

## Chapter 1

### **Risk communication: Theory, policy and practice**

*This chapter introduces the concept and objectives of effective risk communication. It distinguishes between the traditional focus of emergency or crisis communication and the more comprehensive risk communication approach, which uses risk communication before an event to strengthen prevention and mitigation efforts. While a significant amount of evaluations have been done on the effectiveness of crisis communication, much less work has been carried out on the use of risk communication to strengthen risk prevention and mitigation. The chapter provides an overview of the two policy frameworks this report is based on, the EU Council Conclusions on an Integrated Approach to more Effective Risk, Emergency and Crisis Communication and the OECD Recommendation on the Governance of Critical Risks. Finally, it presents the risk communication framework established to inform the design of an OECD survey instrument to assess countries' risk communication policies and practices.*

## Introduction

In the last decade, OECD countries and Brazil, Russia, India and China (the BRIC countries) have experienced an estimated USD 1.5 trillion in economic damage from disruptive disasters – both natural disasters such as storms or floods, and man-made ones such as industrial accidents or terrorist attacks. Individual disasters, such as the 2010 earthquakes in New Zealand and Chile, have caused damage in excess of 20% of national gross domestic product (GDP), and particularly affected local economies and populations. Not only are disasters occurring more frequently in recent decades but, perhaps more importantly, they have significantly increased in intensity and complexity. Among the factors driving this surge in intensity is the increased concentration of people – especially elderly, more vulnerable people – and economic assets in risk-prone areas. Urbanisation has reinforced and accelerated this dynamic. Increased global economic integration, facilitated by transport mobility and communication, has helped to propagate shocks globally. Deteriorating environmental conditions coupled with climatic changes have equally contributed to these trends. The failure of one country to identify and manage a major risk can have tremendous negative impacts on others.

Risk communication is a fundamental element of a sound risk management framework that seeks to reduce future losses and damages from disasters. Governments have a basic responsibility to engage with all actors in society to notify them about their exposure to major hazards. Effective risk communication increases the awareness of households, businesses and communities about their exposure to risk and their vulnerabilities, and also informs them what specific prevention, mitigation and preparation measures they could take. Such knowledge can also spur an informed debate on the need for public investment in prevention, mitigation and preparedness, and is thus a key element of good governance in risk management policy.

Ineffective risk communication can lead the public either to underestimate risks, which may result in them taking insufficient precautionary measures, or to overestimate them, leading to sub-optimal allocation of resources. Despite concerted government actions to raise and maintain awareness of hazards and threats, there can be a significant divergence between experts' understanding of risks and the general public's perception of risks. For example, a survey of 1700 companies in the Loire River basin in France found that 53% of the business owners whose activities were located in a flood zone admitted to being completely unaware of their exposure (OECD, 2010a). Following the 2007 floods in the United Kingdom, a study highlighted that 84% of affected residents believed there is nothing they can do to better protect their homes in the future, with half of

respondents firmly believing that it is not their responsibility to invest in making their homes safer (Pitt, 2008). Areas with low levels of awareness about existing hazards and whose responsibility it is to take protective measures lead to endemic low levels of resilience, i.e. the capacity of an area to regain function promptly after a disruption.

Few countries find that their risk communication efforts fully achieve their desired objectives, yet many of them continue to use the same techniques that have failed in the past, in the hope that the target audience will pay more attention this time. Therefore it makes sense to identify novel and effective risk communication practices across OECD countries to inform countries' risk communication developments in the future.

This publication presents the results of a comparative analysis of risk communication policies and practices across OECD countries. It includes the results of an OECD survey of 19 countries that was developed and carried out in 2015. The survey builds on a framework, which was developed from policy recommendations put forward in the OECD Recommendation on the Governance of Critical Risks (OECD, 2014a) and the EU Council Conclusions on an Integrated Approach to more Effective Risk, Emergency and Crisis Communication (EU, 2011). This chapter outlines the rationale and importance of risk communication within the overall risk management process as well as the elements of good risk communication policy design. It presents a risk communication policy framework that includes a comprehensive set of elements that should be part of a good risk communication policy mix. The policy framework builds the basis for the development of a survey instrument that is used to gather information on the progress of implementing risk communication policies into practice across OECD and some of its partner countries. Chapter 2 presents the results of the OECD survey of risk communication policies and practices. Chapter 3 summarises policy recommendations and discusses options for taking this work forward.

