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High Level Risk Forum

STRATEGIC CRISIS MANAGEMENT

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This report presents new context policies and practices in crisis management to support discussions of session 2 of the High Level Risk Forum on strategic crisis management.

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NOTE BY THE SECRETARIAT

1. This work was conducted as part of the OECD High-Level Risk Forum, established in 2011 to offer a venue to achieve a shared and defined vision of integrated risk management, of which inter-agency crisis management is a core component. This report draws on the discussions held at the occasion of the workshop on Inter-Agency Crisis Management organized jointly organized by the OECD and the Swiss Federal Chancellery in Geneva, Switzerland on 28 June 2012. The workshop gathered 40 participants from 12 OECD countries, academia, the private sector and international organizations to discuss the challenges that they are confronted with in crises management. The agenda, summary and key presentations at the workshop can be found there:

http://www.oecd.org/gov/riskmanagement/oecdworkshoponinter-agencycrisismanagement.htm

2. The goal of this report is to:

- Highlight the changing landscape of crisis
- Discuss and assess practices of crisis management
- Contribute to identifying good practice

3. This report identifies five topics as key cross-cutting public governance issues that crisis management policies and practices should pay attention to: an overall crisis governance framework, the role of science and expertise, leadership issues, the governance of networks, and international cooperation. International exchange of experiences among governments and the development of common approaches is the aim of the High Level Risk Forum of the OECD. As developing principles on risk management is one of the Forum's objectives, these five areas could feed into the development of principles on crisis management.

4. The establishment of a network of inter-agency crisis managers under the auspices of the OECD High-Level Risk Forum and the Swiss Federal Chancellery will further develop these exchanges of good practices. Developing a knowledge hub on crisis management and expanding its reflections to international cooperation to support crisis management are options for further work of this network.

5. Delegates are invited to COMMENT on the draft report, and in particular ASSESS the relevance of the policy conclusions.

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1. Background

6. Governments are confronted with an increasing number of crises, often consisting of new threats and/ or spreading beyond national borders and creating significant economic knock-on effects. The OECD report on *Future Global Shocks* highlights the vulnerabilities of our interconnected, global economy. In the wake of the financial and fiscal crises, global leaders are acutely aware that further systemic shocks could severely challenge economic recovery, social cohesion and even political stability. Governments are always at the forefront of efforts to manage these disruptive events, and citizens' trust in government is directly impacted by how swiftly and efficiently they perform in this essential responsibility.

7. The complexities of modern crises often require the involvement of many actors above and beyond emergency services, and this implies effective coordination for a successful outcome. The need for coordination also raises significant public governance challenges, as crisis management functions are often exercised at sub-national levels, but coordinated at the centres of governments. The capacity to coordinate crisis management is a fundamental element of good governance, as it tests governments' capacity to provide the appropriate responses at the right time to protect their citizens and businesses and mitigate the impact of disasters. Ensuring that national authorities have the right tools and institutional framework for coordinated action is critical.

8. Most OECD governments have taken these evolutions of the risk and crisis landscape into consideration, and crisis management systems have seen reforms over the last decade to adapt to this new context. Meanwhile, these evolutions are continuous and crisis novelty is challenging even the most recent and robust systems.

9. The focus of this report is to highlight the changing landscape of crises that governments are confronted with and how this requires governments to adapt their approaches, capacities and tools in various areas of crisis management toward more flexibility. The different approaches and practices in dealing with traditional crisis and novel crisis are discussed. How to implement these changes while maintaining capacities to deal with more classic crisis is the key question.

2. New crisis are calling for new and innovative crisis management responses

2.1 New nature of crisis

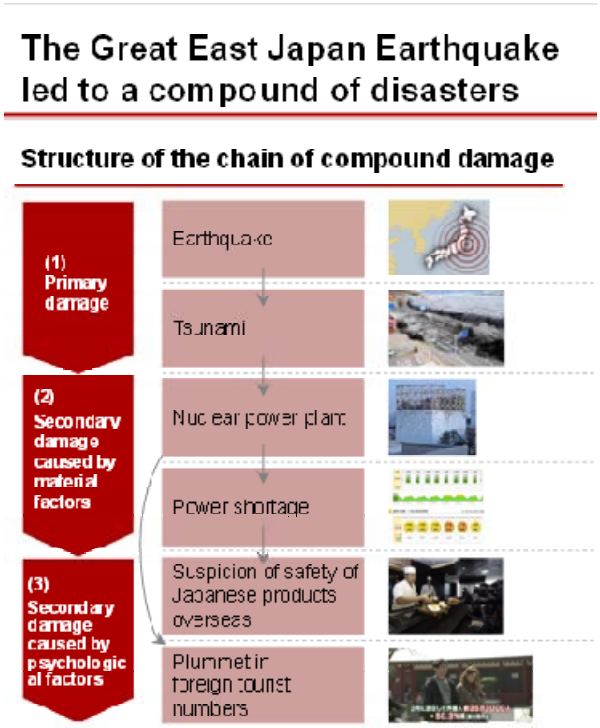
10. Recent crises have challenged political leadership and risk managers in many countries, often due to unexpected or unforeseen circumstances, but also due to unprepared weak links and breakdowns in information flow. Examples include the 9/11 attacks, the SARS and H1N1 pandemic outbreaks, the Indian Ocean tsunami, Hurricane Katrina, the ash cloud over Europe or the Great East Japan Earthquake , in which the tsunami and nuclear accident resulted in cascade effects (Figure 1) for which risk managers, processes and structures were unprepared to deal with crisis of a changing nature.

11. These crises differ significantly from the past in several respects:

- their unexpectedly large scale,
- the fact that they are new or unprecedented – at least in human or crisis managers' memories – or their unusual combination (D. Lenoard),
- their trans-boundary nature (Ansell, Boin, Keller, 2010). A trans-boundary crisis spreads across geographic borders (between nations, States or other local authorities) and/or policy boundaries (between administrations, sectors, public-private etc). These crises bring deep uncertainties and

challenge government structures, playing-up tensions between many stakeholders in the public and private sectors.

Figure 1. Cascading effects of the Great East Japan Earthquake



Source: Government of Japan

12. These trans-boundary effects can expand to become what OECD characterized as a global shock in its report '*Future Global Shocks'*. A global shock is defined by OECD as a rapid onset event with severely disruptive consequences covering at least two continents. This concept takes also account of another pattern of novel crisis: cascading risks that become active threats as they spread across global systems, whether these arise in health, climate, social or financial systems. Traditional crisis can become trans-boundary and even global shocks as they develop at a later stage through non-linear processes.

2.2 Increased vulnerabilities of modern societies

13. These various characterizations of a new crisis landscape reflect the idea that the 21st century is likely to witness increasingly damaging and costly shocks. Exposure and vulnerability of our societies are increasing along with their complexity and inter-connectiveness while new or different threats also emerge and spread more quickly through spill-over or amplifier effects.

14. *Future Global Shocks* identified key macro drivers that augment vulnerability and amplify consequences of more classic crises. The heightened mobility within our global world facilitates the spread of risk carriers or vectors, such as viruses or terrorists. Globalization has also led to an increased interdependency of production and delivery systems and their infrastructure as well as to centralization and concentration of critical systems. Supply chains and critical networks of vital services are more and more global thus exposed to many hazards and threats, they are also vulnerable, interdependent and our societies and economies are increasingly relying on them for their daily functioning and operations. A crisis affecting one node of such a system might affect the whole and have large-scale cascading impacts.

