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# The dark side of risk and crisis communication: legal conflicts and responsibility allocation

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One critical point is whether responsibility allocation may influence what managers, public authorities and science advisors decide to communicate, what information they provide, how they define known and unknowns, how they communicate them, to whom and when.

5 So far, most of the literature on risk and crisis communication focused on (i) the disconnect in the risk perceptions of experts and lay people, (ii) the need to foster two-way communication processes, (iii) the improvement of information credibility, saliency and legitimacy, (iv) the role of social trust and other variables in influencing communication processes, and, more recently, (v) strategies to provide useful information about sci-  
10 entific uncertainty, especially in the context of climate change (Patt and Weber, 2014; Fischhoff, 1995, 2013; Otway and Wynne, 1989; Kaspersen, 2014; Siegrist, 2014; De Marchi, 1995; Cash et al., 2003).

The relationship between communication practices and responsibility distribution did not capture much attention from researchers so far. Diagnostic tools have been de-  
15 signed in order to detect and rank different types of uncertainties – among which legal uncertainty – affecting risk and crisis communication and management e.g. (De Marchi, 1995; Van Der Sluijs et al., 2005). Yet, the applications of these tools to analyse legal uncertainty in the sector of natural hazards is limited. More in general, while a great deal of attention has been focused on scientific uncertainties and their quantification,  
20 the same is not true for the analysis of legal uncertainties and of the interactions between different types of uncertainties.

This lack of research inhibits the comparison of different experiences, the identification of hallmarks of good practices as well as of the core attributes of the actors within them.

25 This brief communication begins by describing some examples where risk/emergency managers, scientific advisors or local authorities became subjects of criminal charges or had to go to court. The objective is not to provide a detailed description of the legal cases, but to highlight the critical points and the main lessons for risk communication and management that are implicit in the experience. Where

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towns located at the toe of the massif: one of the four towns, actually the most heavily affected, was Sarno.

One of the problematic issues discussed during the trial was the legal obligation for the mayor<sup>1</sup> to (i) inform the population about the risk and (ii) evacuate the area (DPCM and CIMA, 2013). More precisely the defense and the prosecution were arguing whether (i) the mayor provided (or not) reassuring information to the residents, (ii) he had enough knowledge to provide information, (iii) he (and not the prefect) was the one in charge of providing information. As in many other legal cases, the critical point was the causal link between the statements of those in charge and the residents' behaviours, including what evidence should be used to proof this link (ibidem). Did residents stay at home because the mayor did not give the warning? How many people could have been saved if he had given the warning?

Another example is the Xynthia storm, which hit the west coast of France in 2010. When the storm burst seawalls in the town of La Faute-sur-mer in the Vendée region, on the night of 28 February, many of those who were killed (29 persons in total) were still asleep. 28 victims were in a 3 ha area labelled the "bowl of death" by the media as well as political authorities (UNISDR, 2015). Most of the victims were unaware that their homes were built in areas at high risk of flooding. Relatives of the victims wanted to know who allowed homes to be built in such dangerous areas, why the residents had not been appropriately informed about the risk and why no proper flood warnings were issued.

<sup>1</sup>In Italy the activation of the various phases of the emergency plans is the task of the President of the Regional Council or his/her delegates (prefects, mayors, etc.) depending also on regional legislation. It also depends on the type of event (A, B or C – increasing in magnitude). If it is a type A event – as in the case of Sarno –, once the mayor has received notice of a threshold being overcome from the authorities in charge (usually the Region or the Prefect), it is up to him or her to declare the corresponding alert level after an internal consultation with the responsible persons of the Municipal Civil Protection. If it is a type B or C event, it is the Prefect (in cooperation with the President of the Region, the mayors etc.) who is in charge of the coordination of the emergency activities (law 100/2012).

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In the year 2014, the prosecutor identified excessive urbanization as a reason for the high losses and attributed responsibility to the mayor and the deputy mayor. As reported in the Global Risk Assessment Report of the United Nations “Flood risk in the area was known to be high, but risk information had been hidden deliberately by the authorities to allow the construction of more than 200 new dwellings in flood prone areas”. (ibidem: 126.)

At the time of this writing, the mayor of the town has been sentenced to four years in jail. Meanwhile, one of the science advisors of the mayor is also on trial for failing to alert him that a dangerous storm was imminent.

