

KNOWLEDGE SHARING IN POLICE FORCES: A RESOURCE FOR EMERGENCY MANAGEMENT

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ABSTRACT

Nowadays, emergency management requires broader approaches to enhance its efficiency and face its growing complexity. Critical events (both natural and man-made disasters) are becoming more frequent and severe so all parties involved in their management need to cooperate and share their knowledge, skills and capabilities. Knowledge sharing is often deemed to be effective if knowledge can be shared easily via quick, easy to access, linear communication systems, technology, processes and networks. This paper aims to present two best practices in Italian police forces concerning knowledge sharing both in daily activities and in emergency management.

Inter-agency cooperation and international joint training exercises represent two interesting ways to share knowledge and skills and to enhance collaborative efforts in critical events. In the Italian police force specialized in environmental crime and emergency, Corpo Forestale dello Stato, the development of operational and organisational synergies with regions and other local public authorities is recognized as an effective practice to prevent and fight forest fires and for territory monitoring proving to be very effective in terms of resources optimisation, number of controls and sanctions against environmental law violations, reduction of forest fires and other environmental threats within the territory. The experience of Arma dei Carabinieri (Italian police force with military establishment) reveals that joint international training exercises can contribute to the alignment of everyday and emergency operational procedures by sharing common approaches. Joint training enhances technical skills, safety and security of operators and also the overall benefit of the local populations and authorities served by the Civil Crisis Management Missions.

Knowledge sharing in police forces builds new thinking and brings in new resources and capabilities in daily activities and is prerequisite to the development of more efficient emergency management.

KEYWORDS

Emergency management, police forces, knowledge sharing, inter-agency coordination, joint training, best practices

1. INTRODUCTION

Emergency management (EM) tasks are inherently complex and dynamic, requiring quick knowledge sharing and decision coordination among multiple organizations across different levels and locations¹. People, the environment and the economy can be affected by threats coming from multiple directions and sources. Natural disasters and man-made critical events such as 9/11, London and Madrid bombings, Katrina, earthquakes and recent deadly terrorist attacks in Europe and in North Africa reveal the need for effective knowledge sharing and decision support at operational as well as at strategic levels. At the same time local criticalities require readiness and effective emergency management. Bushfires represent a challenging issue affecting the natural environment and the economy during the summer months in Italy.

As such, there is a critical need to understand and develop effective organizational and procedural mechanisms

¹ Becerra-Fernandez, I. et al. (2008) Task Characteristics, Knowledge Sharing and Integration, and Emergency Management Performance: Research Agenda and Challenges *Proceedings of the 5th International ISCRAM Conference – Washington, DC, USA, May*

that can help systematically improve emergency management performance in all contexts.

Because of the complex, dynamic and inter-organizational nature of emergency management tasks, effective management of knowledge sharing across organizations has become a critical success factor. Therefore, police forces, in their role of first responders, need to enact collaborative efforts among each other and with other local, national and international organizations and authorities.

Inter-agency coordination and joint training exercises can represent useful tools for the improvement of emergency management success enhancing effective knowledge integration and task management among police forces and other actors dealing with critical events. Nevertheless proper mechanisms of internal knowledge sharing are key to support an effective interaction with external actors.

In this paper we will highlight the importance of enhancing knowledge sharing initiatives in police organizations. Effective knowledge sharing allows forces to perform daily activities more successfully and enhances the establishment of good coordination with external parties (in detail, local government and other police forces). Further, successful daily activities bring police forces to be able to fulfill emergency management tasks more effectively.

The role of knowledge sharing in emergency management will be briefly illustrated, then the importance of knowledge sharing in police organizations will be examined. In the second part the presentation of two best practices will reveal the effectiveness of knowledge sharing and coordination in two Italian police forces and give strength to our hypothesis.

2. KNOWLEDGE SHARING AND EMERGENCY MANAGEMENT

Knowledge management (KM) is the practice of selectively applying knowledge from previous experiences to current and future decision making activities with the express purpose of improving the organization's effectiveness. Knowledge sharing is an action discipline; knowledge needs to be used and applied for it to have an impact. Knowledge management supports using knowledge in two ways, directly by linking knowledge of a task to those performing the task and indirectly by supporting knowledge sharing and collaboration between knowledge users and experts².