## **Defining risk communication and its functions**

Risk communication needs to be distinguished from emergency and crisis communication. Risk communication needs to be done before a hazardous event occurs, to inform citizens and businesses about their potential exposure and to encourage them to invest in precautionary measures to avoid, reduce or transfer these risks. In contrast, emergency and crisis communication needs to inform people once the event is imminent, has already begun or has just occurred. Risk communication then comes to the fore again in the aftermath of disasters, to make sense of what happened,

to learn lessons, to improve risk management and ultimately to strengthen trust among all actors for risk management.

While linkages between risk, emergency and crisis communication exist, there are significant differences in scope, objective, timing and surrounding circumstances between the two. This study focuses on risk communication, but will also explore any relevant linkages with crisis and emergency communication with a view to achieving an integrated approach.

Risk communication seeks to fulfil different functions, each of which requires different policy designs. The set of risk communication functions is well summarised in the definition of risk communication by the US Department of Homeland Security (DHS):

“Risk communication is the exchange of information with the goal of maintaining or improving risk understanding, affecting risk perception and/or equipping people or groups to act appropriately in response to an identified risk” (US DHS, 2008).

Similarly, the OECD (2002) sets out four core objectives of risk communication which are 1) education and enlightenment; 2) risk training and inducement of behavioural changes; 3) confidence in institutions’ ability to manage risks and 4) inclusion of stakeholders in risk management decisions. Box 1.1 describes these objectives in more detail.

The US DHS and the OECD definitions of risk communication both underline the need to not simply inform recipients but to change their behaviour, to make all actors take on responsibility for actively reducing risks.

### **Box 1.1 The purpose and function of risk communication**

The OECD (2002) distinguishes four major functions of risk communication:

1. **Education and enlightenment:** to inform about risks and the handling of these risks.

This function is a complicated and challenging process because it needs to take into account a society’s perception of risk. Risk research has shown that the basic understanding of risks differs within societies, making risk communication even more important for effective and efficient risk management, because it helps improve the public’s understanding of risks. Successful risk communication needs first a common understanding of the term risk and, second, common moral understanding, experiences and values with a common set of signs and symbols (Hampel, 2006). In this sense, effective risk communication needs to provide an adequate understanding of the known facts, including what can be perceived as uncertain and ambiguous.

**Box 1.1 The purpose and function of risk communication** *(continued)*

2. **Risk training and inducement of behavioural changes:** to help people to cope with risks.

This function assists people in changing their daily behaviour or habits to reduce their risks to life and personal health. Sunstein (2005) argues that emotions lead to various errors in risk perception, among which is the failure to appreciate probabilities. To change the risk perceptions and behavioural responses of recipients in the desired ways, risk communicators need to design several programmes with the purpose of raising awareness about risk and “nudging” people’s behaviour.

3. **Raising confidence in institutions of risk assessment and risk management:** to assure people that the existing governance structures are capable of handling risk in an effective, efficient, fair and acceptable manner.

Establishing and gaining the public’s trust is key to effective risk management because, in a society that trusts the messages delivered, risk communication can mitigate negative risk perceptions. Trust grows with the experience of trustworthiness; therefore, trust needs to be developed over time (Renn, 2010). In an empirical study, Peters et al. (1997) identified three determinants of trust and credibility in the context of environmental risk communication: 1) the perception of knowledge and expertise; 2) the perception of openness and honesty; and 3) the perceptions of concern and care. All three aspects need to be taken into account for a successful and effective communication.

4. **Involvement in risk-related decisions and conflict resolution:** to give stakeholders and representatives of the public the opportunity to participate in risk assessment and to be included in conflict resolution about risks.

