

**PUBLIC GOVERNANCE AND TERRITORIAL DEVELOPMENT DIRECTORATE  
PUBLIC GOVERNANCE COMMITTEE**

**High Level Risk Forum**

**Risk Communication Analytical Framework**

**4th meeting of the OECD High Level Risk Forum**

**10-12 December 2014  
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Paris, France**

1. *This document presents a draft framework for a comparative analysis of risk communication policies and practices across countries.*
2. *Delegates to the High Level Risk Forum are invited to:*
  - COMMENT on whether the proposed framework covers all the relevant aspects to evaluate countries' risk communication policies for risk prevention and mitigation;*
  - SUGGEST how the proposed framework can be improved to help us identify novel approaches and good practices in communicating about risks to increase risk prevention and mitigation.*
  - PROVIDE additional examples of good practices identified for risk communication policies*
  - EXPRESS interest in participating in the survey.*
3. *Any comments and suggestions will have to be received by 31 December 2014 COB. Good practices for communication policies can be proposed by 15 January 2015 COB.*

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*This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.*



### **NOTE BY THE SECRETARIAT**

1. This document presents a draft framework for a comparative analysis of risk communication policies and practices across countries. The proposed work aims to assess policy practices across countries on risk communication so as to inform and recommend better risk communication policies. The objective of the framework is to enable a relevant and forward-looking analysis of good practices in risk communication. The understanding of risk communication presented here pertains particularly to aspects of communication for preventing risks and not necessarily about emergency or crisis communication in itself, except for when linkages between the two arise. The framework outlined in this document follows important risk communication policy recommendations put forward in the OECD Recommendation on the Governance of Critical Risks as well as the European Union's Council Recommendation on risk, emergency and crisis. This work is receiving support from the European Commission which will help implement the Strategy for the High Level Risk Forum as outlined in the document GOV/PGC/HLRF(2014)2.
2. To evaluate whether and how countries are working towards implementing these policy recommendations this document proposes an analytical framework that will serve to generate a survey instrument to investigate this question.
3. Delegates to the High Level Risk Forum are invited to:
  - COMMENT on whether the proposed framework covers all the relevant aspects to evaluate countries' risk communication policies for risk prevention and mitigation;
  - SUGGEST how the proposed framework can be improved to help us identify novel approaches and good practices in communicating about risks to increase risk prevention and mitigation.
  - PROVIDE additional examples of good practices identified for risk communication policies
  - EXPRESS interest in participating in the survey.
4. Any comments and suggestions will have to be received by 31 December 2014 COB. Good practices for communication policies can be proposed by 15 January 2015 COB.

## **POLICY FRAMEWORK FOR COMPARATIVE ANALYSIS OF RISK COMMUNICATION POLICIES AND PRACTICES ACROSS EU MEMBER COUNTRIES**

### **Introduction**

5. Risk communication is a fundamental element of a sound risk management framework. Notification of the public about major hazards and threats, to which they may be exposed, should be a basic responsibility of governments. Increasing the awareness of households, businesses and communities about their hazard exposures and vulnerabilities, as well as the specific measures they could take to prevent, mitigate or prepare for them is the essence of risk communication. Such information spurs informed debate on the need for investments in prevention, mitigation and preparedness, and is thus a key element of good governance in risk management policy.

6. Some survey evidence suggests that more could be done across EU and OECD countries to raise risk awareness through better risk communication. For example, the results of a survey of 1 700 companies in the Loire river basin in France showed that 53% of the business owners whose activity was located in a flood zone admitted to being completely unaware of their exposure (OECD, 2010). Low levels of awareness about existing hazards and the responsibility to take protective measures are endemic to low levels of resilience, meaning the capacity and speed of regaining function after a disruption.

7. Ineffective risk communication can lead the public either to underestimate risks, which may result in taking insufficient precautionary measures, or to overestimate risks, which often leads to sub-optimal allocation of resources. Despite concerted government actions to raise and maintain awareness of hazards and threats, there are significant divergences between experts' understanding of risks and the general public's perception of risks. Few countries find that risk communication efforts fully achieve their desired objectives, yet many countries continue to use the same techniques that have failed them in past, in the hope that the target audience will pay more attention. There is value and opportunity, therefore, to identify novel practices and techniques of effective risk communication practices across similarly situated countries and to test hypotheses for policy transfer.