In recent years, disaster managers have realized the potential of KM for faster and more organized response to natural and man-made disasters. The large number of groups that respond to a disaster all need access to a wide range of real-time information and this requires coordination. Groups have proposed and created knowledge management systems that allow for more efficient use of information and faster response. An example is the Information Management System for Hurricane disasters (IMASH)³. IMASH is an information management system able to provide data for response to hurricanes. IMASH was designed with the premise that the world wide web is the medium of choice for presenting textual and graphical information to a distributed community of users. This design is much more effective in the fast-changing environment of a natural disaster. In the Italian framework, the SIM database (Mountain Informative System) offers a collection of information relating to protected animal species and environment protection operations.

Given the incomparable value of real-time information and the sense of proximity given by the use of the world wide web for emergency management, the role of the human and social interaction should also be highlighted. Responders' interaction through cooperation agreements or through training exercises is relevant for knowledge sharing and represents a milestone for the building of successful emergency management.

The field and profession of emergency management have been evolving into a more collaborative enterprise since the 1940s and 1950s. This transformation has gradually moved beyond the classic top-down bureaucratic model to become a more dynamic and flexible network model that facilitates multi-organizational, intergovernmental, and inter-sectoral cooperation⁴.

A recurring problem in the management of response to natural and man-made disasters is the lack of

² Jennex, M.E. (2005) What is Knowledge Management? *International Journal of Knowledge Management*, **Volume:1 Issue: 4**, i-iv

³ Iakovou, E. and Douligeris, C. (2001) An information management system for the emergency management of hurricane disasters *International Journal of Risk Assessment and Management*, **Volume:2 Issue: 3/4**, 243-262.

⁴ Waugh, W.L. and Streib, G. (2006) Collaboration and Leadership for Effective Emergency Management *Public administration review*, **Special Issue**, 131-140

coordination between the various rescue agencies involved. These agencies include not only the emergency services (e.g. police, fire and ambulance), but also local and national government bodies, private sector organizations and volunteer groups.

Each disaster gives rise to the formation of what can be called an incident organization; that is, a temporary configuration of otherwise disparate resources drawn from many agencies. The problem of inter-agency coordination lies in the interaction between the structure of this emerging disaster management system, and techniques of individual and team decision-making. At this organizational level, considerable effort has gone into the development of special inter-organizational schemes for liaison between agencies⁵.

Inter-agency coordination during crisis management requires “dynamic and distributed decision-making”: as the disaster situation unfolds dynamically, efforts are made to coordinate resources by personnel who are distributed across different agencies and locations.

Because of the significant amount of information and knowledge needed for quick assessment and decision making, emergency management requires intense knowledge identification and sharing across the diverse organizations involved. Knowledge-sharing strategies in the emergency management context can be viewed from two perspectives:

1. Knowledge-sharing purpose — exploration versus exploitation
2. Knowledge-sharing mechanism — personal interactions versus written documents

Knowledge exploration refers to situations where discovery of new knowledge is required because there is no existing knowledge for performing the tasks. Knowledge exploitation refers to a directed search and utilization of existing knowledge.

When speaking about knowledge-sharing mechanisms used by organisations, personal interactions and written documents are the main systems adopted. Knowledge sharing through personal interaction is appropriate for knowledge that is difficult to codify and hard to formally articulate in writing. Such tacit knowledge often resides in individuals based on their experiences and social context. Knowledge sharing through written documents is appropriate for explicit knowledge that has been formally codified and written down in the form of planning guidelines, standard operating procedures, best practices, lessons learned, and/or after-action reports⁶.

3. KNOWLEDGE SHARING IN POLICE FORCES

Policing is increasingly an information-rich and knowledge intensive practice⁷. Police daily and emergency work depends on turning complex information into evidence, and effective knowledge sharing within and between police organizations and with external parties (government, partner organizations like schools and emergency services etc.) is essential for activity success. Police members hold a great amount of knowledge which results from both from field experience and specific training.