The main purpose of involving stakeholders and the public in the risk assessment and management process is to improve the quality of decision making and also to avoid damaging and time-consuming confrontations. However, the intensity and scope of stakeholders’ involvement depends on the issue and the extent of the controversy (Renn, 2010). Risk communication needs to take this into account when letting different stakeholders participate in risk assessment.

Sources: OECD (2002), *Guidance Document on Risk Communication for Chemical Risk Management*,

[www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=env/jm/mono\(2002\)18](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=env/jm/mono(2002)18); Hampel (2006), “Different concepts of risk – A challenge for risk communication”; Peters et al. (1997), “The determinants of trust and credibility in environmental risk communication: An empirical study”; Renn (2010), “Risk communication: Insights and requirements for designing successful communication programs on health and environmental hazards”; Sunstein (2005), *Laws of Fear: Beyond the Precautionary Principle*.

The OECD work also emphasises a crucial additional function, which is the importance of risk communication to ensure trust in government and its institutions. Trust in government is particularly tested during disastrous events, and is generally lower in many countries following crises. As a result, governments in many countries have been forced to take drastic actions to restore trust. If previous neglect or lack of action to reduce risks becomes apparent during a major shock, this often has a disproportionately negative effect on trust in government. For example, the Great East Japan Earthquake raised serious concerns among citizens about whether the government did enough to foresee and protect citizens against the cascading impacts of a large earthquake on nuclear power stations. The earthquake in L'Aquila in Italy raised concerns among citizens about their level of risk awareness and on the lack of communication by the government on how to improve resilience (OECD, 2010b). Natural disasters are not the only events which have sparked such trust issues. Plane crashes, violent attacks and financial crises have raised similar doubts about governments' policies and engagement (OECD, 2014b).

Risk communication can be a key to maintaining and, where necessary, restoring trust in government after disastrous events. In many cases governments may have to react with drastic measures to restore trust among citizens after disastrous events. Senior leaders may be forced to resign and government officials or experts taken to court and given prison sentences for neglect, or been banned from practising their professions in the future. For example, in the United States, the director of the Federal Emergency Management Agency (FEMA) had to resign after the controversial handling of Hurricane Katrina in September 2005. However, in many of these cases no single person is to blame, and such drastic measures can be avoided if governments invested more in communicating their risk management efforts to citizens and other stakeholders more effectively (OECD, 2014b).

Effective risk communication enables stakeholders to manage risks more effectively, to negotiate who owns the risks, and to know what their role is in contributing to the different phases of the risk management cycle (Höppner et al., 2010). The first point of departure is to identify and assess existing hazards, threats and related vulnerabilities (Figure 1.1). Communicating the risks that have been identified and assessed is key to assisting stakeholders to understand the rationale behind such assessment results and risk management decisions, and to help them understand this information in the context of their own interests and values (OECD, 2003).

**Figure 1.1 The role of risk communication in the risk management cycle**

*Source:* adapted from Health Protection Network (2008), “Communicating with the public about health risks”, [www.documents.hps.scot.nhs.uk/about-hps/hpn/risk-communication.pdf](http://www.documents.hps.scot.nhs.uk/about-hps/hpn/risk-communication.pdf).

Once risk communication has transmitted expert knowledge to the public, differences between public perceptions and expert judgement may come into play. This is why, in many countries, the one-way transfer of hazard and threat-related information and its management has given way to a more interactive, two-way exchange of related information, knowledge, attitudes and values. The interactive approach brings together the public, those stakeholders who are directly or indirectly affected, and risk managers to engage in a social learning process, to build mutual trust, and to communicate outcomes in an open and transparent manner (Leiss, 1996). The ultimate aim of good risk communication is to prevent crises, to inform policy decision processes and to make policy implementation smoother. It should also empower and reassure the public, and to help build trust in government and in the information it provides (Höppner et al., 2010).

The development of information and communication technology (ICT) has facilitated the use of social media for risk communication. Because social media is a decentralised communication tool, it helps transmit information repeatedly through different channels, increasing the chances of reaching those who need the information, and adapting risk communication to different target populations (Wendling et al., 2013). Social media can

enable two-way risk communication by developing dialogues between different stakeholders in advance. However, social media can also create new risks, by spreading incorrect information about threats, undermining the efforts of official risk management and emergency preparedness authorities. Governments have a role to play in monitoring the accuracy of information flows by interacting with stakeholders to verify the trustworthiness of emerging information.