8. EU as well as OECD Recommendations make risk communication a key priority for improving future risk management. The EU Council Conclusions from 13-14 December 2011 on risk, emergency and crisis communication<sup>1</sup> emphasises the need for risk communication to enable citizens to recognise risks and take subsequent actions that reduce their potential exposure. The Recommendation recognises the importance of interaction and coordination among public authorities, international organisations, NGOs, citizens, the media, businesses and citizens' associations, including trade unions, to make risk communication effective. Finally, the Conclusions acknowledge the usefulness and importance of new communication technologies and interactive information channels such as social media as instruments to be considered in risk communication strategies, taking into account cultural, social, linguistic, economic, risk and technical conditions in different countries and localities. The OECD Council Recommendation on Governance of Critical Risks recommends "a whole-of-society approach to risk communication and facilitate transboundary co-operation using risk registries, media and other public communications on critical risks" and proposes a two-way communication between government and stakeholders, combining targeted communication with the provision of incentives and tools for stakeholders to invest in resilience measures.

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<sup>1</sup> [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/jha/126887.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/jha/126887.pdf).

9. This paper proposes an analytical framework for the comparison of risk communication policies and practices among the EU Member States, based on the OECD Council Recommendation and the EU Council Conclusions on an integrated approach to more effective risk, emergency and crisis communication of 13-14 December 2011. It first provides a brief introduction to the understanding and delineation of risk communication, followed by an outline of the OECD approach to risk management guiding the present work. A draft analytical framework is proposed for discussion, based on which a survey instrument will be developed at a later stage.

## **1. The selected approach to frame risk communication for the purpose of the framework**

10. Risk communication entails 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). Risk communication is vital before a hazardous event occurs, to inform citizens and businesses about their potential exposure and to encourage investments in precautionary measures that avoid, reduce or transfer these risks. It is to be distinguished from emergency and crisis communication which directs the recipient of a message or information toward specific actions once an event that presents risks is imminent, has already begun or has just occurred. Finally, communication is important 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 and emergency and crisis communication exist, there are significant differences in scope, objective, timing and surrounding circumstances between the two. This policy framework will thus focus only on risk communication, but will also explore, where relevant, the linkages with crisis and emergency communication with a view to achieving an integrated approach.

11. Communicating risks is fundamental to risk management. It enables stakeholders to manage risks 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 process of identification and assessment of existing hazards and threats and related vulnerabilities is the crucial point of departure. Communicating about the identified risks that have been assessed is the key to assisting stakeholders in understanding the rationale of such assessment results and risk management decisions, and to help them reflect and put this information in relation to their own interests and values (OECD, 2003).

12. When risk communication transmits expert knowledge to the public, differences between public perceptions and expert judgement may come into play. The one-way transfer of hazard and threat related information and its management has given way in many countries to a more interactive, two-way exchange of related information, knowledge, attitudes and values. The interactive approach brings together the public and directly or indirectly impacted stakeholders with 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, to empower and reassure the public, and to help build trust in government and in the information it provides (Höppner et al, 2010).

## **2. Existing relevant approaches defining best practices for risk communication**

13. The proposed framework will start from the reference point of the OECD recommendation for the governance of critical risks. It will also draw as necessary on existing European references.

### ***2.1. Risk communication in the OECD Recommendation***

14. The Third Principle of the OECD recommendation, calls on government to “raise awareness of critical risks to mobilise households, businesses and international stakeholders, and foster investment in risk prevention and mitigation. While this Recommendation addresses risk

communication explicitly, all five recommendations contain elements that have to be considered in a comprehensive policy framework for risk communication. Table 1 summarises all the key notions and potential linkages between each of the draft Recommendation related to risk communication, while Box 1 outlines the direct recommendation for risk communication of the Third Principles.

**Table 1. Key notions and potential linkages between each pillar and risk communication**

Recommendation	Main focus	Key notions/ and potential linkages related to risk communication
I	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>
II	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>
III	Awareness & prevention	<ul style="list-style-type: none"> <li>• This Recommendation develops specifically the notion of risk communication - see Box 1 below.</li> </ul>
IV	Crisis management	<ul style="list-style-type: none"> <li>• Awareness on 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, symbols)</li> </ul>
V	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>

**Box 1. OECD Recommendation on raising awareness of exposure to risks and facilitating cooperation**

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

i) a 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;

ii) 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;

iii) 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;

iv) 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.