Across Europe, police organisations must increasingly coordinate information, create communication networks and share policing expertise. A greater emphasis on transnational criticalities means that police organisations must operate across geographical, cultural, communication, and regulatory boundaries to build an integrated understanding of security issues. Not surprisingly, therefore, knowledge sharing is high on the agenda for many national police organisations⁸.

Within the policing context, potentially important types of knowledge to share go beyond criminal intelligence to aspects such as new policies and procedures, strategies, technology use, changes in legislation, major social events, good practices and organisational performance.

Knowledge sharing within and among police forces is strategic to enhance internal capabilities, develop new thinking and ways of operating and bring in new resources. It can encourage the successful performance of everyday activities, be crucial to solve cross-county criminal events and motivate adaption to change processes.

⁵ Smith, W. and Dowell, J. (2000) A case-study of coordinative decision making in disaster management *Ergonomics*, **Volume: 43 Issue 8**, 1153-1166

⁶ Xia, W. et al. (2011) Emergency Management Task Complexity and Knowledge-Sharing Strategies *Cutter IT Journal*, **Volume:24 Issue:1**, 20-25

⁷ Birdi, K. et al (2011) First cross-country comparison on knowledge sharing capabilities and best practices in police organizations, COMPOSITE EU

⁸ Ibidem

The benefits of good knowledge sharing practices also apply to emergency management where, both in national or international crisis events, sharing critical information is hugely important. Not only, when police forces are used to sharing information when dealing with “normal” tasks, for example by knowing where to get critical information from, who to share it with and how to use it, there are more chances that the members will know how to behave in case of critical events concerning emergency-related information.

If knowledge is not shared appropriately then critical knowledge can be lost or detrimental effects incurred. For example, in the UK, a failure to share information between regional police forces led to a previously-investigated individual being able to gain the position of school caretaker in Soham and subsequently murder two schoolgirls in 2002. The enquiry into the case criticised poor practices of information distribution and led to the setting up of the Management of Police Information (MOPI) standards and the new Police National Database as more effective knowledge sharing practices in the UK⁹.

Furthermore, through effective knowledge sharing, police departments can draw upon broad expertise, including the latest advancements in policing techniques and best practices. Knowledge sharing has been shown to be vital in minimising the repetition of errors and ensuring that inefficiencies are not perpetuated in different branches of an organization.

As a result, knowledge sharing appears to be crucial in supporting innovation and positive change in response to the escalating pressures which European policing is living due to political, economical, social, technological and legal trends. The capacity of police organisations to quickly and effectively share knowledge between their own functions, with other police organisations nationally and internationally, and with other agencies and institutions, is therefore key to successful daily performance and, consequently, to emergency response and management.

In spite of the argument above, there is still a lack of understanding on how to best promote intra- and inter-organisational knowledge sharing in policing contexts. Two best practices relating to knowledge sharing analysed among two Italian police forces are presented in order to stimulate effective collaboration in daily activities and in emergency response. Specific skills-oriented cooperation can generate direct benefits for the involved police forces and public administrations, allowing for different activities and synergies at a national and international level.

3.1 Methodological approach

The examination and documentation of the case studies presented below is based on work completed as part of the COMPOSITE research project¹⁰. The project looked into large scale change processes in European police forces, analysing elements like external environment trends (political, economical, social, technological and legal changes) having an impact on police forces, internal resources and weaknesses, knowledge sharing, change communication, change leadership and professional identification of police members.

Information was collected through analysis of publicly available documents, reports and other available written materials and through follow up meetings and interviews with key individuals who had been, or are currently, involved with the best practice project or operation. Each case study included information on what knowledge is shared and how, facilitators and barriers to knowledge sharing, best practice in knowledge sharing and future perspectives.

Corpo Forestale dello Stato daily activities and emergency tasks are framed under specific operational protocols with Italian regional authorities. In this case, the inter-agency cooperation is put into place by police force members thanks to their traditional knowledge and experiences in the field, therefore the role of personal interaction is crucial.