Urbanization and concentration of populations and assets further exacerbates vulnerability by creating hot-spots for catastrophic events with huge potential for direct losses, as well as attractive targets for nefarious attacks.

15. The characteristics of hazards and threats are changing as well. An increase in the frequency and severity of extreme weather events may accompany climate change, and sea-level rise will endanger coastlines where most of the megacities are developing. New infectious diseases are appearing regularly and spreading more quickly with increased mobility of economic activities. Terrorism and other intentional acts are taking new forms as their agents are adapting their ways of operating within this new landscape.

2.3 Changing roles of governments and increased demand from citizens and the media

16. In addition to the emergence of new threats and vulnerabilities, elements to consider in the changing paradigm for crisis managers relate to the evolution of governments. While crisis management will always remain one of their fundamental roles, the wave of privatization and decentralization has reduced overall capacities in many governments to take direct actions to prevent or mitigate risks in sectors that are critical for the well-functioning of societies, such as utilities and infrastructure.

17. Crisis managers need to adapt their approaches to deal with a variety of different stakeholders which all have different interests, priorities, logics and values. Critical infrastructure in many OECD countries is largely operated by the private sector. Citizens also tend to organize themselves to respond to crisis through Civil and Non Governmental Organizations (NGOs) adding new players to the field who expect to be consulted during preparations and leveraged during operations.

18. In the meantime, government openness and transparency, constant scrutiny by the media and widespread dissemination of information on-line and through social media put governments and their decision-makers under constant pressure. This pressure is all the more acute when a crisis occurs: citizens' expectations are at the highest due to the emotional nature of a crisis. They demand more transparency, responsibility and high standards of ethics from their governments who need to react almost instantly to any crisis or risk a political backlash amid criticism of unresponsiveness.

2.4 A changing landscape for risk managers

19. Taking the abovementioned trends together paints a picture of global complexity that challenges risk managers, especially at the level of centres of governments. This changing landscape requires governments to adapt their processes, capacities, structures and tools to manage disruptive events of a new form. Challenges risk managers are confronted with stakes that can be summarized as follows:

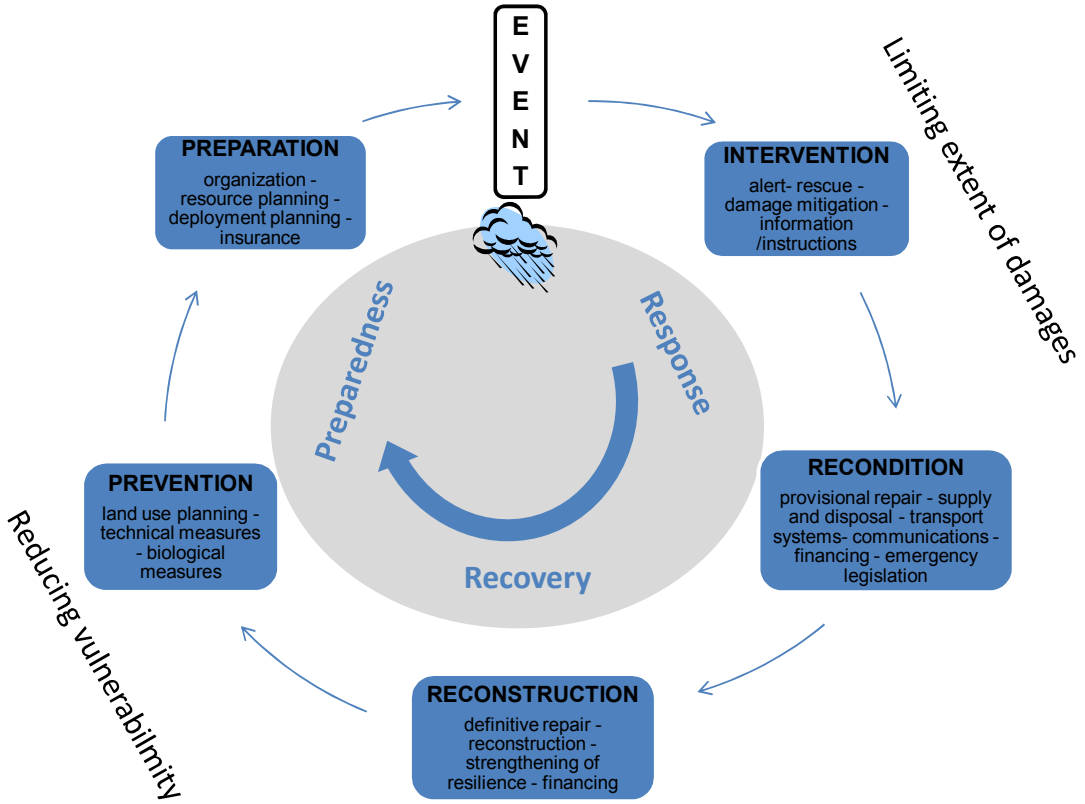
- Dealing with the unknown
- Dealing with other administrative levels and / or other countries and / or international organizations
- Fewer capabilities of central government due to decentralization and / or privatization
- New actors with different logics: private sector, NGOs/Civil Society Organizations (CSOs)
- Constantly on the look of the media and citizens through social media
- Higher demand and expectations of the citizens

20. Meanwhile, governments need to maintain their capacities to deal with more classical crises as they have done in the past. The innovations required to adapt to new features of crises and societies are a complement to existing capacities, and can be built on them.

3. Managing crises remains at the core of government's roles in risk management

21. Disaster risk management has often focused on planning the organization of emergency responses after disruptive events occur. Progress in science, technology and information management in the last decades has led to better understanding of exposures of the built environment to hazards and threats, and vulnerabilities of populations, economic assets and environmental resources. This has enabled risk management to expand its scope to a more comprehensive and strategic approach incorporating prevention policies and mitigation programmes to reduce exposure and vulnerability. The adoption of the Hyogo Framework for Action 2005-2015 (HFA) by 168 countries during the Second United Nations World Conference on Disaster Risk Reduction (2005, Kobe, Japan), emphasized this broadening scope of risk management from emergency response to encompass prevention and mitigation. Ultimately, what is referred to in many countries as the risk management cycle also includes early recovery and reconstruction as well as feedback mechanisms to incorporate lesson learned after a crisis or disaster (Figure 2).

Figure 2. Risk Management Cycle



Source: OCDE

22. The economic argument for governments to invest more in disaster risk prevention is that a net gain could be achieved, when compared to sums spent on recovery and reconstruction after a disaster. Long-term investments in prevention have shown in many cases to provide significant positive return (World Bank, 2011). These efforts to build and develop more robust societies and economies are

fundamental, but crises continue to occur and are even frequent. Countries that have invested heavily in prevention through the development of protective infrastructure, early-warning systems, regulations on land use or building codes still experience major disasters, which highlights the continued importance of crisis management capacities. The Great East Japan Earthquake in 2011 and Hurricane Sandy on the east coast of the United States are two recent examples.