Many of these elements form part of a good policy mix for risk communication and have been enshrined in national legislation and also in international risk management recommendations. The next section considers the two most relevant international policy guidance instruments from the European Union and the OECD.

## **The role of risk communication in OECD and EU recommendations**

Both the OECD and the European Union have issued policy recommendations on risk communication. The objective of this report is to integrate these recommendations into the policy evaluation framework and to assess progress in implementing these policy recommendations among OECD and partner countries.

### ***EU Council Conclusions on an Integrated Approach to more Effective Risk, Emergency and Crisis Communication***

The EU Council Conclusions on an Integrated Approach to more Effective Risk, Emergency and Crisis Communication (EU, 2011) emphasise the need for risk communication to enable citizens to recognise risks and take actions to reduce their potential exposure. The EU conclusions are in line with the OECD Recommendation on Governance of Critical Risks (OECD, 2014a) which recommends “a whole-of-society approach to risk communication and facilitate trans-boundary co-operation using risk registries, media and other public communications on critical risks”. The OECD proposes two-way communication between governments and stakeholders, combining targeted communication with incentives and tools for stakeholders to invest in resilience measures.

The EU Council Conclusions emphasise the importance of risk communication for civil protection, with the goal of making citizens safer and more secure, by enabling them to recognise risks, to take precautionary measures to avoid risks, and to react swiftly to minimise risks, limiting the



consequences of emergencies. The EU Council Conclusions rests upon several key points:

- The recognition of the importance of an integrated approach to risk, emergency and crisis communication, that entails interaction and co-ordination between risk management actors including: public authorities, international organisations, non-governmental organisations (NGOs), citizens, the media, businesses and citizens' associations, as well as trade unions at local, national and international levels.
- The need to provide warnings and alerts regarding actual or potential risks and threats and instructions on how to behave in such events, giving this information on a timely basis, transparently and consistently conveyed, and circulated in a proper and balanced way. Such information needs to be tailored to local conditions, and made accessible and understandable to people from other cultures (such as travellers) exposed to local threats.
- The recognition of new channels of information as an opportunity to improve risk communication by complementing conventional communication channels with modern technologies and interactive media (such as social media), although the local, linguistic cultural, social, economic, risk and technical conditions need to be taken into account when designing risk communication strategies. To promote these new risk communication tools, co-operation with scientific centres and the private sector are encouraged.
- The promotion of dialogue with the public and the increase of their knowledge on risk and emergency management systems, including risk communication, through education and training.

There are also practical, very concrete measures that need to be promoted to improve risk communication effectiveness. This includes raising the public's awareness of the European emergency call number "112" and making available sufficient radio spectrum for public safety, civil protection and disaster relief, ensuring that wireless communication systems operate effectively without harmful interference.

The EU Council Conclusions demonstrate that the objectives of risk communication can be diverse. Consequently risk communication practices may take several forms. A comprehensive risk communication policy should consider all of the following objectives:

- Informing the public about the different hazards and threats they may face and the related vulnerabilities.
- Facilitating collective choices by informing public debate and collective discussion about risk management policies.
- Educating the public about risk reduction and preparedness measures for specific emergencies by recommending precise and dedicated approaches.

### ***The role of risk communication in the OECD Recommendation on the Governance of Critical Risks***

The OECD High-Level Risk Forum promotes an all-hazard (natural and men-made hazards) and a whole-of-society approach to risk management. It recognises that individuals, businesses and governments from national to local levels should all take part in bearing the risks. The fundamental role of governance is thus to co-ordinate the roles and responsibilities among all these different actors across the whole risk management cycle.

This approach is developed in the OECD Recommendation on the Governance of Critical Risks (OECD, 2014a), which is designed to assist governments, policy makers and senior officials charged with developing and maintaining robust risk management frameworks and their implementation. The OECD proposes a set of policy recommendations based on the five pillars in Box 1.2.