Arma dei Carabinieri have established several international joint-training activities which are examples of knowledge exploitation as they allow to address existing knowledge held by the police force’s members towards the fulfilment of specific practical objectives: the enhancement of emergency management activities.

⁹ Ibidem

¹⁰ Comparative Police Studies in the EU (2010-2014), for further details <http://www.composite-project.eu/>

3.2 Inter-agency cooperation

Collaboration is a necessary foundation for dealing with natural criticalities and disasters¹¹.

Since its foundation the Corpo Forestale dello Stato¹² has always played a central role in the defence of forests against fires, both in terms of preventing and combating the phenomenon, also from the point of view of fire extinguishing activities, suppression of crime and investigation across the whole national territory. In 2001, due to several reforms of the Italian Constitution, competencies on environmental and forestry policies were transferred from the central state to the regions; also some responsibilities for forest protection were decentralized. Within this framework, recognizing the value of Corpo Forestale dello Stato's experience and know-how, and taking advantage of the traditional presence of the force within forest and mountain areas, many regions drafted agreements and conventions to cooperate and to entrust to Corpo Forestale several core activities in the protection of forest heritage and territory. From 2010, within the boundaries of these extensive agreements, specific operational protocols have been set up, with three main purposes:

- a) Prevention and Fighting against forest fires and related crimes through the use of Corpo Forestale dello Stato helicopters for early recognition and extinguishing activities, patrolling and crime prevention;
- b) Environmental Monitoring against pollution and various environmental crimes through monitoring of specific areas;
- c) The pilot testing of territorial mathematical modeling with the application of new technologies (also in cooperation with universities and research centres).

There are two main reasons behind the implementation of operational protocols: the need to streamline economic and instrumental resources by regions and Corpo Forestale and the need to enhance the effectiveness of prevention and response activities against increasingly serious phenomena, such as forest fires. The protocols represent an exploitation of knowledge sharing by the regions of a set of skills and assets already existent among the police organisation.

Protocols were signed between Corpo Forestale dello Stato and several regions in the centre and south of Italy, in particular the regions with high fire related risks (Lazio, Emilia Romagna, Marche, Abruzzo, Umbria, Basilicata and Calabria).

Such operational protocols represent a typical example of knowledge sharing for emergency management purposes; by collaborating in the protection of the natural environment skills and abilities held by Corpo Forestale dello Stato are optimized. Within these agreements protocols, tasks, responsibilities and resources are allocated on the basis of the specific local needs and constraints.

The involvement of Corpo Forestale dello Stato's specific technical assets and knowledge in cooperation schemes with the regions has proved to be very effective in terms of resource optimisation. Operators and those responsible at Corpo Forestale dello Stato and at a regional level have highlighted this. Also at a political level, the statistics for the number of controls and sanctions and for the reduction of forest fire and the effects on the territory have been appreciated. The widespread and continued development of the present operational protocols is a clear acknowledgement of the success of this initiative. The implemented protocols, exploiting the opportunities of real proximity to the identified territory, have gained relevant successes in terms of prevention and response capacity¹³.

The development of the protocols between regions and Corpo Forestale dello Stato has enabled further developments in particular with regard to territorial monitoring activities. The territorial mathematic modeling pilot, involving Academics and researchers, is an important attempt to take advantage of already existing skills and synergies to introduce technological and organisational innovation in typical policing activities and frameworks.

¹¹ Waugh, W.L. and Streib, G. (2006) Collaboration and Leadership for Effective Emergency Management *Public administration review*, **Special Issue**, 131-140

¹² Corpo Forestale dello Stato is one of the five police forces in Italy and holds a civilian establishment.

¹³ Bisogni, F., Costanzo, P., Institutional Cooperation with examples of skill sharing and optimization in Graham, L.N et al (2012) Best practices in European policing, COMPOSITE EU

3.3 *Sharing knowledge during international training exercises*

Arma dei Carabinieri is one of the five Italian police forces¹⁴. In line with its military establishment, Arma dei Carabinieri has overall responsibility of defending the state, participates in civil missions in Italy and abroad and carries out international operations to support local police forces. On the other hand, the police force has typical police-related tasks such as performing the role of judiciary police, taking care of the public security and safety, ensuring operational continuity in areas after disasters as well as rescuing and supporting affected populations.