23. More recently, the policy research community working on government preparation for large scale risks has promoted the concept of resilience, derived from ecology and based on the notion of ecosystems. Applied to risk management, resilience is "the ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions (UNISDR, 2009)". Resilience insists on continuity for all different kinds of systems and communities. Building the resilience of societies is consistent with investment in prevention and preparedness as well as with enhancing crisis management capacities. Promoting the concept of resilience is a powerful driver for self-organizing risk and crisis management capacities at many different levels. The concept of business continuity epitomizes the concept of resilience applied to a company or a service, including public services. Business continuity ensures businesses can continue to perform their core functions during crisis, even at a reduced scale, and recover as quickly as possible.

24. Governments have a crucial role to play to strengthen resilience of their populations and critical infrastructure networks. While the promotion of the concept of resilient communities and systems at all levels can be addressed through regulation and is reflected in national policy of some countries, governments remain the ultimate warranty when capacities of resilience are disrupted at any level. In the eyes of the citizens, governments must provide crisis management and are held accountable in the end if they do not. Countries, especially industrialized and emerging economies that are essential hubs of the global economy, require exchange of practices and experience from others to improve in an area that remains part of their fundamental role.

4. Crisis management: traditional approach vs. dealing with novelty

4.1 Crisis management frameworks and concepts

25. Crisis management comprises various phases: preparedness before crisis, response to limit damages during the crisis and feedback after the crisis to improve the overall process.

26. Before a crisis, preparedness consists in developing knowledge and capacities to effectively anticipate, respond and recover from a crisis. *Risk assessment* constitutes the fundamental first step in preparedness: preparing for crisis requires identifying and analyzing major threats, hazards and related vulnerabilities. *Early warning systems* based on the detection of these threats serve to activate pre-defined *emergency or contingency plans*. Stockpiling, maintaining equipment and supplies, *training and exercising* emergency response forces and related coordination mechanisms through regular drills all contribute toward preparedness. Appropriate *institutional structures*, clear *mandates* supported by comprehensive *policies and legislation* and *allocation of resources* for all these capacities through regular budgets are also instrumental for thorough preparedness to crisis.

27. Once a crisis actually materializes, the response phase begins. While the *detection* of a crisis may come about through various sources (e.g. monitoring networks and early-warning systems, public authorities, citizens, media, private sector, etc.) and build-up over time or happen suddenly, monitoring its development to make sense of its characteristics and ascertain the *operational picture* requires an appropriate intelligence organization. This operational picture permits the selection of appropriate *contingency plans* and *activation* of appropriate emergency response networks. These response efforts need

to be *coordinated, monitored* and *adapted* as the crisis develops through the tactical and strategic oversights of *crisis cells* at the appropriate levels. *Standard Operating Procedures* should govern operations and coordination and include information-sharing and communication protocols as well as scaling-up mechanisms to mobilize additional emergency response means. In addition to ensuring cooperation and exerting decision-making, leadership plays a key role in *crisis communication*. Communicating with the media and the general public to provide sense, to maintain trust in the action of the emergency responders and the government and to transmit specific messages is an essential function of leaders during crisis.

28. Ultimately, crisis usually comes to a closure, ending the crisis management phase. Bringing a crisis to closure requires clear messages. After a crisis, feedback mechanisms should review in detail the actions taken to limit damages. Drawing lessons from past crisis or disastrous events helps improving preparedness and response processes.

29. This brief overview of crisis management concepts provides the basis to review how its various phases, processes and tools are challenged and need to adapt to the changing nature of crisis.

4.2 Crisis Preparedness: planning scenarios vs. preparing for the unknown

30. Preparing for crisis has traditionally consisted in developing capacities and tools to prepare for crises that occurred in the past. Preparing for the new landscape of crises requires adapting approaches that enable preparation for response to the unknown.

4.2.1 Risk assessment: sectoral analysis based on historical events vs. national risk assessment

31. Risk knowledge is the foundation of crisis and emergency preparedness. Analyzing hazards, threats and vulnerabilities through risk assessment allows planning for response. Risk assessment approaches and methodologies can hardly be decoupled from their purpose: while risk assessment for traditional crisis aims at developing emergency response plans, novel or trans-boundary crisis need more flexible and adaptable capacities to respond, and thus implies a more holistic and dynamic approach to risk assessment.

32. Traditionally, sectoral risk assessments were conducted for natural hazards, pandemics, industrial accidents or terrorist attacks to identify at the local level the number of potentially affected people that would require emergency support, the number of vaccine doses or hospitals beds required for pandemics, safe evacuation roads in case of a hurricane or a flood, or containment measures if a NBRC attack would diffuse chemical or radiological elements in a city or a network. Conducting such analysis requires combining information from technical agencies on the hazards and the threats as well as on the exposure of population, settlements and critical infrastructures and their vulnerability. In addition, siloed approaches have long time been predominant, with health services focusing on pandemics, meteorological services focusing on weather, hydrological services on water, geological services on earthquakes, and intelligence services on terrorism to name a few. Most of these analyses were based on historical events.

33. Hazard and threat information needs to be made available to local authorities and emergency services at the local level so that they can develop emergency plans. Availability of data and information to conduct risk assessments and mapping has been growing along with the development of monitoring networks, databases and archives, as well as modelling and mapping tools. Institutional frameworks have helped to guarantee availability and sharing of such information down to the local level, as well as technical guidance to realize such assessments and mapping. Guidelines should provide details about what exactly local emergency services should prepare for, where available information is to be found, and point to agreed methodologies and standards. Ultimately, at the national level, this information could be usefully

combined to develop national plans and additional supportive capacities for large-scale emergencies, but the use of the sectoral and scattered approach remains prominent. Efforts to further integrate risk assessment and mapping for emergency preparedness nevertheless exist through the use of new technologies and mapping tools. In Mexico for instance the SAVER tool is a multi-agency approach to map risks and develop scenarios for emergency response planning (Box 1).

Box 1. The System for the Analysis and Visualisation of Risk Scenarions (SAVER) in Mexico

Developed in 2010, the System for the Analysis and Visualization of Risk Scenarios (SAVER) reflects the efforts of the civil protection authorities in Mexico to include risk scenarios information in emergency preparedness. The system integrates risk maps and geo-referenced information on vulnerability of hospitals, schools, public infrastructure and population vulnerability in one single database. Currently, its capacity to create risk scenarios is one of its most important characteristics. SAVER is the result of a horizontal and vertical coordination effort in the country. Ministries like the Ministry of Social Development, the Ministry of Communications and Transport and the Ministry of Public Education have provided valuable data and information on their infrastructure in order to feed the system´s database. Currently, the system comprises 700 hazard layers and socio-economical and vulnerability data. In 2011, the development of SAVER 2.0 increased its capacities, allowing parties to provide input to the database online. Public entities in charge of social, territorial and human development have been able to use the system for decision making. The system provides them with information on potential damages and what populations may be affected based on disasters´ occurrence records. In its next version, SAVER 3.0, the objective of the system is to integrate the totality of the 32 state risk maps.

Source : National Disaster Prevention Center of Mexico (CENAPRED)

34. Dealing with novelty and trans-boundary crisis calls for a more holistic approach to risk assessment at national level. Ideally such approach should address the following challenges:

- **developing a broader and shared view on risks** at national level through a multi-hazard / multi-threat approach and including new and emerging potential threats and vulnerabilities through frequent updates and a horizon time-scale. Tracking complexities, identifying potential cascading effects and tipping points should also be part of the analysis.