#### **Box 1.2 Overview of the OECD Recommendation on the Governance of Critical Risks**

**Pillar 1:** Establish and promote a comprehensive, all-hazards and trans-boundary approach to country risk governance as the foundation for enhancing national resilience and responsiveness. This pillar focuses on the importance of framing risk management policies at a national scale through which all major risks are accounted for and designated to responsible agencies. National leadership should articulate clear goals and mobilise support for the priorities identified.

### **Box 1.2 Overview of the OECD Recommendation on the Governance of Critical Risks** *(continued)*

**Pillar 2:** Build preparedness and identify critical hazards and threats, through foresight analysis, risk assessments and financing frameworks, to better anticipate complex and wide-ranging impacts. This pillar highlights the key capacities that should be developed to anticipate critical risks, monitor the quality of capabilities to deal with them, and provide the flexibility in public budgets to plan for unplanned impacts due to cataclysmic events.

**Pillar 3:** Raise awareness of critical risks to mobilise households, businesses and international stakeholders and foster investment in risk prevention and mitigation. The efficiency and effectiveness of risk governance is grounded in putting exposed populations on notice and providing the information they need to take protection measures. This pillar emphasises the importance of co-operation between countries and with other key actors, including the private sector, building common ground and promoting continuous improvements with regards to the governance and management of critical risks and ensuring stable and secure communities.

**Pillar 4:** Develop adaptive capacity in crisis management by co-ordinating resources across governments, its agencies and broader networks to support timely decision making, communication and emergency responses. Establishing strategic crisis management capacities is critical for governments to prepare for unexpected and novel risks that provoke crises. This pillar emphasises the need to strengthen crisis leadership, early detection and sense-making capacity, and conduct exercises to support inter-agency and international co-operation and to establish the competence and capabilities to scale up emergency response capacities. It also aims to close the policy cycle, through planning of recovery and rehabilitation efforts.

**Pillar 5:** Demonstrate transparency and accountability in risk-related decision making by incorporating good governance practices and continuously learning from experience. This pillar aims to ensure that risk-related decision making is subject to transparency and accountability and is supported by clear evidence-based processes and communication as a way to foster trust in government through good governance. It should help governments in conjunction with governmental and non-governmental organisations, to make trade-off decisions informed by the full country portfolio of critical risks, fostering the continuous sharing of knowledge and lessons learned.

*Source:* OECD (2014a), *Recommendation of the Council on the Governance of Critical Risks*, [www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm](http://www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm).

While Pillar 3 addresses risk communication explicitly (Box 1.3), all five pillars contain elements that are relevant for risk communication. Table 1.1 summarises these links.

### **Box 1.3 OECD guidance on raising awareness of exposure to risks and facilitating co-operation**

Encourage a whole-of-society approach to risk communication and facilitate trans-boundary co-operation using risk registries, media and other public communications on critical risks through:

1. **two-way communication** between governments and stakeholders, ensuring that information sources are accurate and trusted, and the information is made accessible in a manner appropriate to diverse communities, sectors, industries and with international actors
2. the combination of **targeted communication** with the provision of incentives and tools for individuals, businesses and NGOs to work together and take responsibility for investment in self-protective and resilience-building measures
3. **providing notice** to households about different scales of hazards and human-induced threats, and supporting informed debate on the need for prevention, mitigation and preparation measures
4. **informing and educating the public** in advance of a specific emergency about what measures to take when it occurs, and mobilising public education systems to promote a culture of resilience by integrating community resilience skills and concepts into curriculums and thereby pass information on to households through students.

*Source:* OECD (2014a), *Recommendation of the Council on the Governance of Critical Risks*, [www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm](http://www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm).

