



Applying, Using and Developing further IRGC Concepts and Instruments for Risk Governance

IASS Potsdam, 18 - 19 October 2016

Organised by IRGC, École Polytechnique Fédérale de Lausanne & Institute for Advanced Sustainability Studies

On 18-19 October 2016, IRGC and the Institute for Advanced Sustainability Studies IASS organised an invitation-only expert workshop at IASS in Potsdam on **Applying, Using and Developing further IRGC Concepts and Instruments for Risk Governance**.

The purpose of the workshop was to facilitate a discussion among practitioners and researchers about how to implement risk governance and management in their organisations as well as to share knowledge and experience. The workshop also intended to provide guidance to IRGC to improve IRGC concepts and instruments for risk governance, notably the IRGC [Risk Governance Framework](#) and the IRGC [Guidelines for Emerging Risk Governance](#).

The workshop was organised under the guidance of Prof. Ortwin Renn (Scientific Director, IASS) and Marie-Valentine Florin (Executive Director, EPFL International Risk Governance Center, and IRGC Foundation) and convened practitioners from the public sector and academia who are using or developing instruments for risk governance. It featured facilitated and interactive discussions with short interventions from participants in various fields, as well as breakout groups on a range of topics, where participants worked on practical applications and specific challenges of IRGC concepts: Environment & climate change, food & health, country-wide risk management, emerging threats, resilience strategies.

This summary report highlights some of the key takeaways from the workshop discussions. It represents neither a full and complete summary of the workshop, nor the views of any participant in particular, but emphasises some of the key themes that were discussed during the workshop.

IRGC Risk Governance Framework

The IRGC Risk Governance Framework was described in full in an IRGC's White Paper, published first in 2005. It was elaborated from earlier frameworks developed in certain sectors and countries, and was innovative for its comprehensive, holistic, multidisciplinary and multi-stakeholder approach to risk (hence the term 'governance' as opposed to 'management'). The framework was developed

primarily from academic research work, and benefited from contributions from practitioners' experience.

The IRGC framework is useful to support processes that aim to provide and structure scientific evidence about a risk issue, in a societal context. It also helps decision-makers analyse the major ambiguities and controversies that may affect the management of the risk.