- **sharing this risk assessment widely** to all different stakeholders that can be involved or play a role in emergency response (i.e. national to local emergency forces, health agencies, police and security forces, critical infrastructures operators, NGOs and volunteer organizations, media and the public at large, and at the international level with neighbouring countries).

35. Both these challenges require significant cooperation among different disciplines and stakeholders. Science, intelligence and expertise need to combine their data, information and knowledge to scope together emerging risks and threats as well as to provide all the information needed to conduct analysis. And governmental agencies, local authorities, NGOs, the private sector and the society at large need to digest the result of this risk assessment to integrate it into their preparedness strategies at all levels. An appropriate national authority has to lead such process to ensure coordination and cooperation through an integrative partnership.

36. More recently, a new national risk assessment approach emerged to address these challenges and an increasing number of OECD countries are adopting it (Box 2). With the aim to develop national capabilities based planning for emergency response in a resource constrained environment, the idea of national risk assessment is to evaluate threats and risks at national level through a multi-hazard approach, with common criteria to assess potential impacts as well as likelihood of each identified risk. The result is a risk matrix, which allows ranking major risks and threats that could affect a country and plan resources

accordingly. The United Kingdom has been a pioneer in this area with its national risk register (unclassified version of the National Risk Assessment) being publicly available since 2008. Norway, Switzerland, Canada, the United States and the Netherlands have adopted similar approaches, and France, Germany and Sweden are advanced in their efforts to develop one.

Box 2. The National Risk Assessment of the Netherlands

Since 2007, the Netherlands National Safety and Security Strategy has promoted a holistic approach to risk management. It has determined five vital areas for the country which are territorial, physical, economic and ecological safety and social and political stability. The main objective of the Netherlands National Risk Assessment (NRA) is to define priority risks the Netherlands should prepare for and plan capacity development accordingly. The NRA consists in two parts. The analysis part is managed by a network of independent experts who operate under the leadership of the steering committee of the National Security, composed of ministries, businesses and intelligence services. In a second time, groups composed of ministries and experts, proceed to the analysis of capabilities in order to prevent and mitigate them. The NRA method is scenario-based. Risk scenarios are assigned scores for their likelihood and impacts according to 10 criteria related to vital safety and security interests. The results are given according to low and high estimates. The impact assessment permits to determine capabilities needed for each type of risk; in this way high estimates contribute to the development of resilience capacities and preparedness. The NRA makes estimates for a 5-year period. However, analyses and capabilities can be reassessed frequently by the expert groups according to new information or a new context. A report regarding risks is sent each year to the parliament; it is also published on official websites and sent to stakeholders

Source : Dutch Ministry of Security and Justice; Ministry of Interior and Kingdom Relations (2009), *Working with scenarios, risk assessment and capabilities in the National Safety and Security Strategy of the Netherlands*, Directorate-general for Public Safety and Security

37. International cooperation in the area of risk assessment could be further developed in a variety of domains. Sharing methodologies and tools for risk assessment, developing a common view on cross-border risks, and ultimately developing common tools at the international level could increase the quality of risk assessment and potentially reduce costs. Detecting emerging risks requires significant efforts. Initiatives such as the World Economic Forum global risk report or the risk radar developed through the European Emerging Risk Radar Initiative could be leveraged to answer specific needs of national authorities confronted by this challenge.

38. Finally, it should be noted that in addition to crisis preparedness, risk assessment can inform other phases of the risk management cycle, including vulnerability reduction through long term territorial management, infrastructures and other policies, as well as disaster risk financing strategies. As such, it can constitute a fundamental tool to harmonize risk management policies and practices across its various components with an overall coherent vision on what the priorities are.

4.2.2. Emergency planning: scenario-based vs. capability-based and network building

39. Emergency planning is directly linked to risk assessment. Once risks have been identified, resources can be allocated to develop emergency response capacities and emergency plans can be developed to utilize these capacities to respond to pre-defined scenarios.

40. In most countries, emergency response capacities are spread across several agencies from the local to the national level. Disaster risk management agencies, civil protection, health services, fire-fighting units, police forces, armed forces and transportation, electricity and communication operators' emergency units can contribute capabilities to emergency response depending on the nature of the crisis and their institutional structures and mandate. Ensuring that these various organizations possess sufficient capacities (emergency centres, human resources, equipment and supplies) throughout the national territory

to respond to emergencies identified in the risk assessment process is the aim of emergency planning. The trade-off of having highly specialized expert centres or ensuring proximity of response services wherever an event might occur has to be addressed in this process. Ranking risks through the national risk assessment (NRA) facilitates resource allocation from the national governments to prepare the priority risks and related scenarios established in the NRA.

Box 3. Plan SISMO in Mexico, a good example of scenario-based emergency planning

An 8 to 9.0 magnitude earthquake in the Guerrero gap is considered the most important threat in Mexico as it could severely damage Mexico City and generate a strong tsunami as well. For this reason, a special civil protection programme for earthquakes was established by the Ministry of the Interior with a specific committee on earthquake emergency preparedness regrouping all the key stakeholders, the Army, the Navy, the state civil protection departments, academic and civil society organizations. A plan entitled 'Strategy for preparedness and response of the Federal Administration for high magnitude earthquake and tsunami' (the so-called "Plan Sismo") was published by SEGOB in 2011. Plan Sismo represents a major attempt to define more clearly what each agency should do in the case of a major earthquake. Plan Sismo consists of four directives decided by the President instructing and ordering Federal agencies to support the population to preserve the Rule of Law and the governability of the country. The plan foresees procedures that run counter the normal practice, for example the President would order the Army and Navy to activate their respective DN III Plan and Plan Marina. States and municipalities are called to activate their civil protection councils and coordinate with the Federal level. Organized around three response areas (operational, logistics, and administrative), 14 working groups are defined with their coordinating agencies and their members. This plan represents the first comprehensive emergency plan with clear coordination mechanisms. While with Plan Sismo, Mexico City is by far more prepared to a major earthquake as it was in 1985 when two temblors led to massive damages and fatalities, would such a plan be sufficient and effective in case such major disaster would happen remain questionable.

Source : Ministry of the Interior of Mexico (SEGOB)

41. Once emergency response capacities have been established, operational plans should be developed to mobilize these capacities when a crisis occurs. Contingency or emergency plans can take many different forms: plans for organizations, for specific vulnerable locations (schools, hospitals, tunnels, industries), for disaster event (floods, bioterrorist attack, earthquake) (Box 3) or plans per administrative unit (city, local authority, region, state). Most of these plans are usually scenario-based and include a series of Standard Operating Procedures (SOPs) which are automatically applied when a disaster strikes. The chain of command is described, responsibilities are defined, as are the communication protocols, and the organization and functioning of crisis cells. Coordination mechanisms among different stakeholders and scaling-up procedures in case a crisis develops beyond the coping capacities of a certain level tend to be more and more included in contingency planning. However, most plans are based on the pattern of a classic command and control system from top to bottom.

42. All these capacities and planning assumptions constitute an essential element of crisis preparedness, both for classic crisis and more uncommon events. But crisis of the XXIst century often challenge this pre-defined planning and organization. Classic preparedness indeed leads to established routine and a reduced capacity to "think out of the box". Dealing with novelty requires another level of preparedness: capacities to deal with a predefined scenario are insufficient; capabilities to deal with any kind of unprecedented and large-scale event are required.