Within the framework that generated the Instrument of Stability, Arma dei Carabinieri obtained funding and leadership for two relevant joint training initiatives: the "European Union Police Forces Training 2009" (EUPFT 2009) and the following "European Union Police Services Training 2011-2013" (EUPST 2011-2013). With the aim of comparing best practices at the European level, and also taking advantage of lessons learned during previous initiatives, Arma dei Carabinieri developed a modular training project, aimed at training about six hundred European police experts in the field of international crisis management.

The "European Union Police Forces Training 2009" (EUPFT 2009) was developed and delivered in three training sessions, each lasting two weeks. The first week of theoretical and practical learning, was aimed at comparing best practices and procedures. The second week was devoted to a role-playing exercise, for command posts and operational units, simulating the deployment of a multinational police coordination, responsible for replacing and strengthening of local police, in a fictional destabilised country. Simulations of investigations were also included, as well as counter-organised crime actions, forensic procedures and high-risk arrest procedures with hostage liberation.

As for the "European Union Police Services Training 2011-2013", the specific objective was to enhance the international policing skills of approximately 2,400 police officers from EU and non-EU countries contributing to Common Security Defence Policy (CSDP) missions for participation in EU, UN and/or African Union and other international civilian missions as well as to draw lessons in order to contribute to wider international efforts in this field. The programme, including practical exercises, intended to develop police capabilities in crisis management operations. The training programme was based on 7 training sessions, focused on monitoring, mentoring and advising functions for crisis management and stabilisation. The training programme, including public security aspects paid particular attention to knowledge and best practices sharing.

The performance of police duties in crisis management operations by multinational units requires a high degree of interaction that combines assets, emergency setting and also calls for common operational procedures and shared tactics. However, most police activities are still considered to be strict domestic issues, causing lack of interaction during international crisis management operations. Specific problems and barriers in destabilised situations relate to different law frameworks/backgrounds, operating procedures, threat patterns characterizing the domestic environments (for example diffused crime, organised crime, terrorism, piracy, white collar crime), approaches to the victims, operating tools (weapons, uniforms, cars, communication and information technologies).

A useful approach to overcome these barriers can derive from the opportunity to directly experience the integration of 'police identities' in a joint mission to increase the effectiveness, sharing and comparing capabilities and procedures.

Such innovative approach was adopted since the EUPFT 2009 sessions. This training exercise placed the emphasis on specialist police components and for the first time in a wide multinational context combining them with the traditional police features relating to public order maintenance. Particularly helpful was the formula based on training modules, which managed to combine the theoretical aspects with practical skills. Those involved from participating countries were encouraged to present and compare their operating procedures within a simulated exercise that highlighted a specific situation. This common approach provided inputs towards an alignment of all participants in the use of the techniques and procedures corresponding to international policing best practices and standards. In the EUPFT exercises, it clearly emerged that the general policing need concerns appropriate established operating procedures, indicating relevant administrative, sectors tasks, and daily procedures to facilitate interaction among trained participants.

Established operating procedures allow procedures during crisis management operations to become more

¹⁴ The Italian police forces are divided into two organisations with military establishment, that is Arma dei Carabinieri and Guardia di Finanza and three police forces with civilian establishment which are Corpo Forestale dello Stato, Polizia di Stato and Polizia Penitenziaria

efficient and coordinated, also experiences like the joint international training conducted by Arma dei Carabinieri give the opportunity to share knowledge and learn from best practices.

These international exercise sessions contribute to the alignment of operational procedures, enhance technical skills, safety and security of operators, as well as benefiting the local populations and authorities served by the civil crisis management missions. To this end, joint training can provide knowledge transfer at two levels; at a theoretical level on different police issues, and a practical level with training for trainers creating major opportunities for inter-agency cooperation and alignment in international emergency management.