15. The Third recommendation sets out a set of 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-ways 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. It allows *inter alia* to engage more actively the stakeholders in risk reduction efforts, to collect more broad information about risks and to evaluate the efficiency of risk communication tools through feedback loops.
- *Accuracy and trust*: risk communication should be based on the best available knowledge on hazards, threats and vulnerabilities. Full transparency about the level of accuracy is necessary 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.
- *Adaptation to audience*: dedicated risk communication should target specific segments of society, from national to local levels, vulnerable groups, children and elderly, communities, and non-residents (e.g., tourists) in ways that are adapted to both their cognitive capacities and their specific exposure or vulnerabilities.
- *Cross-sectoral and transboundary*: 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. Consistency across regional and/or national borders to communicate about risks should also be addressed; both for cross-border hazards and also to ensure that investors, travellers, tourists and other stakeholders can understand risk information in other countries.

***EU Council Conclusions on an integrated approach to more effective risk, emergency and crisis communication***

16. Risk Communication plays an important role in EU Council Conclusions which are important for EU/OECD countries, which represent approximately half of OECD Membership. At European level, the EU Council Conclusions emphasise the importance of risk communication for civil protection, with the goal to make 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, and limiting the consequences of emergencies. The key emphasis of the EU Council Conclusions lies on:

- Recognising the importance of an integrated approach to risk, emergency and crisis communication, that entails the interaction and coordination between risk management actors, including public authorities, international organisations, NGOs, citizens, the media, businesses and citizens' associations, including 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, whereby this **information should be given on a timely basis, convey transparently and consistently and circulated in a proper and balanced way**. The Conclusions thereby also recognise the need to tailor such information to local conditions, as well as to make it accessible and understandable to people from other cultures (such as travellers) exposed to local level threats.

- The recognition of new channels of information as an opportunity for improving risk communication: conventional communication channels can be complemented by 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 tools for new ways of communicating about risks, cooperation 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.

17. The EU Council Conclusions also point to 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.

18. The Conclusions demonstrate that the **objectives of risk communication** can be diverse and consequently that 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, that is what to do, by recommending precise and dedicated approaches.

### *Synthesis*

19. Overall, the goal was here to present the two potential international approaches to risk communication, with a view to offer a broad and synthetic framework, which would be policy relevant and best match country priorities. The two approaches appear to be quite compatible and will be synthesised in the framework outlined in the following section of the paper.

### **3. Proposed risk communication policy framework**

20. The ultimate objective of the proposed work is to assess policy practices across a set of OECD countries, including EU/OECD countries, on risk communication so as to inform and recommend better risk communication policies. The framework for analysis draws on the OECD Principles on the Governance of Critical Risks and on the EU Council Conclusions on an integrated approach to more effective risk, emergency and crisis communication. The draft framework presented in table 2 follows from these broad principles and also benefitted from a thorough analysis of the existing literature.

21. It is proposed to develop a survey instrument to analyse current practices, which can be derived from the framework, after a discussion with participating countries. The objective of the framework is to enable a relevant and forward-looking analysis of good practices in risk communication.

22. Delegates are invited to comment on the scope, relevance and focus of the framework so that it can facilitate meaningful and policy relevant analysis.