43. As they are often unprecedented, novel crisis cannot be tackled with a comprehensive and executable plan which does not exist. Then, emergency responders need to be able to improvise and innovate. Developing capacities to adapt to and innovate in various crisis environments and building a

response network that can mobilize all the required capacities across a variety of stakeholders thus becomes a new approach in emergency preparedness and planning.

44. With novel crisis, many different stakeholders can are involved in the response, as many different sectors can be affected and different capacities may have to be mobilized. In this context, the capacities to effectively coordinate their actions and steer the whole response system with shared information and clear objectives makes the difference. Inter-agency coordination mechanisms and scaling-up procedures across levels of government and jurisdictions need to be very effective and flexible at the same time. The key to prepare for trans-boundary crisis lays in the capacity to organize a common response towards shared objectives using all necessary capacities from different organizations with different logics and practices toward solving the crisis. A strong strategic leadership is here fundamental, as is a common set of principles and values across the network to ensure that its various capabilities / capacities are mobilized to apply shared goals, objectives and priorities in time of crisis even though their fundamental logic may differ (Box 4).

Box 4. Sharing common values all along a diversified response network

The French White Paper on Defense and National Security (2008), the Netherlands National Risk Assessment (NRA) and the United States National Response Framework have all set up objectives and common values to be shared along an extensive inter-agency response network.

The French White Paper of Defense and National Security underlined the importance of new technologies and efficient communication providing that management planning has to strengthen communication as an operational dimension of emergency response. It promoted the creation of a crisis inter-ministries network to facilitate joint management and inter-operability. In this spirit, the Netherlands also adopted a bottom-up, whole of government process underlining interconnections between risks and promoting security on the agenda of public and private actors. For instance, regarding prevention, common spirit among diverse actors lies in boards such as the Cyber Security Board which permits to consider different perspectives (government, business, science) to independently advise the government. Finally, the US approach favours various scales of response through close collaboration with the private and non-profit sectors. This whole community approach permits to build relationships and learn about the complexity of the community to revel inter-dependencies. The final developed scheme is a diversified response network which is flexible and adaptable under a unified command system and shared common strategies.

Source : Ministry of Security and Justice, the Netherlands ; Ministry of Interior and Kingdom Relations (2009), Working with scenarios, risk assessment and capabilities in the National Safety and Security Strategy of the Netherlands, Directorate-general for Public Safety and Security; Présidence la République Française and Mallet, JC, (2008), Défense et Sécurité Nationale : le Livre Blanc, Editions Odile Jacob and La Documentation Française, Paris ; US Department of Homeland Security (2011), Risk Management Fundamentals, Homeland Security Risk Management Doctrine, US Department of Homeland Security, Washington

45. Emergency planning consists in building the inter-agency response network around shared values, developing and training leaders / coordinators able to coordinate and manage this network and innovate in their approach and creating common tools including crisis cells, integrated command centres and communication and information exchange systems. In addition, specific emergency units can be specifically trained to innovate, and flexibility can be introduced in the response network out of a strict hierarchical control in order to strengthen resilience of the response. Breaking the chain of command can sometimes indeed facilitate better response. Ultimately, in addition to inter-agency cooperation, international trans-boundary cooperation mechanisms can be designed to deal with cross-border and international crisis.

4.2.3. Training: testing plans and procedures vs. strategic exercises and networks building

46. Exercising and training constitutes a key task to prepare for crisis. Most emergency response agencies have dedicated structures for constant training of their staff. In many emergency response units, training and exercising is an important daily activity.

47. Training and exercising for crisis preparedness can have different purposes: training units and individuals, testing equipment and the ability of staff to deploy and use it, controlling stocks of supplies, testing all components of contingency plans from the knowledge of the detailed protocols and procedures by the staff to the plan itself. Table-top or large-scale exercises can be organized to test a specific response plan as well as its related coordination mechanisms. Feedback from training can then be utilized to improve planning.

48. As novel crises do not have predefined plans, the concept and purposes of trainings are different in that case. The two key functions of modern crisis response – leadership and network coordination – require specific training. Strategic crisis management training is meant to exercise leadership and develop this capacity among a roster of civil servants which would be able to be deployed when crises occur. Such training does not test the knowledge of protocols or protocols themselves but rather the ability to innovate, in a stressful environment where the fear factor is present. Such strategic crisis management exercises require in depth-preparation to provide a sense of reality and focus a lot on the human factor (Box 5).

Box 5. Strategic Crisis Management Exercises: examples from Germany and Switzerland

In recent years, Germany and Switzerland have developed comprehensive plans to conduct strategic crisis management exercises that test coordination, resilience, response capacities and operational continuity management in crisis situations. These national exercises follow an inter-agency and cross-disciplinary approach, including participants from all sectors and political levels, to train in plausible, realistic risk scenarios whose consequences could significantly harm the country. The exercises also focus on crisis information and communication and aim to attract the media interest to foster awareness-raising. One of the essential benefits of these exercises comes from the evaluation phase. Evaluation reports, based on expert observers' and participants' assessments, enable identification of capabilities that need to be strengthened and contribute to further development or shifts in crisis management strategies and structures. Germany established the National Strategic Crisis Management Exercise (LUKEK), which takes place every two years, with the aim to raise awareness of top government officials. The LUKEK offers training for cross-ministerial management and crisis staff and includes the participation of political authorities, relief organizations, scientific institutions and critical infrastructure operators and service providers. The entire cycle of the strategic exercise lasts 16-18 months. The exercise is intended to be as complete as possible comprising tabletop exercises to introduce the scenario to the operational staff in their normal working environment, and real-situation simulations. Following the 1993 "Regio-Kat" exercise related to earthquake crisis management, Switzerland developed 2the RHEINTAL 06 project, with the aim to check progress and compliance with the 1993 exercise's recommendations. This process of simulation exercises will be repeated every 5-7 years. The SEISMO 12 exercise of May 2012 was based on the potential occurrence of a 6.5 to 7 magnitude earthquake in the Basel Region. 1 600 people participated in this transboundary exercise developed at international level between Swiss authorities and German administration units. The crisis scenario included preparation for cascading effects such as a nuclear accident. In 2009 the evaluation report of a similar exercise organized on "long-term power failure" led the Federal Office for the Country Economic Supply to re-examine emergency planning related to general power failure.

Source : Swiss Federal Chancellery (2009), Exercice de conduite stratégique – ECS 2009 ; German Federal Office of Civil Protection and Disaster Assistance (2011), Guideline for Strategic Crisis Management Exercises

49. Strategic management training needs to be complemented by trainings and exercises dedicated to inter-agency cooperation and large network management and interaction. Planning for novel crises will require stakeholders from different backgrounds and structures to work together. While managing this wide response network from a strategic perspective is essential, the network itself must be trained to learn

how to interact. Table-top exercises among strategic crisis managers of different agencies, including large private sector organisations where interactions at different levels are needed, may help build familiarity and trust among the network. Trust, understanding of each other's capacities and approaches can only be built through regular interactions. Trainings allow networks to become more efficient as relations and exchanges grow.