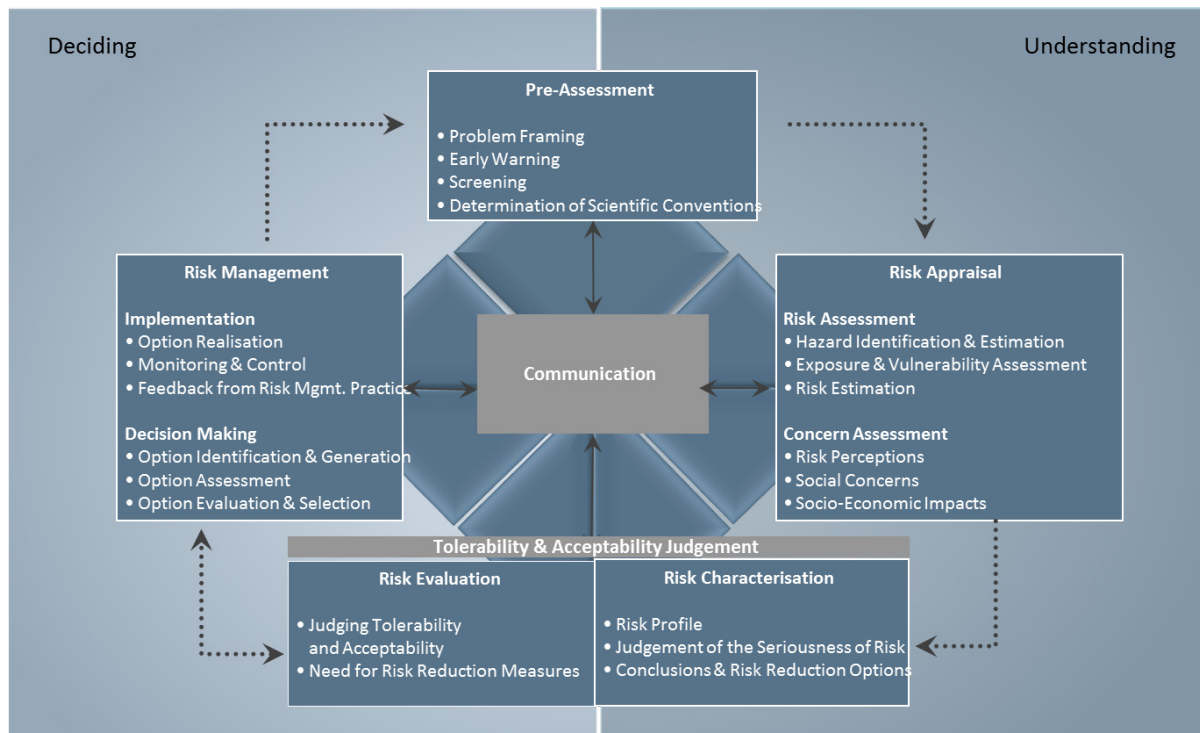


Figure 1: complete visual representation of the IRGC Risk Governance Framework

The most innovative features of the framework were:

- The focus on the need to define the *context* in which stakeholders analyse and make decisions about risk, including framing and clarifying the boundaries of the analysis. Risk is a mental concept, which results in different types of realities considered by various stakeholders
- The need to add a '*concern assessment*' next to the conventional 'risk assessment', to take into considerations people's opinions about a risk
- The relevance of considering specifically how the outcomes of a risk and concern assessment are *evaluated* by those who assess that risk, together with those who will make decisions about its management. Such evaluation is a judgement, based on the consideration of trade-offs, values or political, economic or societal priorities
- The relevance of *characterising a risk according to the knowledge* that can be generated about it: simple, complex, uncertain or ambiguous, and the different types of stakeholder involvement and risk management strategies that are most appropriate, on the basis of that characterisation
- The central role of communication
- The iterative process

Since 2005, the framework has been used and applied by hundreds of scholars, developers of risk management models, institutions and risk practitioners in the public and private sectors. The framework primarily provides a structure to their thinking and inspires guidelines, roadmaps or specific models or frameworks developed for specific sectors or organisations. It is seen as comprehensive, holistic, actionable and situation-sensitive. It can help detect when “things go wrong in governance terms”. It can also help practitioners to structure complex problems, thus contributing to further improve how society deals with risk.

The IRGC framework and other instruments for risk governance complement each other, each focusing on specific aspects or audiences:

- The IRGC framework derives from academic research work, focuses on multi-disciplinary scientific expertise and is adaptable to various sectors, applications and audiences.
- ISO new 31000 and the IRGC framework are close to each other in how they structure the risk management process. ISO 31000 is simple to use and well conceived for application to enterprise risk management. Numerous application cases and manuals have been developed to embed ISO 31000 in the organisational risk management practice.
- Other frameworks or recommendations from international governmental organisations such as the OECD, UNISDR or UNECE benefit from the legitimate process that embeds and institutionalises them as co-produced by peers, or as approved by governments. The *institutionalisation of risk governance* is a key success factor.

Key challenges and constraints for implementing ideal models for risk governance include:

- Time constraints (which may inhibit pre-appraisal – framing – and stakeholder engagement)
- Vested interests of stakeholders
- Resource challenges, including budget constraints
- Distinction between normative judgements and procedures

With regards to further developing the IRGC risk governance framework, participants in the workshop emphasised that:

- The *dual nature of risk* is important to grasp in its various facets. Risk can be positive or negative. What is a risk for someone may be an opportunity for someone else. There is an unequal distribution of risks and opportunities and differences in perception.
- Issues of *terminology* continue to be the topic of discussion in risk analysis fora. Although we realise that it would be useful to have a common terminology, one must acknowledge that definitions, concepts and terminologies are very context-dependent and that different settings often require different definitions. IRGC focuses on risk as the effect of uncertainty on objectives, but adds that such consequences are generally negative and that risk must be considered with regards to what people value.
- *Some recent scientific developments* such as in big data analytics or artificial intelligence could provide important and useful support to risk assessment, which risk managers could benefit from.
- *Foresight, scenario development or horizon scanning techniques* are now often used by risk managers, but the link with decision making is often challenging. This was emphasised in IRGC's work on the governance of emerging risks.
- *The iterative process* and links between phases of risk management frameworks (of IRGC but also of other organisations) is often difficult to achieve in reality. In particular the link

between risk assessment and management continues to be challenging, despite progress made.