**Table 1.1 Linkages between the OECD Recommendation and risk communication**

Pillar	Main focus	Key notions/ and potential linkages related to risk communication
1	Comprehensive approach to risk governance	<ul style="list-style-type: none"> <li>• Risk communication as part of a national strategy for risk governance.</li> <li>• All-hazards and threats approach to risk communication.</li> <li>• Clear designation of responsibilities among institutions in risk communication, allowing a multidisciplinary and multi-agency approach.</li> <li>• Engagement of all actors within government, from national to local levels, and partnerships with the private sector (e.g. media).</li> </ul>
2	Risk assessment	<ul style="list-style-type: none"> <li>• Risk communication practices based on risk knowledge developed through risk assessment processes.</li> <li>• Regular update of risk communication practices and tools coinciding with advancements in risk knowledge.</li> <li>• Communicate the results of the National Risk Assessment to the public, in summary or in full.</li> </ul>
3	Awareness & prevention	<ul style="list-style-type: none"> <li>• Pillar 3 develops specifically the notion of risk communication - see Box 1.3 above.</li> </ul>
4	Crisis management	<ul style="list-style-type: none"> <li>• Awareness of emergency preparedness measures and early warning systems as part of risk communication policies and practices.</li> <li>• Synergies between risk communication and emergency/crisis communication (stakeholders, technical tools and platforms, and symbols).</li> </ul>
5	Good governance	<ul style="list-style-type: none"> <li>• Transparency on the risk information utilised by governments to take decisions.</li> <li>• Accountability linked to the risk information communicated to the public.</li> <li>• Evaluation of the effectiveness of risk communication policies.</li> </ul>

Source: OECD (2014a), *Recommendation of the Council on the Governance of Critical Risks*, [www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm](http://www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm).

Pillar 3 sets out the criteria for effective risk communication:

- **Consistency:** it is fundamental to ensure that risk information is consistent across the different risk communication tools. Inconsistencies in this domain can lead to ineffective policies, lack of trust and inaction.

- **Two-way communication:** risk communication should not be seen as only transmitting expert knowledge to the public. More interactive approaches bring together the public with risk managers to engage in an exchange of risk information. Among other things, this allows stakeholders to be engaged more actively in risk reduction efforts, more and broader information to be gathered about risks and the efficiency of risk communication tools to be evaluated through feedback loops.
- **Accuracy and trust:** risk communication should be based on the best available knowledge on hazards, threats and vulnerabilities. Risk information should be fully transparent about the level of accuracy, to ensure that risk information is trusted and acted upon.
- **Accessibility:** while risk communication supposes dedicated and targeted actions, citizens and business should also be provided with easy-to-use and accessible risk information portals and repositories.
- **Adapted to the audience:** specific segments of society should be targeted by dedicated risk communication, from national to local levels, vulnerable groups, children and elderly, communities, and non-residents (such as tourists) in ways that are adapted to both their cognitive capacities and their specific exposure or vulnerabilities.
- **Cross-sectoral and trans-boundary:** risk communication should incorporate information from different sectors so that the public has a clear picture of the multiple dimensions of potential hazards and threats, and their potential cascading effects. Policy makers should also address the issue of consistent communication across regional and/or national borders, both for cross-border hazards and to ensure that investors, travellers, tourists and other stakeholders can understand risk information in other countries.

Both the EU and OECD policy guidance documents thus provide detailed recommendations for an effective policy mix for risk communication. Both include important elements that have been established in policy research on risk communication and that have been identified as good risk communication practices. For example, they recognise the different functions risk communication should fulfil, from informing recipients of risk communication messages to positively influencing their behaviour. Both policy documents recognise the importance of the mode of communication, emphasising the need to include citizens actively in the risk communication process and tapping into innovative technologies to channel messages and organise interactions more effectively.

The following section presents a policy framework setting out a comprehensive set of elements that should be included in a good policy mix for designing risk communication strategies.

## A risk communication policy evaluation framework

The goal of this project is to evaluate progress in OECD and partner countries in implementing the risk communication policies proposed in the EU and OECD policy guidelines. To do this systematically across countries requires an operational policy evaluation framework that can subsequently be transformed into a country survey instrument that can be found in Annex A.