Another example regards an on-going legal case (at the time of writing) where scientific advisors have played a critical role. The case is related to an earthquake that struck the city of L’Aquila and its province, in Central Italy on 6 April 2009. It involves two government officers and five members of the Italian Major Risk Commission<sup>2</sup>, an advisory body “connecting the National Civil Protection and the scientific community” ([http://www.protezionecivile.gov.it/jcms/it/commissione\\_grandi\\_rischi.wp](http://www.protezionecivile.gov.it/jcms/it/commissione_grandi_rischi.wp)).

At the centre of this case, there is the crisis communication process and the way information has been conveyed to the local population. Indeed six days after the earthquake hit L’Aquila, some people<sup>3</sup> claimed that the injuries and deaths occurred because the victims had failed to enact the usual precautionary measures due to the official reassurance they had received from the competent authorities. Since then, there have been a first level judgment and an appeal. At the end of the first level trial (in 2012) the Court of L’Aquila sentenced the seven defendants to six years in prison and to pay huge compensations to the victims and/or their relatives for multiple manslaughter and

<sup>2</sup>The Major Risk Commission activities are of a techno-scientific and advisory type and include providing guidance in connection with the forecast and prevention of the different risk situations. Among others, the Commission, which usually meets every two months, defines research needs for the Civil Protection, evaluates results and assesses risks.

<sup>3</sup>These residents were either people who had been injured or relatives of some of the victims.







events for example, rainfall thresholds are identified and a monitoring system is put in place (nowadays often based on weather radar and able to provide nowcasts). When the thresholds are exceeded, civil protection managers have to alert the local authorities and/or the population by using appropriate messages and communication strategies. Yet, exceeding such a threshold does not always imply the automatic release of an alert, which is dependent on the experts and local authorities' evaluation – often done on a case by case basis. This “subjective” evaluation is one of the reasons why setting up effective communication protocols is not a simple task. However, the other option of taking the automatism threshold-alert as a procedural constant may have some negative side effects, for example an increasing number of false alerts (as described in the case of meteo-hydrogeological alerts in Italy). Is the automatism threshold alert the only way to guarantee legal protection for those in charge of issuing an alert? What are the alternatives?

Making residents more responsible for their decisions about evacuation may be one. This is in line with the call for people-centred warning systems (Oxley, 2013; Basher, 2006) and new approaches where the public is conceived as a central element and resource in disaster risk management. These approaches are based on the assumption that involving people in decisions and actions is empowering (thereby encouraging ownership, responsibility and participation), and results in more effective disaster risk reduction processes. New information and communication technologies, social media and mobile-phone applications may empower people and allow them to access information about hazard/risk assessment or to check evacuation routes or shelter locations. For example with the help of new social media, crowd-sourced, self-organised approaches to disaster relief are proving to be faster and more effective than centralised governmental responses (Scolobig et al., 2015). Therefore the potential of new technologies should be considered in order to improve communication protocols. The implications in terms of responsibility distribution, especially between residents and authorities should be also taken into account.

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Nevertheless residents' response to alert and warning remains a critical point in the information chain. The identification of who is going to receive the warning, how this person is going to react to it are among the most delicate issues. Research results show very low percentages of households that actually receive official (institutional) warnings: for example in the case of floods in the UK and Germany, only around 50 % of survey respondents stated to have received the official warning (Kuhlicke et al., 2011). The ratio is even worse in the case of typhoon, with percentages dropping to less than 14 % in the case of typhoon Morakot in Taiwan 2009 (Luo et al., 2014). Yet, notwithstanding these low percentages, in some countries mayors can be sentenced to jail for not having issued the official warning, as shown by the case of Sarno and Xynthia.

Finally, to improve communication protocols it is crucial not only to identify the best way to communicate information about the alert and scientific uncertainty, but also to set appropriate responsibility frameworks. Moreover better strategies should be identified in order to inform people about the precautionary actions to undertake as well as the risks, benefits, and costs of their decisions, thereby allowing them to make sound and responsible choices for self-protection in case of danger (Scolobig et al., 2014b).

### 3.2 The unclear tasks and responsibilities of science advisors

Unclear and overlapping roles and responsibilities are often a critical problem in emergency management as identified, for example, after the hurricane Katrina in 2005 (The WhiteHouse, 2006) and after many other events. The Xynthia and L'Aquila case described in Sect. 2 point out the need to re-discuss the role, tasks and responsibilities of scientists and experts, whose advice contributes to and often influences decisions. The challenges at the interfaces of science, communication and decision making are manifold.