- *The distinction between complexity, uncertainty and ambiguity* is very relevant to characterise the knowledge about risk. It also provides a common language across sectors for risks of natural, human or technological origin.
- *Decision-making in situations of uncertain or ambiguous knowledge* continues to be a challenge. Policymakers aim to make decisions based on evidence, but science is often uncertain, expert opinion is often no longer considered to be sufficient, time and scale issues often complicate the analysis and therefore evidence is often incomplete, lacking or contested. In this context, it is useful to describe alternative options and to allow society to make decisions based on qualitative, yet evidence-based data. Eventually, many risk governance issues end up as 'decision problems'. One of IRGC's objectives is to provide support that can help society decide on trade-offs and make choices about the future.
- *Flexibility and adaptive governance are often advisable*, but more recommendations and experiences about their implementation are needed in various fields, and in particular for regulation.

When the IRGC risk governance framework is applied by risk managers, many of them use the simplified version, which can serve to quickly highlight the key aspects of a risk issue and its governance. IRGC will continue to develop the simplified version, with new illustrations and for specific audiences in public policy or in the private sector.

In this context, risk governance is a systematic process to analyse, structure, inform and evaluate a policy issue. The main features of the framework can be 'translated' for use and institutionalisation by governmental organisations, at the national or international level, or in the private sector. At this level reality constraints are explicitly addressed.

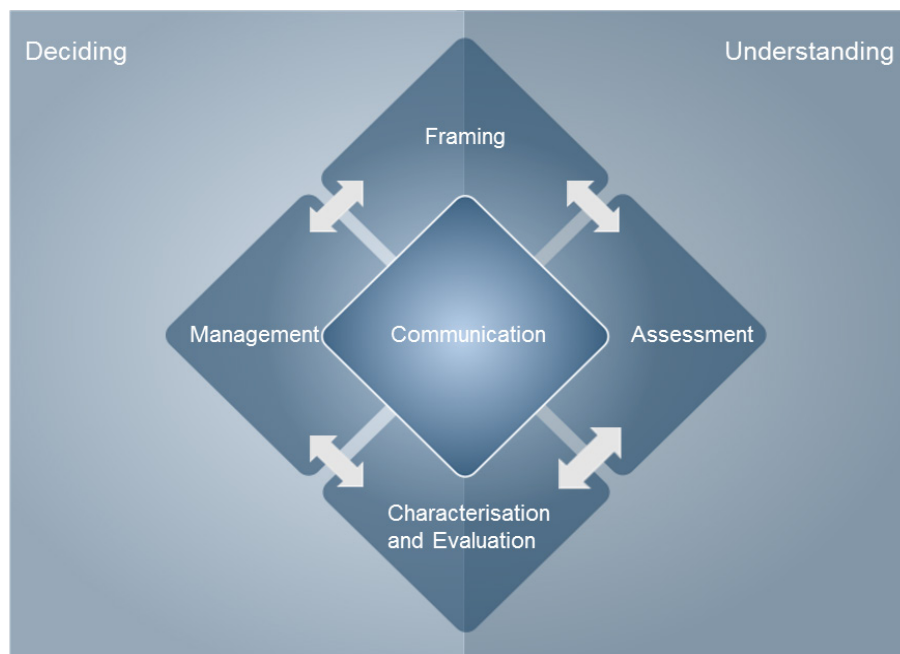


Figure 2: simplified visual representation of the IRGC Risk Governance Framework

Integration is a key aspect of IRGC's recommendation for risk governance and further guidance to practitioners may be developed in this respect:

- Integration across silos (within and between organisations)
- Integration of knowledge (analysing a problem) and action (making decision about this problem)
- Integration between vertical and horizontal governance levels, where scaling up or down can give risk to new/emerging topics/issues
- Integration of time scales, when the cost of risk is born in the short term, for benefits in the long term
- Integration between the abstract and the concrete: A generic risk governance framework must be abstract enough to be valid for all sorts of risks, but also concrete enough to have practical implications for policy makers and include advice about implementation.

IRGC's Guidelines for Emerging Risk Governance

IRGC's Guidelines for Emerging Risk Governance are a valuable and useful instrument to understand the possible development paths of new issues, involving risks or opportunities that are often multidimensional. IRGC defines emerging risks using the concept of familiarity (“new risks or familiar risks that become apparent in new or unfamiliar conditions”). Emerging risks are not objective or absolute, but rather a relative and changing concept in which exposure vulnerability and impact are significant. Understanding the nature of emerging risks, as dynamic and expected to change, is key to determining how to adequately assess, manage and communicate about them. IRGC guidelines (1) provide guidance to organisations in anticipating and responding to emerging risks, (2) provide transparent and enforceable criteria for the evaluation of the effectiveness of the process, and (3) embed the emerging risk management process as a routine.