The draft framework presented in Table 1.2 follows the broad principles described in this chapter. It is also informed by a complementary review of recent academic literature so as to ensure the development of a comprehensive framework. The framework is built on seven overall pillars:

1. **Actors** include a list of actors in charge of communicating risks. It is important to understand how responsibilities are shared among them. This pillar is also critical to evaluating the implication of non-governmental actors in the risk communication process, especially the role of the private sector.
2. **Risk types** look at whether an all-hazard approach is used in communicating risks and to what extent risk communication strategies integrate notions of complexity and cascading effects.
3. **Purpose** seeks to evaluate the risk communication objectives. It assesses whether communication is focused on measures to prepare for emergency situations or whether it communicates actions that can prevent or mitigate impacts before a disaster.
4. **Modes and channels** identify how communication is delivered, for example whether risks are communicated only one way or whether it establishes two-way flows of information. It also looks at what types of channels are used for communicating, for example conventional (TV, radio) or modern communication technologies (social media).
5. **Tools**: these differ from communication channels in that they look at the means of communication, such as through the use of “quiet witnesses” or objects that indicate the physical extension of past hazardous events.
6. **Message**: the risk communication messages need to be honest about what risk managers know and do not know. The modes also include language, cultural and social aspects of communicating with different target audiences.

7. **Good governance arrangements** characterises to what extent risk communication policy is handled based on good governance principles, such as openness and transparency, inclusiveness and grounding in evidence. This pillar also evaluates the ability to incorporate lessons learned from previous risk communication practices into the design of new policies.

In the following table, a policy evaluation framework is presented that is informed by the EC and OECD policy recommendations on risk communication described above. The policy evaluation framework presented in Table 1.2 provides a description of each element of a country risk communication strategy, followed by a set of policy evaluation questions. These questions informed the design of the survey instrument presented in Annex 1 and carried out among OECD countries. The results of this survey are presented in Chapter 2.

**Table 1.2 Proposed analytical framework for assessing risk communication practices**

Pillar of risk communication	Description	Questions for assessment
<b>Actors</b>	National government Local government Elected officials at national and local levels Other public agencies International organisations Scientists and experts Industry, private sector Trade unions Critical infrastructure providers NGOs and voluntary organisations Exposed-affected public Local communities Vulnerable groups (including people with disabilities) General public Mass media	Who are the main actors with responsibility for risk communication? How are the responsibilities for communicating risks shared and organised among the key actors at local, regional and national level? What are the responsibilities of the private sector for risk communication? Do critical infrastructure providers have special responsibilities? How is communication organised in small settings, among individuals, groups and local communities? What are the key processes for exchanging information and communicating across major public and private institutions?
<b>Risk types</b>	Hazard-specific All-hazard approaches Complex risk	Is there an all-hazard and threat approach to risk communication or specific risk communication approaches pertaining to specific hazards? How are the notions of complexity and cascading effects conveyed in risk communication effectively?



**Table 1.2 Proposed analytical framework for assessing risk communication practices**  
(continued)

Pillar of risk communication	Description	Questions for assessment
<b>Purposes</b>	<p>Raise public awareness about hazards and risks/enhance knowledge through education and training</p> <p>Encourage protective behaviour</p> <p>Information promoting the acceptance of risk management measures</p> <p>Inform on how to behave during hazardous events</p> <p>Warn of and trigger actions in response to imminent and current events</p> <p>Reassure the audience, improve relationships (build trust, co-operation and networks)</p> <p>Enable mutual dialogue and understanding</p> <p>Involve actors in decision making as a means to promote capacity development at the individual, group, community and organisational level</p>	<p>How is communication organised? Does it focus on the existing risks, and/ or the potential measures to prepare or prevent?</p> <p>What is the scope of communication? Is it limited to simply informing or does it engage in actions and in providing guidance?</p> <p>Is the communication aimed at improving confidence and trust? How is it organised to reach this goal and what are the results?</p> <p>How are actors involved in framing the communication and in the communication process?</p> <p>Is the risk communication accessible to vulnerable groups</p>
<b>Modes and channels</b>	<p>Written (newspaper, letter, reports)</p> <p>Verbal (lectures, storytelling, conversation)</p> <p>Non-verbal/visual (gestures, body language, sign language, facial expressions, graphics, movies)</p> <p>One-way or two-way</p> <p>Direct, (face-to-face through meetings, focus groups, lectures) or mediated/indirect (letters, reports, telephone, videoconferences or, for a larger audience, brochures, leaflets booklets mass media and social marketing)</p> <p>Conventional and interactive media (such as social media)</p> <p>Information networks</p>	<p>How is the communication delivered?</p> <p>Does the communication flow only one or two-ways? If it flows two-ways, how exactly does this take place?</p> <p>Is the chosen communication channel direct or indirect?</p> <p>Is it done through conventional and/or interactive media (such as social networks)?</p> <p>What are the barriers to the communication?</p> <p>What is the role of social media in the communication strategy and how is it mobilised?</p>

