2005). Experiences are subjective and by sharing one’s perception of the incident with others one can together attempt to attain a broader picture of what actually happened (Wildfire, 2013). At present, however, there is no real platform that facilitates the sharing of this knowledge. Vital information is thus not being transferred to the people who need it most, which can lead to the same mistakes being made over and over again. The objective of the FP7 EU Elite project is to bridge this communication gap.

The ELITE project. The ELITE project is an eighteen-month FP7-funded EU project whose main goal is to improve European emergency preparedness, response and recovery from disasters. These include natural disasters such as floods, large scale forest fires and earthquakes.

Therefore, the ELITE Project engages the main stakeholders in “Community of Practice” (ELITE CoP) for acquisition of relevant knowledge and sharing of insights and it uses a holistic approach covering all crisis dimensions (hazards, impacts, and phases along with their systemic relationships). Thus, the ELITE project has five objectives:
1. establish a Community of Practise (CoP) in Crisis Management;
2. create a tested and validated ELITE living document of crisis management;
3. implement the ELITE living document;
4. analyse the learning process from lessons learned to lessons implemented;
5. deliver recommendations for future research.

The community of practice and living document. Communities of Practice (CoPs) are “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Gimenez et al., 2014). CoPs enable the participants to share and exchange information, knowledge and experiences. It allows the participants to learn from both the failures and best practices from other organizations (Hernantes, 2013).

The ELITE CoP consists of a heterogeneous group of approximately 30 end-users from 13 European countries, ranging from first responders, Civil Protection units, NGOs, directorates and research institutions (Fig. 1), whose objective is to improving the sharing of knowledge related to best practices and lessons learned within the European emergency preparedness for disasters.

To begin the process of creating the ELITE CoP, a number of workshops were held which brought together stakeholders from a wide variety of backgrounds. First responders, policy makers, critical infrastructure managers, volunteers and civil protection bodies will all eventually use the living document. Some of these users will be looking for operational knowledge, while others will want more strategic advice, and so it was important that the diversity of goals and interests was considered from the start.

The first three of these workshops were focused on fires, floods and earthquakes respectively. Each workshop lasted two days and participants from different countries and different crisis...
management institutions were invited. Each of these was designed to bring people within these communities together to discuss the requirements that they believed were needed for the living document to be an effective tool. As well as this, the workshops provided information to the project partners about how these people tend to learn from previous events, as well as what the main problems are when trying to solve issues in a crisis.

In the first workshop on forest fires (Weeze, Germany, April 15-16, 2013) a scenario based approach was used (Maal and Grunnan 2013a). The scenario based approach led to interesting discussions. However, it was difficult to structure the findings as the problems were complex and had different challenges in the various phases. Thus, based on this experience another approach was chosen for the following workshops. A problem structuring approach appeared as the most fruitful tool to tackle the multifaceted problems and to categorize them. We used a combination of methods described by Eriksson (2003). In the second workshop on earthquakes (Weeze, Germany, June 25-26, 2013) and the third workshop on floods (Vienna, Austria, 8-9 October 2013) a “post-it” method was used to structure the discussions (Grunnan and Maal, 2014). A “post-it exercise” was conducted in two steps where the experts in the ELITE CoP were invited to share their experiences. The participants were divided into three groups of ten experts, each with a facilitator from the ELITE project and one person taking notes.

Through the post-it exercise the experts would first write down lessons learned (also referred to as “problems” in the exercise) that they had experienced in their work on different post-its. Challenges like “inter-agency communication problems”, “lack of knowledge in the population”, “no debriefings” and “few evaluations” were mentioned by the experts. Next, the experts presented their post-its and stuck them onto the whiteboard. This would often cause discussions as the experts would often provide an example where they experienced this problem, other experts would also share similar experiences. This created an interactive context and became a good environment for learning. Post-it notes with similar lessons learned were grouped under larger problem areas and it was also noted in which of the phases of a crisis this problem was most prominent (pre-crisis, during the crisis, post-crisis, Fig. 2a). The facilitator played an important role in clustering the post-its. Examples of lessons learned were grouped in problem areas like “communication”, “logistics”, “training experience” and “knowledge”. It was a participative process and all the group members got to share their views, triggering interesting discussions as the experts came from different countries and backgrounds. Results from each group were presented in plenary session. The second step of the process consisted of a session where the same groups had to identify possible solutions to the problems. Through the workshop exercises and the following discussions, it was possible to disseminate and collect procedures and best practices, thus establish a framework for identifying and reporting lessons learned in crisis management. The problems were plotted into a word-table, all the problems

![Fig. 2 – a) Pictures from post-it exercise in ELITE earthquake workshop in Weeze 2013 (Maal et al., 2013); b) lessons learned categories from the earthquake workshop (Maal et al., 2013)](image-url)
were dealt with and each time a solution was proposed by the experts. Through the workshop exercises and the following discussions, it was possible to disseminate and collect procedures and best practices, thus establish a framework for identifying and reporting lessons learned in crisis management. In particular, the main lessons learned and identified in the earthquake workshop were categorized in a) Communication (Inter-agency communication and Crisis communication), b) Knowledge, c) Training, d) Logistics, e) Risk Assessment, f) Debriefing and g) Recovery (Fig. 2b). Communication was a challenge in the pre-crisis and during the crisis, while knowledge and training experience were only related to the pre-crisis phase. Logistics and risk assessment were related to challenges during the crisis. Finally, debriefing and recovery were problem areas in the post-crisis phase.