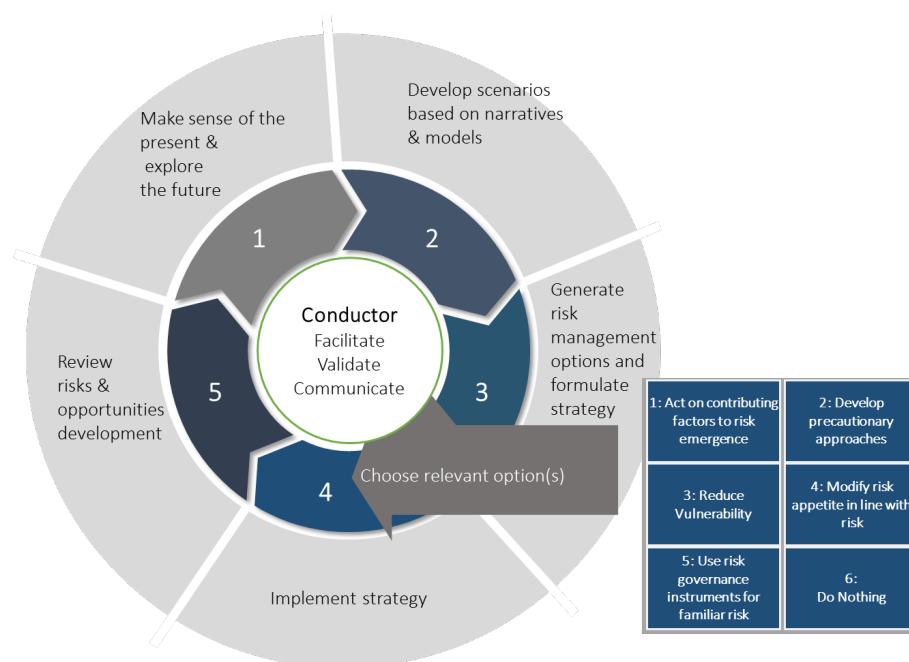


Figure 3: Guidelines for Emerging Risk Governance

Participants in the workshop made a number of observations related to challenges, their own practice and experience, and some recommendations.

About horizon scanning and early warning signals

- A fundamental question with regard to emerging risk management is whether people are willing to act on the basis of early warning signals only. The European Environmental Agency's reports on "Late Lessons from Early Warnings" have shown that the costs of failure to action were externalised and fell on society. Workshop participants argued that public bodies thus have a responsibility to respond to early warning signals.
- *Using horizon scanning in a policy context is a cultural and institutional challenge* (poor alignment with decision-making processes and priorities), a *capability challenge* (lack of capacity of decision makers to adequately engage with uncertainty), and an *evaluation challenge* (lack of meaningful evaluation of horizon scanning outputs, and failure to demonstrate how the information could be used to inform decision-making).
- *To be considered, early warnings must be made relevant to the recipients*, especially when management is focused on the short term. This includes the need to distinguish weak signals of relevant issues from noise, through filtering exercises so as to select those issues that warrant further attention, and making sense of weak signals. Making early warnings relevant also includes the capacity to translate the information to convince decision makers for taking action. Sometimes, generating fear is necessary to attract attention.
- *Prioritisation is crucial*, both with regard to selecting issues to drive further and to shaping the research agenda to collect more evidence and avoid false warnings. Prioritising emerging issues often requires making trade-offs with regard to values and fundamental strategies.
- *Weak signals depend on the context and the objective of the organisation*. One value of capturing weak signals and the narrative that is used to support them is that weak signals are given meaning largely by the objectives at that time. Additional meaning is added during the evaluation phase, when the initial weak signals are revisited and new nuances are added to provide meaning to the respective organisation. However, being responsive to weak signals in the first place requires being a critical thinker and participants in the workshop voiced some concerns that critical thinking in institutions was in decline.

