Using National Risk Assessment
to Develop Risk Management Capabilities at the Country Level

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Countries face many different types of risks. It is the responsibility of governments to ultimately provide safety and security to their people and protect them, as well as their assets, the economy and the environment from the consequences of many types of risks. The 2012 G20/OECD Methodology Framework on Disaster Risk Assessment and Risk Financing recognises this and proposes solutions to prevent and mitigate the effect of disasters [1].

Some countries, such as the Netherlands, Switzerland, the UK and the US have developed methods for all-hazards national risk assessment (NRA). Others are in the process of or considering doing the same. NRAs result from elaborate processes for identifying and assessing a range of large-scale risks, which can potentially severely affect territories and population and ultimately national and societal security. Risks are assessed on the basis of their likelihood (quantitative probability of occurrence or plausibility) and impact (potential severity).

Different risks may have the same impact. For example, power outage can be caused by a wind storm or a flash flood or a terrorist attack. Therefore, one of the key features of NRAs is to focus on the impact on society and the economy that may result from various risks with the view to decreasing vulnerability and increasing robustness and resilience.

With this objective in mind, the aim of NRAs is to help countries strengthen preparedness and increase economic and social resilience, identifying generic capabilities that can provide an overall idea of where to invest resources, to provide policy options for effective risk management and communication at national level.

However, using the outcomes of NRAs for making decisions about risk management is challenging. The outcome of the risk analysis must be combined with an analysis of the capability to deal with the risks and of political aspects that may also impact on government decisions. Effective risk management also requires close inter-institutional cooperation in the public sector, partnership with the private sector, efficient resource allocation and the design of financial schemes for effective risk sharing and transfer between public and private organisations as well as individuals.

[1] G20 Leaders and Finance Ministers recognised the “value of Disaster Risk Management (DRM) tools and strategies to better prevent disasters, protect populations and assets and financially manage their economic impacts” (Los Cabos, 19 June 2012). Given the increasing frequency and scale of disasters and the resulting human, social, financial, economic and environmental impacts, the G20/OECD Methodology Framework on Disaster Risk Assessment and Risk Financing offers concrete steps to develop risk assessment as a key component for promoting risk financing strategies.

The world is becoming more volatile and unstable. Countries are economically, politically, and socially more interdependent. They increasingly face cross-border threats while budget constraints and fiscal consolidation limit the physical and financial possibilities. In this context, the issue of risk and disaster management is receiving increased political attention, attracting also public interest and participation. This puts additional pressure on decision-makers to choose the most effective and cost-efficient ways to manage the risks identified through their NRAs (or, indeed, decide not to address some risks).

This IRGC workshop convened a small group of experts, which have developed and implemented "advanced" methods for all-hazards NRA and engaged in "whole of government" approaches to integrated risk management at the country level. The OECD was also represented. Presentations and discussions facilitated the exchange of experience among participants, to share expertise and best practices, and learn from other practitioners in the public and private sectors. The following notes, applying the Chatham House Rule, summarise some of the main points brought up by participants during their presentations and discussions.

The workshop discussed a number of elements for success, including:

- The provision of convincing methods for risk assessment – to provide the basis for political and societal legitimacy;
- The development of inter-governmental approaches to integrated risk management at the country level – to provide an institutional place and processes for risk management;
- The capacity to involve the political level – to provide political impetus; and
- The consideration of innovative risk financing and transfer solutions – to provide new solutions.

Sharing of good practices on national risk assessment

During the first session, representatives of governments which have developed NRAs shared their experiences and discussed areas for improvement.

Fostering inter-agency cooperation

- In order to carry out an effective risk assessment, agencies must cooperate. The idea that one agency can assess and manage all risks is long obsolete. Today**, effective NRA requires multi-agency, multi-scale approaches and cross-sectoral collaboration.** This cooperation is best built incrementally. Experience shows that initial inter-agency collaboration on smaller projects can launch the effective collaboration needed for more complex issues.

Identifying risk owners

- Once NRA is conducted in a collaborative cross-agency manner, it is crucial to **identify key groups in each agency that can serve as risk owners**. Risk owners will then carry the responsibility of monitoring the risks, informing and updating the inputs into the NRAs. Risk owners must be incentivised and rewarded.
- The Netherlands, Switzerland, the UK and the US have experience with developing NRA. In their NRAs, these countries rely on the development of **scenarios**. Scenarios summarise any relevant information about a risk, consider the likelihood that a certain incident will occur, the impact if it does occur and what could be done to prevent the occurrence or reduce the impact.

- As such, developing risk scenarios is a particularly useful tool that helps countries prepare for incidents. Yet, there are various specific challenges associated with developing relevant scenarios. First, scenario development is often data intensive and some countries may find the data collection particularly problematic. Second, it is challenging to use the information gathered about past events to develop a scenario that will correspond to a possible future event. Additional discretion must be used to judge whether information that necessarily comes from past events is sufficiently relevant to inform decision-makers about possible exposure and hazards impact in the future. Therefore, NRA is a continuous work in progress to revise the scenarios according to the most up-to-date information and analyses. The third challenge lies in following up on the scenarios with concrete steps. Scenarios are frequently used for predicting the impact of risks, training emergency responders and capacity building in the country. Regardless of the role they play, **scenarios must offer sufficient entry points** on which decision-makers can then act. Scenarios should avoid being too academic or too abstract and they should provide policy entries upon which the goal of the scenario can be actualised.