A report for lessons learned based on the findings from the three workshops was developed into a framework. The three-phases approach was replaced by a “holistic approach” where the major areas for lessons learned were merged together.

After these initial workshops, a living document was developed.

The ELITE living document is a wiki based repository web solution that comprises the lessons learned and best practices from disasters such as forest fires, earthquakes and floods, as well as those that are common across these disaster types. Available at www.elite-eu.org/wiki/, the ELITE living document provides its members with access to all of the information uploaded onto it. It provides an easy-to-use search function that allows the user to select several search criteria from pre-defined lists, as well as the ability to rate, comment on and discuss specific documents to provide feedback and further information for other users (Fig. 3). The development of the ELITE living document has been carried out using an iterative process based on elaborating and assessing successive prototypes (Nunamaker and Chen, 1990). This method has allowed the identification of requirements related to security, quality and type of information, and networking capabilities which lately, have been implemented in the ELITE living document.

The ELITE living document is maintained according to a ‘wiki’ philosophy by the ELITE CoP, guaranteeing the continuous update of information.

The fourth and final workshop (Weeze (Germany) on January 28-29, 2014 was focused on a table-top exercise prepared by the ELITE partners. This table top exercise provides an opportunity for the experts to test and validate the ELITE living document through the use of a specific scenario of disaster. Its aim was to ensure that the living document was a workable tool, as well as to reduce any issues that people might have with it. Again, the CoP members were
divided into three groups. Their assignment was to write a lessons learned report using both the framework and the prototype of the ELITE living document. A visible scenario surfaced, namely Japan’s earthquake followed by a tsunami as a domino effect in 2011. The CoP was supposed to (i) use this scenario as a starting point for the reporting exercise, (ii) access the living document and (iii) use sources/documents from the living document when writing the lessons learned report.

After the workshop a questionnaire was distributed among the members of the CoP in order to evaluate the holistic framework.

Based on the findings from the “post-it” exercises and the validation session, a holistic framework for lessons learned has been developed. It has been an iterative process. The aim has been to (i) identify and categorize common problems within each phase (pre-during and post-) in a specific crisis, subsequently (ii) identify and categorize common problems against disaster types in all phases, (iii) validate and test a preliminary holistic framework, and eventually present the final holistic framework. It takes into account common problems and hazards in all phases. Eight topics have been proposed as the main categories.

Knowledge includes awareness and learning. Prevention merges the topics of preparation, training and education. Crosscutting categories have been identified; communication, knowledge, coordination and decision-making and logistics. Coordination and decision-making incorporates the topic of management. Some categories, prevention, interoperability and recovery, can be regarded of utmost importance in certain phases.

The holistic framework, as well as the crisis specific frameworks provide first responders and other crisis managers with systematic help in identifying and reporting lessons learned. So, we recommend that the holistic framework developed in the ELITE project be used as guidelines for lessons learned in contingency and emergency planning. It is especially relevant when connecting lessons identified in the post-crisis phase with lessons learned and implemented in the pre-crisis phase.

Providing a trusted environment. The key success factors of the learning and sharing process are more social than technical. The community needs a trusted environment to learn and share effectively, and the ELITE project has succeeded in this respect by building a seminal community that could launch the learning and sharing process and help to bring together disparate stakeholders into a tight-knit community.

Two main limitations to the learning and sharing process are confidentiality and public recognition of mistakes. There is some information that should stay confidential, and the community should ensure that publicly shared information does not include confidential data. In addition, lessons learned should be written in a positive style, as the objective of their publication is learning and not pursuing potential responsible agents of past mistakes.

In the end, it will be up to those within the ELITE community to ensure that the web tool remains active and displays the most pertinent information in an organised and clear manner. The only valuable approach is “from practitioners to practitioners through practitioners”, and it is thus the community itself that is the only entity capable of ensuring that the tools developed within the ELITE project remain useful to all involved.

Looking to the future. The final conference, titled “ELITE International Scientific Conference on best practices and lessons learned from natural disasters” was focused on four topics. These were the main challenges and problems in natural disasters, management issues during preparation, response and recovery, learning from crisis to crisis, and finally establishing effective communication channels and avoiding breakdown in communication.

Technology is currently highly efficient at collecting data, but processing this data into knowledge that can be transferred to others is still a human process. There is a significant amount of technology that supports capturing and sharing real time information about the evolution of a crisis, but developing critical reports on what was done to improve future preparation and response should still be done by knowledgeable people. The ELITE project is not only about...
developing technologies, but also about developing a community of practice where knowledge can be created, shared and criticised.

New collaborative technologies have allowed CoPs to become virtual transcending space and time. Virtual Communities of Practice (VCoPs) are developed from the more established concept of CoP (Tickle et al., 2011) and, without excluding face-to-face meetings, rely primarily on information and communication technologies (ICT) to connect their members (Dubé et al., 2006). As a consequence of these characteristics, the number of VCoPs has grown progressively in domains such as education, engineering, management, and health (Campbell et al., 2007). With the objective of improving the sharing of knowledge related to best practices and lessons learned within the European emergency preparedness for disasters, a VCoP has been established during the development of a project funded by the European Commission. The VCoP groups a number of experts with experience in natural disasters from different levels in the crisis management hierarchy and countries of Europe. The interaction of this VCoP takes place face-to-face, through disaster scenario based workshops, and online, through a wiki based technological platform.

It was agreed that the project has succeeded in fulfilling its objectives by creating an embryonic community of multidisciplinary users, collecting valuable initial data and developing the tools that will help to facilitate an efficient learning and sharing process.

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