About the difficulty to generate and determine what counts as evidence, and the role of experts

Not only it is difficult to acquire knowledge about emerging risks but also there may be no or insufficient agreement about what is considered as evidence. Sometimes information is contradictory. It is a challenge to trigger action by decision-makers on the basis of contradictory information, insufficient evidence, or when 'numbers stop having a meaning' in a 'post-factual society'. Models that aim to anticipate the future are often inaccurate, and we have to learn to cope with it. Narratives, in contrast, are about plausibility – but plausibility is often not sufficient to take action. In addition, too much data implies that choices have to be made.

Involving experts. Experts involved must be open and open to criticism. Organisers of the emerging risk governance process must select them for their capacity to be open to imagination and able to address their fear of damaging their credibility by 'wrong communication'. The process must be coordinated by someone who can bring the different voices together. This person needs to defend the whole process and needs to convince management that it is valuable.

About decision-making, management and responsibility issues

- Decisions for dealing with emerging risks can be of two types: a specific action, if the problem is relatively easy, or the deployment of a process, for complex and long-term problems. It is difficult to evaluate retroactively whether investing in a process was justified, as the positive outcome of the process in that case is that the risk does not materialise. Therefore, the decision to invest in a process, or to take a specific action, must be 'owned' by one of the actors who has legitimacy and support to implement it.
- Eventually, for emerging risk management to be possible in a large, complex organisation, it is often necessary to determine how to avoid an undesirable outcome with as little effort as possible. Compliance issues in organisations complicate matters in the sense that issues of responsibility or even liability interact with issues of interest, willingness and capacity.
- In some settings, when the outcome of the process must be a management decision, it might be appropriate to speak of 'change management' rather than 'emerging risks management'. This might help to move away from strict risk assessment towards a constructive dialogue on how to trigger a change in response to external and external risks and opportunities.
- In other settings, the process must clearly aim to assess and manage both emerging opportunities and risks, focusing on what can emerge in terms of new topics, without immediately classifying them into risks or non-risks.
- Relevant strategies to deal with emerging risks are often of the kind of prevention-based governance, which can be deployed even in the absence of strong evidence and can be further refined with standard risk assessment approaches once more data becomes available.
- Resilience is a useful concept and tool. Resilience building can be a relevant solution when dealing with unknown threats such as emerging risks with potentially large and sudden impacts.

Conclusion

- *Working with others.* Workshop participants agreed that there is a need to build a community of people who work on emerging issues, to improve the methodology and the processes applied. It was suggested to create annual international network meetings to share experience.
- Constraints faced by practitioners include resources, capacity, or simply willingness to prepare for the future.
- Triggers that can lead to action on emerging risks include:
 - Identify 'emerging risk champions' who make supporting the process their personal endeavour
 - Stress that the consequences of doing nothing could be dramatic ('big figures that threaten')
 - Make it mandatory, e.g. through regulation ('If you have to do it, you will do it.')

Systemic risks

Further IRGC work will address the specific challenges of systemic risks, including the potential for collapse in complex adaptive systems, and the opportunities, possibilities and challenges of developing strategies for resilience. The increasing connectivity and interaction between risks within a system and between systems require a multi-dimensional, multi-actor, multi-perspective approach which presents a major challenge for any kind of framework.

Specific characteristics of systemic risks include:

- (1) they are often transboundary and very often global (almost ubiquitous),
- (2) they are stochastic, i.e. there is no clear cause-effect relationship and always the possibility for different types of outcomes,
- (3) they are very complex and interconnected and we often have no real idea of what triggers a collapse, and
- (4) they are non-linear with tipping points or rather areas, which is entirely against human intuition. As a consequence, systemic risks are challenging to model, can have large cascading impacts, and give rise to governance issues. While we have been very successful in reducing risks to human life during the last decades (e.g. from traffic accidents), we do not yet have good systems in place to deal with systemic risks – despite them being prevalent in our society.

Systemic risks could be looked at as decision problems, i.e. by asking what their consequences could be for decision-makers. Probability and damage are key components for the dialogue with decision-makers. With conventional risks it can be helpful to describe the system from the outside, but this approach breaks down with systemic risks. This can be illustrated by the example of climate change. In this case, it is not helpful to discuss the systemic risk by looking at ‘the climate system’ only. The major systemic risk consists of the coupled human-climate system, of which decision-makers are a part.

Sustainability could be a focus of attention and a criterion for designing strategies for dealing with systemic risks. However, sustainability is not a very clear concept, but rather ‘a bundle of global narratives’.