Developing risk scenarios for informing decision-makers

- **Risk perception matters**. The way people perceive risk impacts on how they assess risk and therefore on the decision about its management (this was further developed in the second session). However, an appropriate perception of a risk does not necessarily translate into prudent individual management of that risk, as other factors linked to expected benefit from taking the risk may impact on the decision. Risk can also be an opportunity.

Assessing risk perception

- NRAs also include a **capability analysis** to assess the capabilities of the country to deal with the threats or hazards. Where are the gaps in a country's ability to reduce risks and what can it do to reduce those gaps? Does the country have adequate and sufficient capabilities in terms of human resources, knowledge and skills, material and financial means? Which ones does it need to acquire or develop? The capabilities analysis primarily identifies capabilities that have a positive effect on more than one type of threat, and thus focus on impacts.

A full national risk assessment would include: risk analysis, capability analysis and political analyses.

- **Risk communication** plays a crucial role in building and sharing knowledge about a risk. It can facilitate two-way information transmission. From top down, risk communication can help public agencies achieve a better understanding of risks among the population and fix any misperceptions people may have. Furthermore, it can also support risk prevention behaviour and contribute towards general public preparedness. From bottom up, risk communication can better inform risk related policies and assessments about public preferences and values. In order to transmit information in both directions, risk communication should adhere to two principles. First, it should involve a diverse range of actors that will be able to increase the **balance** and the **accuracy of the content.** Second, interviews and surveys should be conducted with the members of the intended audiences in order to ensure that risk communication is using a **language that is understood by the recipients** and covers the information that people need and want to know. This will help avoid misunderstandings, increase preparedness and better inform both policy circles and the public.

Communicating risk

Devising risk management strategies using national risk assessment

The second session of the workshop discussed how the outcome of NRAs can be used to devise effective risk management strategies. Questions to participants included:

- How to use the outcome of NRAs for risk prioritisation and resource allocation?
- How to create capabilities to deal with the risks?
- How to involve the political level, to allocate resources and resolve the trade-offs?
- How to process risk information in existing decision processes?

This session outlined the diverse experiences of various countries – both developed and developing – and focused on the aspects that promoted good risk governance. While the presentations considered on the experiences of specific countries, the discussion highlighted common themes and focused on institutional arrangements and risk culture as well as risk management decision-making under the budget constraints faced by many countries today.

- Risk management can be very costly. From strengthening a country's infrastructure to withstand earthquakes to increasing security in public spaces to minimise any malicious threats, risk management can be very heavy on a country's budget. While risk managers may expect that the financial resources will be available for proper technical management, this is not always the case. Budget allocation is a trade-off resolution exercise, and in the current economic climate, all public spending, including risk management expenses, compete for tighter resources and are under additional scrutiny. The search for **efficiency** and **cost-effectiveness** has a strong impact on risk management in times of economic downturn, when public resources are scarce. These principles are even more relevant for situations when the government is the risk bearer of last resort and may thus face responsibility for major risk financing and emergency compensation.

- One of the ways to get more attention on the need to manage risk and resources for risk management is to gain the support of a country's **political leadership**. In the United States, the Presidential Policy Directive 8 on National Preparedness (2011) tied national preparedness to "threats that pose the greatest risk to the security of the nation", which includes acts of terrorism, cyber-attacks, pandemics and catastrophic national disasters. This document mandated that "[t]he Secretary of Homeland Security shall conduct a strategic, national-level risk assessment [SNRA]". This SNRA was used to support development of the core capabilities and capability targets in the 2011 National Preparedness Goal. This example illustrates how high-level political support for national risk management galvanises both institutional support for such work and public support for risk management. It is important to note that while political leadership can attract attention, it can also help secure funds for risk management. Thus, with political backing, risk management should be able to garner both the institutional cooperation and financial resources necessary for managing the risks.

Getting political support and a « champion»

- A country's **institutional set-up** is important to ensure the effectiveness of risk management. All governments have departmentalised and decentralised risk management, however, if it is too compartmentalised and if there is no mechanism to coordinate actions, this approach can restrict effective risk management. In contrast, the close integration of risk assessment and management with relevant risk owners in the public sector can enhance the state's capacity in horizon scanning as well as facilitate risk based investment decisions.

Need for a structured approach to integrative risk management

- When governments evaluate the most appropriate way for them to implement integrated risk management, some participants have put forward the concept of a **country risk officer**. In the private sector, the chief risk officer (CRO) is often one of the leading management figures. He is a member of the various management committees concerned with risk taking and reports directly to the CEO, which ensures that the CRO will remain independent while streamlining risk management strategies within a company. This model from the private sector may be applicable to country risk management as it may help foster the creation of an integrated approach to risk management.