First, a critical point is the distinction between informing and making decisions. Indeed there is a clear difference between communication for decision making and research purposes (De Marchi, 2013, 2014, 2015). Providing simple and consistent infor-

mation on robust and established scientific evidence is often essential for communicating relevant information to the public (e.g. earthquakes can not be predicted). Providing detailed information about cutting edge new research results and related uncertainties is essential for disseminating research to the peer community (e.g. there is contradictory evidence about the role of seismic swarms as precursors of major earthquakes).

Second, it is not easy to deal with knowledge in contested terrains (Thompson, 2008) where different experts provide different framings of the same problem and therefore different solutions. How to decide which one is the best (or the most desirable one from a social perspective) one from a decision making perspective? As pointed out by Gluckman: “Science advice is not generally a matter of dealing with the easy issues that need technical solutions. Rather it is largely sought in dealing with sensitive matters of high public concern and inevitably associated with uncertainty and considerable scientific and political complexity” (Gluckman, 2014, p. 4). The decision maker (be it the mayor or somebody else) in the difficult position of having to deal with and communicate uncertain information. There is a vast literature on the communication of uncertainties related to natural hazards and climate change e.g. (Cash et al., 2006; Patt and Weber, 2014). Yet, one main dilemma emerges: is the role of science advice to provide information on the present state of knowledge in their disciplinary field and find the best way to communicate (scientific) uncertainty to the lay public? Or is their role to provide an informed opinion and different options, balancing evidence, uncertainties, institutional, legal and social contextual factors? In other words: should scientists be advocates of one solution or honest brokers of different options and related trade-offs? (Jasanoff, 2004, 2005; Gluckman, 2014; Pielke, 2007; Funtowicz, 2013). In the sector of natural risk management, the “model” of science advocacy is still mainstream and has hardly been questioned.

Third, there are the challenges related to the different types of knowledge and expertise that might be helpful for attaining a broader and more accurate perspective of what the problem at hand is and how it should be managed. This often implies the involvement of experts with different disciplinary backgrounds. For example in the case

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accelerating” (Cedervall Lauta, 2015). Among others, this trend highlights the need to find better ways to protect the rights and interests of risk-emergency managers, as well as those of the communities at risk, the victims of disasters and their relatives (del Carmen Llasat and Siccardi, 2010).

5 The problem is that the protection of different groups may often generate clashes of rights and interests. For example, if the avoidance of personal blame and liability becomes a primary objective of risk and emergency managers (see the case of increased percentage of meteo-hydrogeological alerts in Sect. 2), one may question whether it clashes with other objectives, such as the protection of vulnerable communities, the improvement of organisational standards or the transparency of decision-making and communication. The clash between different competing objectives and related trade-offs has been already researched in other sectors different from disaster management. For example research about the communication between medical doctors and patients clearly shows the trade-offs between doctors’ self-protecting behaviours (to avoid liability) and the suggestions of the best treatment for patients’ health (Kessler and McClellan, 1996; Studdert et al., 2005). This practice has been called “defensive medicine”: “physicians order tests and procedures primarily because of fear of malpractice liability” (Klingman et al., 1996). Some authors argue that, at the systemic level, this can generate inefficiencies much larger than the costs of compensating malpractice claimants (Kessler and McClellan, 1996).

Another example of collateral side effects of blame avoidance is the lack of self reporting in case of mistakes or “near misses” that have not been detected by other members of the organisation or the public – depending on the context. It is not difficult to imagine that this can hinder organisational learning in the long term.

25 Therefore if the trend of legal conflicts continues to grow, in the future we may expect not only an increase in defensive behaviours of risk and emergency managers, but also more requests of insurance coverage in case of mistakes.

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## 4 Conclusions

This brief communication has discussed the legal implications of risk and crisis communication. Rather than providing a detailed description of the legal conflicts regarding the allocation of responsibility in risk and crisis management, the focus has been on the interface between legislative and communicative aspects.

Two points seem particularly critical: first, scientific advice, its role, tasks and connected responsibilities in crisis management need further scrutiny. Second, defensive behaviours of risk and emergency managers can have dangerous social side effects. The development of new communication protocols can only partially solve these problems, especially if it is not matched with transformative changes in the institutional and legislative frameworks. Therefore there is a need for a new research agenda on the legal aspects of risk communication. This includes the role of science advice under different legal and organisational schemes and, more in general, a discussion about responsibility distribution. In order to better protect the rights and interests of risk-emergency managers and of the communities at risk, more research should be done to compare and contrast experiences and identify the hallmarks of new models.

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