50. While feedback from training in classic mode were usually crucial mostly to improve the plan or the procedures, feedback here will be mostly on better understanding other's functions, learning to define common priorities against a set of shared values and testing flexibility and the capacity to innovate. The idea is not to test the structures but rather people and their capacities to design and lead a new response organization adapted to the current threat, and to interact together.

4.2.4 Activation: Early Warning Systems triggering emergency plans vs. strategic foresight

51. Early Warning Systems (EWS) have been instrumental in reducing loss of lives and damages caused by natural hazards and other threats. Through the detection of potential risks and the information of emergency services and the population at risks, EWS allows emergency measures and plans to be activated.

Box 6. Integrated Early Warning System in Korea

Korea has adopted an integrated risk-management approach which reflects in the country's early-warning systems (EWS). These EWS monitor natural, man-made and social disasters information and are inserted in the Integrated Situation Center (ISC) which includes four sub-systems to monitor and disseminate information before and during a crisis. Through the Disaster Prevention and Meteorological Information System, the ISC monitors satellite image, radar image and contents of special weather reports. Specific monitoring systems are also established for floods, rainfalls, tsunamis, earthquakes and highways (CCTV real-time monitoring). In case of threat, alerts are emitted though the Internet, to the report centre and through the cell broadcasting service (CBS) which sends a message to citizens' cell-phones to inform them about evacuation measures. In case of emergency, the ISC acts as a disaster management control tower to support response measures in a 10 minute maximum lapse-time. Thanks to the Disaster Information Sharing System which connects 34 organizations, it proceeds to real-time disaster information collection. It also centralizes information from affiliated organizations, national and local authorities, civil protection entities, the media or affected citizens. Finally, the Disaster Management Information Data Base Center allows to obtain information on the damage status while the Central Disaster Management System provides information to manage facilities, refugees and assess damage situation.

Source : presentation by the Korean Ministry of Public Administration and Security during OECD Workshop

52. With progress in science and technology and better linkages between technical and risk management agencies, capacities to forecast, warn, and activate emergency plans have increased significantly in many countries. Tropical cyclones tracks are forecasted with a 5-day lead-time in all cyclonic basins. Floods, storms, heat waves and cold waves, most of the hydro meteorological hazards are monitored and forecasted through hydro meteorological services. Daily worldwide exchange of information among these national services is ensured through the tools and frameworks of the World Meteorological Organization. In the case of earthquakes, few systems can warn people in advance of the arrival of seismic waves when the vulnerable hot spots are located several kilometres from the active faults (Mexico city and the SAS for instance or Japan). These few seconds of warnings can be sufficient to save lives and to stop critical industries and infrastructures that would be more heavily damaged if they continued running when the disaster hits. Worldwide system for epidemiologic data and information monitoring is also ensured through the coordinated network of the World Health Organization to detect potential pandemics. Some pioneering efforts are also underway for ethnical and international conflict

EWS, as well as for the risk of terrorism where an increased level of threat as determined by intelligence service information may lead to an increase level of warning.

53. The integration of all these information into multi-hazard early-warning systems can be a key tool for government to prepare for crisis, activating plans or raising up warning levels for a certain threat (Box 6). However, the non-linear dynamics and complexity of modern crisis make them more difficult to detect. While EWS are by definition systems meant to observe specific parameters and warn when these are exceeding certain thresholds to lead to pre-defined actions, detecting novel crisis challenges such systems.

54. New strategic foresight capacities should be developed for governments to be able to detect early signs and better anticipate uncommon crisis. Horizon scanning or risk radars tools need to be designed with a wide scope to detect weak signals that could potentially turn into crisis. As for risk assessment process, expertise from different disciplines must be mobilized. The overall idea is to suggest an intelligence network that can detect emerging crisis factors (Box 7). In this respect, it is critical to develop capacities to think "out of the box" and think about innovative scenarios that could develop. The monitoring of social networks through new tools of crowd sourcing can also offer early information before crises develop. But whatever these new tools are, they will have to find ways to convince leadership when they detect a threat that certain preparedness measures should be implemented. EWS indeed demonstrated their efficiency only when they are linked to emergency preparedness and response.

Box 7. Measuring geopolitical tensions based on market forces

In 2003, the US Senate demanded the Defense Department to abandon the Defense Advanced Research Projects Agency (DARPA)'s project it has developed on Futures Markets Applied to Prediction (Future MAP). Following a similar model as existing bet markets which have proven to be accurate to predict presidential election outcomes, the Future MAP project was aimed to predict Middle East geopolitical tensions and political events on the basis of the study of 'market' forces, according to the assumption that financial markets combine the collective wisdom of investors. This policy analysis market was to involve investors betting small amounts of money that a particular event, such as terrorist attacks, assassinations or coups, would happen in the Middle East. Experts were to place bets on political and economic events; it was to begin with a limited 100 traders coming from Middle-East universities and think tanks that would get $100 each to buy and sell futures contracts based on plausible events in eight countries of the region. The themes of the bets were mostly to be related to military preparedness, civil stability, economic health, U.S. military involvement and U.S. economic investment. Denounced as a gamble on fictional scenarios of terrorism and as an economic waste, the Pentagon agreed to abandon the project.

Source : MSNBC news, *Pentagon kills 'terror futures market'*, July 29th 2003

4.3 Response: Command and Control vs. adaptative capacities

55. When the threat is clearly forecasted, or when the crisis is actually present, starts the real response phase.

4.3.1 Operational picture: Crisis development monitoring vs. sense-making

56. Getting a clear operational picture of the development of the crisis is the basis for decision-making both at operational and strategic levels. What happened, how many people are or might be affected, what are the issues at stake, how the crisis might develop, what are the means in the operational field are a series of question that leadership needs for taking decisions. Harmonized monitoring systems, situation reports from all active operational entities should be centralized and inform the crisis cell.

Information and communication systems, standard reporting protocols among the emergency response network allow easier analysis and sharing of this situation awareness (Box 8).

Box 8. USA Incident Command System

Since the 1970's, in order to manage and organize emergency response, the USA has developed Incident Command Systems (ICS) in various institutions. This scheme was reshaped in 2005, in the frame of the National Incident Management System (NIMS), to settle common competencies and behaviours for emergency management. The current ICS consists in a standardized emergency management structure implemented in Federal, State, tribal, and local governments, NGOs and the private sector to respond to demands arising from crisis situation, regardless of jurisdictional and political boundaries. Aimed at fostering interoperability and inter-agency cooperation, the ICS provides schemes for 14 management characteristics related to incident command, operations, communication, planning, logistics, finance and administration and intelligence and investigation. Management objectives and action planning are centralized in a single unity of command to prevent diverging orders and promote accountability to a unified command and reporting institution. In this way agencies are able to respond to emergencies in a cost-effective and coordinated way which permits to develop mutual objectives and strategies. At the same time, the ICS is flexible enough to be implemented for all kind, small or large, incidents. To ensure communication, the system developed a common inter-agency terminology. Moreover, information exchange is achieved thanks to Public Information Officers who are in permanent contact with the Incident Command Organization and the Safety Officer. Promoting an inter-disciplinary approach, various trainings are offered to settle ICS as well as guidelines were published for ICS to be developed for food and drug administration, healthcare and hospitals or higher education.