- The national risk management strategy of New Zealand is based on a "**systems approach**", which focuses on managing the system, its parts and their interconnectedness, as a whole, mitigating discrete risks, building resilience to deal with complex or unanticipated situations and developing prior arrangements for adaptive management. This approach is based on reducing vulnerabilities, building resilience and developing risk management within the same framework. It facilitates the resolution of trade-offs involved as the benefits of managing risks through mitigation decrease with risk complexity, while the benefits of resilience in a community increase with complexity.

- Resilience building is attracting much interest from governments, combining flexibility and adaptive capacity. The goal is to be ready to expect the unexpected, developing the accompanying tools and capacities that will allow for better policy outcomes in a world of uncertainty and risks.

- Institutions, processes, budgets and politics are, however, only one side of the coin. **Culture and behaviour** of the public (but also of organisations) are also important factors for risk management, and one of the challenging tasks of risk assessment and management is to understand how the public will behave in the face of an incident or an emergency. For example how does the public react to information on various risks? This poses a specific challenge for risk management as cultural and psychological effects are one of the least quantifiable issues in risk assessment. Countries deal with this challenge differently. Some countries invest in quantitative research on the psychological effects of risks while other countries approach this issue from a qualitative perspective. It was noted that that public reaction to risk depends to a large extent on the risk culture in the nation and that the reaction of the public may not be dependent on the nature of the risks. Participants stressed that it is important to foster a culture that would overcome both an optimism bias and risk aversion in order to take advantage of the opportunities that risks may offer. Effective oversight and possibilities of risk sharing and transfer should encourage informed, risk-based decision-making that is focused on outcomes.

Cultivating an appropriate risk culture

- As a participant in the workshop said: "We require more emphasis on cultural, behavioural, communication and organisational aspects of good risk management, to supplement the strong process elements of current government practice and to reinforce accountability and transparency. This is particularly important in strategic planning, policy setting and decision-making, in the context of driving better and more efficient delivery of public services and maintaining public protection, where government is often the risk bearer of the last resort."

Development of risk financing strategies

How can government align resources and strategy? How can it design strategies to overcome budget constraints? The third session examined the options that governments have in order to finance their risk management schemes and the most effective ways to design risk transfer solutions through financial and insurance mechanisms.

- There is a significant overlap between the risks that governments and the private sector face, and many private sector risk management practices are applicable to governments as well. Both private and public sectors have four basic **options for dealing with risks** and it is worth communicating these four options explicitly. They can accept them (when the return vs. risks is acceptable), mitigate them (when potential impacts are unacceptable and returns warrant costs), transfer them (when liabilities are unacceptable and the cost of transfer is affordable) or avoid them (when the value for mitigation / transfer is limited and compensation for risk taking is inadequate). The choice of option depends not only on the nature of the risk but also on the appetite for risk, culture and overall expectations of the public.
- In this context, the **G20/ OECD Methodological Framework on Disaster Risk Assessment and Risk Financing** is designed to assist Finance Ministries and other governmental authorities in developing more effective DRM strategies and in particular financial strategies.
- Governments most often “self-insure” and would not consider risk financial transfer solutions. However, just as risks can be viewed as opportunities, risk financing decisions can be seen as investment options and can be a particularly useful tool in risk management. This approach can be particularly suitable especially in today’s economic climate when governments face strict budget constraints that may put limits on the financing of both risk management and resilience building. Effective risk financing can help governments lower their financial exposures to catastrophic risks – natural and man-made. **Risk financing** can take place ex-ante, primarily through insurance, reserve funds or the buying of catastrophe bonds, or through ex-post financing through debt, budget reallocation, tax increases or other measures. While a mix of ex-ante and ex-post financing may be the most comprehensive and sustainable measure, governments also have to consider the political impacts of the different financing tools as they may influence government popularity. For this reason, governments must weigh not only trade-offs between the different financing options but also **reputational costs**. While governments are often the risk bearers of last resort, public-private partnerships can facilitate this role and governments should consider these opportunities.

Conclusion

This brief summary of matters related to all-hazards NRA and integrated risk management at the country level provides an overview of the type of issues that were discussed at the IRGC workshop in December 2012. In the context of risks developing in complex interconnected systems, new institutional settings and processes that are being developed can improve the evaluation of threats and the overall response to risks. They can provide better efficiency, provide legitimacy and be generally valuable in improving risk governance.

Representatives of governments interested in these approaches to risk assessment and management of large-scale risks that could have a negative impact on a country's national and societal security, can contact IRGC for further information.

About IRGC

The International Risk Governance Council (IRGC) is a non-profit and independent foundation whose purpose is to help improve the understanding and governance of systemic risks that have impacts on human health and safety, on the environment, on the economy and on society at large. IRGC's mission includes developing concepts of risk governance, anticipating major risk issues, and providing risk governance policy advice for key decision-makers. To ensure the objectivity of its governance recommendations, IRGC draws upon international scientific knowledge and expertise from both the public and private sectors in order to develop fact-based risk governance recommendations for policymakers. IRGC operates as an independent think-tank with multidisciplinary expertise and can help bridge the gaps between science, technological development, policymakers and the public. IRGC acts as a catalyst for improvements in the design and implementation of risk governance strategies that can be effective in today's challenging governance environment.

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