**Table 2. Proposed analytical framework for assessing risk communication practices**

Elements of risk communication	Description	Questions for assessment
<b>Actors</b>	<ul style="list-style-type: none"> <li>• national government</li> <li>• local government</li> <li>• elected officials at national and local levels</li> <li>• other public agencies</li> <li>• international organisations</li> <li>• scientists and experts</li> <li>• industry, private sector</li> <li>• trade unions</li> <li>• critical infrastructure providers</li> <li>• NGO's and voluntary organisations</li> <li>• exposed-affected public</li> <li>• local communities</li> <li>• vulnerable groups (incl. people with disabilities)</li> <li>• general public</li> <li>• mass media</li> </ul>	<ul style="list-style-type: none"> <li>• Who are the main actors with responsibility for risk communication?</li> <li>• How are responsibilities shared and organized among the key actors for communicating about risks to the public at local, regional and national level?</li> <li>• What are the responsibilities of the private sector in terms of risk communication? Are there special responsibilities for critical infrastructure providers?</li> <li>• How is communication organized in small settings, among individuals, groups and local communities?</li> <li>• What are the key processes for exchanging information and communicating across major public and private institutions ?</li> </ul>
<b>Risk Types</b>	<ul style="list-style-type: none"> <li>• Hazard-specific</li> <li>• All-hazard approaches</li> <li>• Complex risk</li> </ul>	<ul style="list-style-type: none"> <li>• Is there an all-hazard and threat approach to risk communication or are there specificities for risk communication pertaining to specific hazards?</li> <li>• How are the notions of complexity and cascading effects conveyed in risk communication effectively?</li> </ul>
<b>Purposes</b>	<ul style="list-style-type: none"> <li>• Raise public awareness about hazards and risks/enhance knowledge through education and training</li> <li>• Encourage protective behaviour</li> <li>• Inform to promote the acceptance of risk management measures</li> <li>• Inform on how to behave during hazardous events</li> <li>• Warn of and trigger actions in response to imminent and current events</li> <li>• Reassure the audience, improve relationships (build trust, cooperation, networks),</li> <li>• Enable mutual dialogue and understanding</li> <li>• Involve actors in decision making. It is a means to promote capacity development at the individual, group, community and organisational level.</li> </ul>	<ul style="list-style-type: none"> <li>• How is communication organized ? Does it focus on the existing risks, and/ or the potential measures to prepare or prevent?</li> <li>• What is the scope of communication? Is it limited to simply informing or does it engage in actions and in providing guidance?</li> <li>• Is the communication aimed at improving confidence and trust? How is it organized to reach this goal and what are the results?</li> <li>• How are actors involved in framing the communication and in the communication process?</li> <li>• Is the risk communication accessible to vulnerable groups</li> </ul>
<b>Modes and channels</b>	<ul style="list-style-type: none"> <li>• written (newspaper, letter, reports),</li> <li>• verbal (lectures, storytelling, conversation)</li> <li>• non-verbal/visual (gestures, body language, sign language, facial expressions, graphics, movies).</li> <li>• one- or two-way</li> <li>• direct (face-to-face: for example, meetings, focus groups, lectures) or mediated/indirect (letters, reports, telephone, videoconferences or if larger audience, brochures, leaflets booklets mass media and social marketing)</li> <li>• conventional and interactive media (such as social media)</li> <li>• information networks</li> </ul>	<ul style="list-style-type: none"> <li>• How is the communication delivered?</li> <li>• Does the communication flow only one or two-ways? If it flows two-ways, how exactly does this take place?</li> <li>• Is the chosen communication channel direct or indirect?</li> <li>• Is it done through conventional and/or interactive media (such as social networks)?</li> <li>• What are the barriers to the communication?</li> <li>• What is the role of the social media in the communication strategy and how are they mobilised?</li> </ul>

<b>Tools</b>	<ul style="list-style-type: none"> <li>• “quiet witnesses” (e.g., marking historical disaster events in a visible way)</li> <li>• objects that indicate the areal extension of past hazardous event</li> <li>• information boards next to eye-catching structural measures</li> <li>• Use of modern technologies, incl. satellite-based technologies and systems utilizing space-driven geospatial information</li> <li>• Use of digital content and tools</li> <li>• Integrating behavioural science findings</li> </ul>	<ul style="list-style-type: none"> <li>• What kinds of tools are used to communicate?</li> <li>• What is the role for modern technologies, including mobile based content and apps?</li> <li>• What is the role for behavioural science and psychological experiments?</li> <li>• Are digital content and tools utilized?</li> <li>• How are the tools organised to facilitate citizen-centered communication?</li> </ul>
<b>Message</b>	<ul style="list-style-type: none"> <li>• Must be honest, comprehensive</li> <li>• should include what is known, but also unknown;</li> <li>• language is differently understood by different stakeholders (such as 100 year return of flood);</li> <li>• language should motivate attitude and behaviour change, instead of provoking fear, stress, and powerlessness;</li> <li>• Consideration of the prevailing cultural, social, linguistic, risk economic and technical conditions</li> <li>• Be accessible to different audiences and target groups, including vulnerable people (e.g. people with disabilities)</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• How are communication messages framed?</li> <li>• Are communication messages adapted to different audiences, languages?</li> <li>• How do they take account of prevailing conditions in various areas of the country?</li> <li>• Are they accessible to the different audiences and target groups, including vulnerable groups (e.g. people with disabilities)</li> <li>• What do the messages entail?</li> <li>• Does it address trans boundary risks?</li> </ul>
<b>Governance</b>	<p>Good governance based on:</p> <ul style="list-style-type: none"> <li>• openness and transparency;</li> <li>• involvement (engagement in decision processes);</li> <li>• proportionality and consistency;</li> <li>• evidence (basing decisions on evidence);</li> <li>• responsibility (allocating responsibility for risk management appropriately)</li> <li>• efficiency of information flow</li> <li>• Integrated approach for risk, crisis and emergency communication</li> </ul>	<ul style="list-style-type: none"> <li>• How is risk communication made open and transparent? Is it consistent and based on evidence?</li> <li>• How efficient is the information flow? Are there any studies to assess the impact?</li> <li>• Is there an integrated approach to risk, crisis and emergency communication?</li> </ul>