Source : National Incident Management System (2008), Department of Homeland Security

57. Novel crisis again are challenging classic situation monitoring. When crisis are unprecedented, there is first a need to make sense of what is going on and technical or scientific expertise is often needed to understand complex situations. Pools or rosters of national experts from different disciplines and organizations can be organized in advance so that expertise can be mobilized effectively and quickly to inform crisis management (Box 9). Trust in expert advice has to be built over time and on the expert's side, clarity in the liability attached to their advice is essential.

Box 9. UK Science Advisory Group in Emergencies (SAGE)

Effective emergency management relies on decision-makers having access to the best available advice in a timely fashion to ensure that the full range of issues and the crisis dynamics are considered. In this way, the UK has settled the Scien(SAGE which independently advises the Cabinet Office before making strategic decisions when an unprecedented crisis requires expert views. The SAGE gathers in situations which require cross government coordination, notably when the Cabinet Office, in consultation with the Prime Minister, decides to activate the Cabinet Office Briefing Room (COBR). The SAGE convenes to provide scientific and technical advice on the way the emergency can develop, on potential scenarios and their impacts. The advisory group is both flexible and scalable as its missions adapt to the nature of the incident and evolve as the emergency unfolds. Under the authority of the Government Chief Scientific Advisor, SAGE includes experts from all sectors and disciplines to analyze data, assess, review existing research or to commission new research. It can create sub-groups or liaise with devolved institutions or scientific groups and in complex emergencies it can have access to intelligence service information. To inform UK cross-government decision-making during the emergency response and the recovery phases, the SAGE submits policy option papers which outline scientific and technical solutions and their pros and cons and response scenario papers. At all stages, SAGE representatives attend the COBR to explain scientific issues. The SAGE was activated during the 2009 H1N1 influenza pandemic, the 2010 volcanic ash cloud and the 2011 Fukushima nuclear incident. It deactivates once there is no longer a need for cross-government decisions on emergency response or recovery. An evaluation process is then triggered to review the SAGE performance and identify lessons for the next gatherings.

Source : United Kingdom Cabinet Office, Civil Contingencies Secretariat, London

4.3.2 Response: Standard Operating Procedures vs. managing large response network

58. Rapid, sustainable and properly scaled deployment of emergency forces, means and supplies is expected in the crisis response phase. In many countries, emergency response is based on the principle of subsidiarity: first responders are from the local level, and they will ask for support from higher levels of governments/organizations when their coping capacities are exceeded by the crisis scale. Standard Operating Procedures are governing operations from most of the entities involved in emergency response.

59. Trans-boundary crisis requires strategic engagement from centres of government at the earliest. While scaling up procedures are often designed to respect the institutional setting and mandate of local jurisdictions, other mechanisms should be settled to allow rapid involvement of higher level of authority when a threat is detected or a crisis is forecasted. Indeed, as already described, managing a large response network of stakeholders from different backgrounds and values, requires highly professionalized emergency management leaders with sufficient authority and yet the adaptability to use the strengths of the various responders in a coordinated network. Trade-offs between emergency response at the local level and strategic engagement at the national level should be clearly addressed through clear institutional and legal frameworks.

60. As the crisis develops, decisions often have to be made while their consequences are not always clearly weighed as many factors remain unknown. Processes to facilitate such difficult decision-making have to be established. Crisis cells should for instance be designed with emergency decision-making process in mind. Developing consensus among the various stakeholders involved in a situation room requires that information is shared with full transparency, as well as common values among them (Box 10).

Box 10. Italy Civil Protection Operational Committee at national level with all stakeholders

The Operational Committee (OC) of the Italian Department of Civil Protection (DCP) ensures, at national level, the joint management and the coordination of emergency activities. Established in 1992, it was reshaped in 2010. It is composed of representatives from operative structures of the national civil protection and notably from the DCP, the armed forces, the fire department, police forces, the Italian Red Cross, the National Health Service, voluntary organizations and technical and scientific agencies. Based on the Augustus Planning Method adopted in 1998 by the National Civil Protection Service, the Committee ensures inter-governmental coordination for decision making, comprising civil protection representatives from regions and municipalities but also critical infrastructure providers.

Chaired by the Head of the DCP, it is convened by the Head of the DCP each time he deems necessary. It gathers in the DCP premises, in the National Operational Room, which converts into a crisis cell in case of emergency. The room is equipped with technical and communication systems to provide assistance for meetings; it is designed to keep pertinent information online and to provide an integrated picture of unfolding events through monitoring surveillance. In this way, the Committee can receive, collect, process and verify information. It is responsible for assessing requests from areas affected by an emergency in order to define intervention strategies, to guarantee the coordinated deployment of resources and the intervention of emergency response participants. The Committee also spreads emergency information with the objective of alerting immediately and activating the different structures of the National Civil Protection Service. Depending on the situation, connections can also be established through a secure system with the relevant regions or with entities responsible for critical infrastructures, notably with the civil protection operational rooms of regional provinces or municipalities.

Source : Italian Civil Protection

61. Trans-boundary crisis, as they often spread larger than initially expected, also require central governments to be able to mobilize additional emergency response capacities if they need to be. Mutual-aid agreements can be developed in many sectors: utility companies, cities fire fighting units, police forces operating in one region can be deployed in the neighbouring one through these agreements. Additional

national emergency means can also be specifically trained by the national government to provide "surge" capacities. Interoperability of all the agencies that could get engaged in emergency response is fundamental.

62. As part of the new environment of crisis management is also the growing role of civil society. Among stakeholders to include in the response are also citizens, volunteer organizations and national and international NGOs. Articulating properly their roles and functions with other emergency response actors is fundamental. These efforts from the civil society must be appropriately considered and supported especially in time of crisis to support an open and transparent approach to crisis management. The only major concern to be specifically locked at with respect to their engagement is the personal safety and security of the personnel and citizens involved in these actions.

4.3.3 Leadership: crisis communication vs. meaning-making

63. In addition to ensuring coordination of the emergency response network, leadership plays a major role in crisis communication. During crisis, emotions of the population are usually at the highest, and leadership must convey messages that answer their expectations. Some important messages are also essential to be disseminated to the public at risk for its own safety, and require appropriate crisis communication techniques and tools.

64. Traditional crisis communication consists in communicating messages on the status of the crisis, the impacts, the actions and means that have been mobilized. It is usually meant to feed the media with facts and to demonstrate citizens that the government is doing the job right. Political leaders are often ready to intervene in front of the media to play this role that they can see as a political opportunity.

65. In the case of a novel crisis, crisis communication can be challenged by a lack of knowledge about its cause status, and the way it is likely to develop, which determines in part how to tackle to it. The multiplicity of stakeholders involved in the response can also generate confusion if different messages are expressed through the media instead of being clearly aligned. A clear expression of the operational picture and the response strategy needs to be spread across the response network, so that coherent actions are taken in the same direction. Avoiding multiple channels of public expression should ensure that the right message comes across.

66. In the age of social media where information is communicated widely from a large number of sources, disseminating key information as well as false rumours, crisis managers need to adapt to take social media information on board while also using these modern tools to share information and communicate. Dedicated social media response teams can be very useful to share crisis information with citizens. Meanwhile, traditional ways of communication should not be abandoned, as crisis can damage telecommunication networks systems and thereby disrupt access to many social media platforms.