4. MAIN FINDINGS AND CONCLUSIONS

This paper discussed the role of knowledge sharing in police forces on the basis of two practical case studies involving Arma dei Carabinieri and Corpo Forestale dello Stato.

The case studies reveal the effectiveness of knowledge sharing to enhance collaboration during the performance of daily activities and, consequently, in case of national or international emergency management. For example, the statistics for the number of controls, sanctions, forest fires and the effects on the territory were appreciated as a result of the cooperation between Corpo Forestale dello Stato and Italian Regions¹⁵. Also, the widespread development of the operational protocols is a clear acknowledgement of the success of this initiative. Therefore, such protocols, involving specific technical assets in cooperation schemes, have proved to be very effective in terms of resource optimisation, number of controls and sanctions against environmental law violations, reduction of forest fires and other environmental threats within the territory.

International cooperation activities and, in particular, policing joint exercises reveal that a common approach can contribute to the alignment of operational procedures not only enhancing technical skills, safety and security of operators, but also contributing to the overall benefit of the local populations and authorities served by the Civil Crisis Management Missions. Such alignment in the use of capabilities and procedures, corresponding to international policing best practices and standards, may enable the involved countries to contribute more effectively to international stabilisation efforts in countries emerging from a situation of crisis, thus promoting peace and security.

However, knowledge sharing through inter-agency cooperation and joint training sessions require the availability of sufficient levels of both economic and human resources. For example with regards to forest fires prevention and response activities, new requests for the implementation of operational protocols must face the lack of sufficient resources. The implementation of new protocols with other regions would probably partly sacrifice closeness of the police organisation with the beneficiary territory due to the low number of staff working in Corpo Forestale dello Stato. Even in a large organization like Arma dei Carabinieri, training activities can sometimes end up deducting staff from normal policing tasks.

No doubt nowadays the lack of economic and human resources represents a challenging issue which must be taken into account by all police forces¹⁶.

Certainly, the inter-agency cooperation model to support emergency management proves to be easily replicable within the national context being based on existing framework agreements between Corpo Forestale dello Stato and regions. The Arma dei Carabinieri knowledge sharing experience reveals the importance of training to develop common understanding, spread practices and lessons learned to enable countries to contribute more effectively to international crisis management. Training experiences like the one described in the paper enhance the flexibility and the interaction of police activities when deployed in the framework of civilian crisis management. Finally the development and implementation of joint training will produce a progressive standardization of the skills of EU police forces and of their emergency management activities and processes.

The value of the know-how held by the two police forces, and in general by all police organizations, must not be underestimated for the development of better emergency management practices. Police members possess the key resources of experience, expertise and knowledge to handle emergency management. Emergency management can be made more effective if and when key knowledge and expertise is shared not only between police forces but also with other first responders and external actors (local administrations, government).

¹⁵ Bisogni, F., Costanzo, P., Institutional Cooperation with examples of skill sharing and optimization in Graham, L.N et al (2012) Best practices in European policing, COMPOSITE EU

¹⁶ COMPOSITE Project, (2011), Policing Opportunities and Threats, COMPOSITE Project Deliverable

To conclude, knowledge builds new thinking and brings in new resources and capabilities therefore producing positive results for both daily and emergency management and stimulating inter-agency cooperation. In this view the deployment through cooperative initiatives of the internal expertise held by police organizations and of the quality of police members is crucial to overcome possible limits relating to lack of time, economic resources and quantity of staff.

5. ACKNOWLEDGMENT

The contents of this paper are based on work completed as part of the COMPOSITE (Comparative Police Studies in the EU) research project which looked into large scale change processes in European police forces. The project was carried out by academic partners belonging to ten European Countries and involved 26 police forces¹⁷. In relation to this specific piece of work, Arma dei Carabinieri and Corpo Forestale dello Stato were very helpful.

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¹⁷ Participating countries were Belgium, Czech Republic, France, Germany, Italy, Netherlands, Republic of Macedonia, Romania, Spain and United Kingdom. For further information www.composite-project.eu

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