**Table 1.2 Proposed analytical framework for assessing risk communication practices** (*continued*)

Pillar of risk communication	Description	Questions for assessment
<b>Tools</b>	<p>“Quiet witnesses” (e.g. marking historical disaster events in a visible way)</p> <p>Objects that indicate the geographical extension of past hazardous events</p> <p>Information boards next to eye-catching structural measures</p> <p>Use of modern technologies, including satellite-based technologies and systems using geospatial information</p> <p>Use of digital content and tools</p> <p>Integrating behavioural science findings</p>	<p>What kinds of tools are used to communicate?</p> <p>What is the role for modern technologies, including mobile based content and apps?</p> <p>What is the role for behavioural science and psychological experiments?</p> <p>Are digital content and tools used?</p> <p>How are the tools organised to facilitate citizen-centred communication?</p>
<b>Message</b>	<p>Must be honest, comprehensive</p> <p>Should include what is known, but also unknown</p> <p>Language is understood differently by different stakeholders (such as 100 year return of flood)</p> <p>Language should motivate attitude and behaviour change, instead of provoking fear, stress, and powerlessness</p> <p>Consideration of the prevailing cultural, social, linguistic, risk economic and technical conditions</p> <p>Be accessible to different audiences and target groups, including vulnerable people (e.g. people with disabilities)</p>	<p>How are communication messages framed?</p> <p>Are communication messages adapted to different audiences, languages?</p> <p>How do they take account of prevailing conditions in various areas of the country?</p> <p>Are they accessible to the different audiences and target groups, including vulnerable groups (e.g. people with disabilities)</p> <p>What do the messages entail?</p> <p>Does it address trans-boundary risks?</p>
<b>Good governance</b>	<p>Openness and transparency</p> <p>Involvement (engagement in decision processes)</p> <p>Proportionality and consistency</p> <p>Evidence based</p> <p>Responsibility (allocating responsibility for risk management appropriately)</p> <p>Efficiency of information flow</p> <p>Integrated approach for risk, crisis and emergency communication</p>	<p>How is risk communication made open and transparent? Is it consistent and based on evidence?</p> <p>How efficient is the information flow? Are there any studies to assess the impact?</p> <p>Is there an integrated approach to risk, crisis and emergency communication?</p>

Source: adapted from Höppner et al. (2010), *Risk Communication and Natural Hazards*, CapHaz-Net.

The OECD survey on risk communication policies and practices focuses on the identification of good risk communication policy and practice based on the framework outlined in Table 1.2. The instrument seeks first to understand the broader institutional context, which includes the responsibilities of governments and other stakeholders, including the private sector, in communicating risks. The survey then looks at whether risk communication is addressed primarily by hazard type or whether multiple risks are addressed simultaneously. The survey seeks to understand the modes and channels of communication, including whether and how recipients are included in the risk communication processes. Finally, the survey considers good governance arrangements, such as the way lessons have been learned from previous risk communication experiences and incorporated into current risk communication policy design.

The next chapter provides an overview of the results of this survey. It presents overall country responses and highlights good practice. The risk communication practice examples provided by countries were complemented by additional research, where necessary, so as to be able to provide an understanding of the wider country policy context. Chapter 3 provides a set of policy recommendations for improving risk communications and discusses options for taking this work forward.

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