67. When a crisis reaches such severity that trust in the government is severely challenged, crisis communication shall also enter into a new phase, where leadership is critical. When citizens' expectations are at the highest, leaders need to find the right words to provide meaning to what is happening. This "meaning-making" function of leadership refers to the capacity to provide not only information, but a narrative that responds to public expectations. Reducing the public and political uncertainty is fundamental to allow crisis management to better operate. Behind this storyline, the objective is to convince the public that they should trust the government at a very critical moment in which the level of trust may have significantly declined. Finding the right wording or the capacity of "persuasion" sometimes requires taking a step back from the event to tailor key messages that focus on the values of the society. Setting a few officials aside, protected from the heat of the events and from the media demands for immediate

information, to think through the right response for the population and set positive expectations, can be a useful tactic in crisis cells.

4.3.4 Ending crisis: improving crisis response vs. rebuilding trust

68. As a crisis winds down, officials should clearly indicate closure to the public through a formal, well-communicated process to help alleviate continued anxiety and return to a state of normality. This also enables to enter the next phase of risk management, such as the reconstruction process, with a new mindset. The role of political leadership and coordination is crucial. While the end of a classic or routine crisis may be clear with emergency services reducing their mobilization or warning levels, a transboundary crisis may be more difficult to end and could flare up if inconsistent messages are sent.

69. Large-scale crisis with severe damages can have critical impact on people's trust in the government. Ending a crisis in that case would suppose also to restore this trust. Trust level can be downgraded because the government did not take the right decisions or did not prove to make the best effort to deal with the crisis. It can even be worse when people have the feeling that the government did not have a transparent and open approach, or that they were hiding either important aspects of the crisis or the failure of their approach. Clarifying how decisions were made and clear accountability of the government are the best ways to avoid this post-disaster phase turn into a looming political crisis, which would further diminish trust levels.

70. After the crisis comes the time for in depth analysis to review what has happened and how response actions were conducted. This feedback process is important to be conducted at the levels of each response institution as well as at the inter-agency and strategic level.

5. Identifying key cross-cutting issues in inter-agency crisis management

71. Table 1 summarizes all the key differences between traditional crisis management and how to deal with novel crisis. While governments need to adapt their crisis management capacities to the new nature of crisis, to develop new doctrines and tools, they are also required to continue being able to deal with more classic crisis, for which delivery is a must.

Table 1. Different approaches in crisis management: traditional crises VS dealing with novelty

Traditional crisis management	Dealing with novelty
PREPAREDNESS PHASE	
• Risk assessment based on historical events	• Risk assessment includes horizon scanning, risk radars and forward looking analysis to detect emerging threat. Frequent updates and different time-scales, international analysis sharing, multi-disciplinary approach are key attributes
• Scenario based emergency planning	• Capability-based planning and network building
• Training to test plans and procedures	• Strategic crisis management training to learn agility and adaptability and create networks and partnerships
• Early Warning Systems based on monitoring, forecasting, warning messages, communication and link with emergency response	• Strategic engagement from centres of government

RESPONSE PHASE	
• Command and control system • Standard Operating Procedures • Strict lines of responsibilities • Sectoral approaches • Principle of subsidiarity • Feedback to improve SOPs	• Crisis identification / monitoring: role of expertise • Flexible and multi-purpose crisis management teams and facilities • Common concepts across agencies to inform leadership with high adaptative capacities • Similar tools and protocols that could be utilized for multi-crisis • International Cooperation • Managing large-response networks • Ending crisis and restoring trust • Feedback

72. Each government, depending on its institutional structure, history, exposure to hazards and threats has developed specific institution and governance mechanisms to deal with emergency and crisis management. As challenges related to the growing complexity of crisis, the increased inter-connectiveness and vulnerabilities of our societies, the changing roles of governments and the increased demand from citizens requires government to adapt these capacities. Key cross-cutting issues should be considered in doing so from a public policy perspective:

- **National crisis governance framework should be set-up to ensure appropriate structures, and institutional frameworks are in place and able to deal with both classic crises and unprecedented ones**, and to deal with trade-offs attached to this two approaches: preparing for classic crisis through standard operating procedures and pre-defined plans and developing adaptable and flexible capacities for new crisis (preparing for the unknown and attract public finance to do so). Such national framework should define the key values all stakeholders engaged in crisis management should refer to as well as boundary spanning mechanisms for the crisis response to be framed in whatever the form of the response shall take. Up-scaling mechanisms in particular are of a crucial importance.

- **Multi-disciplinary expertise shall be organized for sense-making before and during crisis.** Multi-disciplinary expertise shall be mobilized to prepare and respond to crisis. Long-term risk assessment and horizon scanning, the development and operations of monitoring and Early Warning systems, as the sense-making of an unexpected crisis all require a variety of expertise from different disciplines. Organizing expertise work Expertise must sometimes be mobilized very quickly when a crisis happens. Trust and accountability related to expertise advice especially at a crisis time is of an upmost importance.

- **Leadership during crisis is fundamental to restore public trust and requires professionalism.** Sense-making, decision-making in the crisis cells, and meaning-making and crisis communication directed toward the emergency response network and the citizens are key leadership functions requiring the appropriate tools, skills and training. Clarity in the respective leadership roles of professional risk managers and political leaders facilitate crisis management.

- **The ability to manage large multi-stakeholders and multi-form public/private/NGOs response networks is the new capability central government should invest in to respond to crisis**. Building, training, maintaining and managing large inter-agency response network, including with the private sector and the civil society / volunteer organizations requires capacity

to mobilize widely all these stakeholders along common values and objectives. Regular trainings, common tools and communication mechanisms allow the network to function during crisis.

- **International cooperation and partnerships can support many functions of crisis management and should be further strengthened**. In addition to exchanging good practices and / or defining common standards for inter-agency crisis management, international cooperation could address many areas to support crisis management: global monitoring systems, shared risk radars or early warning systems, interoperability of emergency forces, availability of specialized teams capacities, tools and supplies at transnational levels, interconnection of strategic crisis management structures, harmonized crisis communication processes can all benefit from international or regional cooperation, for better crisis management capacities as well as for cost saving reasons (Box 11).

Box 11. International cooperation frameworks supporting crisis management

Many international cooperation frameworks exist that support crisis management in a variety of domain such as:

- **Risk assessment, risk radar tools**: Initiatives such as the UN Global Assessment Report, the World Economic Forum Global Risk Report or the risk radar developed through the European Emerging Risk Radar Initiative could be leveraged to answer specific needs of national authorities in charge of developing risk assessment to share costs and improve quality of their products.

- **Monitoring, forecasting and early warnings**: Meteorological monitoring and forecasting depends on daily international data exchange through the World Meteorological Organisation Global Telecommunication System. Similarly, systems are in place to track atmospheric pollutions – including radioactivity or volcanic ashes, to warn in case tsunami would be generated (UNESCO - IOC), or to monitor pandemic disease (WHO).

- **Coordinated emergency response**: The EU Civil Protection Mechanism, the NATO Euro Atlantic Disaster Response Coordination Centre and Unit as well as the UN humanitarian coordination mechanisms are international cooperation frameworks for emergency response. Interoperable tools and common methodologies are shared across these networks. For instance the EU Common Emergency Communication and Information System (CECIS) permits to share information to facilitate emergency communication among the participating States.

An in-depth analysis of these mechanisms (identification, review, evaluation, gap analysis) could probably identify how international cooperation could be better organised to support the management of new transboundary crisis

Source : OECD

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