Source: adapted from Höppner et al (2010)

**Table 3. Risk communication good practice examples and characteristics**

Good practice examples	Communication from....	....to	General Objectives	Mode/Channel/ Tool/Technology	Governance
<b>Risk Communication at the supranational level</b>					
In 2009 2% of all tweets made globally made some reference to the 2009 influenza pandemic.	Global Citizens	Global Citizens Governments Health Sector Officials	<ul style="list-style-type: none"> <li>raise public awareness about imminent hazard and risks</li> </ul>	Twitter	Two-way, open, transparent
<b>Risk communication at the national level</b>					
The National Risk Register in the United Kingdom alerts the public to the types of events the government considers to be the highest actual risk to incite the public to take measures to increase its own resilience.	Center of Government Dedicated Ministry Sectoral Ministry National agency	Sectoral ministries Local governments Local communities Citizens Companies NGOs	<ul style="list-style-type: none"> <li>inform the public about risks</li> <li>increase awareness</li> <li>incite to take actions</li> <li>increase public trust in government</li> <li>facilitate inform debate</li> </ul>	National risk register Public debate National risk atlas and mapping Social media	1 or 2-way, open, transparent, regular update
<b>Risk communication at the local (regional) level</b>					
In the aftermath of the 2009 Haiti earthquake, Ushahidi, an open-source tool for crowd-sourcing, was used to inform people where aid would be delivered and where aftershocks were reported.	National government vice versa	communities and	<ul style="list-style-type: none"> <li>inform about imminent threats</li> <li>inform about government support</li> </ul>	SMS, email, web information visualised on interactive map or timeline	Two-way, open, transparent
In Japan municipalities are obliged to disseminate hazard maps to the public that also indicate evacuation routes to be taken and anticipated safe meeting points. In many municipalities, these maps are established in a participatory process.	Local government	Citizens	<ul style="list-style-type: none"> <li>inform the public about risks</li> <li>inform about emergency preparedness measures</li> <li>increase awareness</li> </ul>	Risk mapping Public debate	Two-way, open, transparent
In Italy pamphlets are widely used to inform about local hazards: IGratteri city distributes pamphlets that demarcate detailed fire hazard zones and instructions for what to do in case of a wildfire. The city of Portici pamphlets inform about the risk of an eruption of Vesuvius, including likely lava flows and evacuation routes.	Local government	Citizens and businesses	<ul style="list-style-type: none"> <li>inform the public about risks</li> <li>inform about emergency preparedness measures</li> <li>increase awareness</li> </ul>	Pamphlets	One-way

Good practice examples	Communication from....	...to	General Objectives	Mode/Channel/ Tool/Technology	Governance
In France, a Risk Prevention Plan (PPR) must be established in all municipalities that are identified as being exposed to a 'Major Risk'. The process involves in-depth consultations with various stakeholders. The risk-related information is transmitted and circulated to local, which can be consulted at the City Hall.	Local Government	Citizens and businesses	<ul style="list-style-type: none"> <li>inform the public about risks</li> <li>increase awareness</li> </ul>	PPR	Two-way, transparent, open
Since 2009, Mexican primary school programmes have integrated risk management in their curricula in history, ethics, Spanish, natural sciences, mathematics and geography. Furthermore, free books are distributed that include prevention information to each level of the primary education cycle.	Local schools	Pupils	<ul style="list-style-type: none"> <li>increase awareness among school children about disaster risks and prevention measures</li> </ul>	School curricula, books	One-way
<b>Tailored risk communication</b>					
In Japan, major companies concerned with people's safety, or assets at stake, use the municipal hazard information to ensure personal or public safety and mitigate damage in case of floods, e.g. through developing buildings' own structural measures, such as emergency impervious doors.	Businesses	Employees and suppliers	<ul style="list-style-type: none"> <li>inform employees about existing risks</li> <li>inform about preparedness measures</li> </ul>	Business internal risk communication systems	One-way
The region of Lombardy in Italy publishes pamphlets in English that are made available to non-Italian speakers who frequent the regions skiing resorts, e.g., "A Self-protection Handbook for Thunderstorms and Avalanches" and "A Guide to Bad Weather Conditions". In addition to providing outsiders with information about the types and likely locations of extreme weather conditions that can endanger their activities, they also provide practical tips on prevention and self-protection.	Regional government	Travellers and tourists	<ul style="list-style-type: none"> <li>inform about risks</li> <li>inform about prevention measures</li> </ul>	Guidebooks	One-way

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