



# An introduction to the IRGC Risk Governance Framework

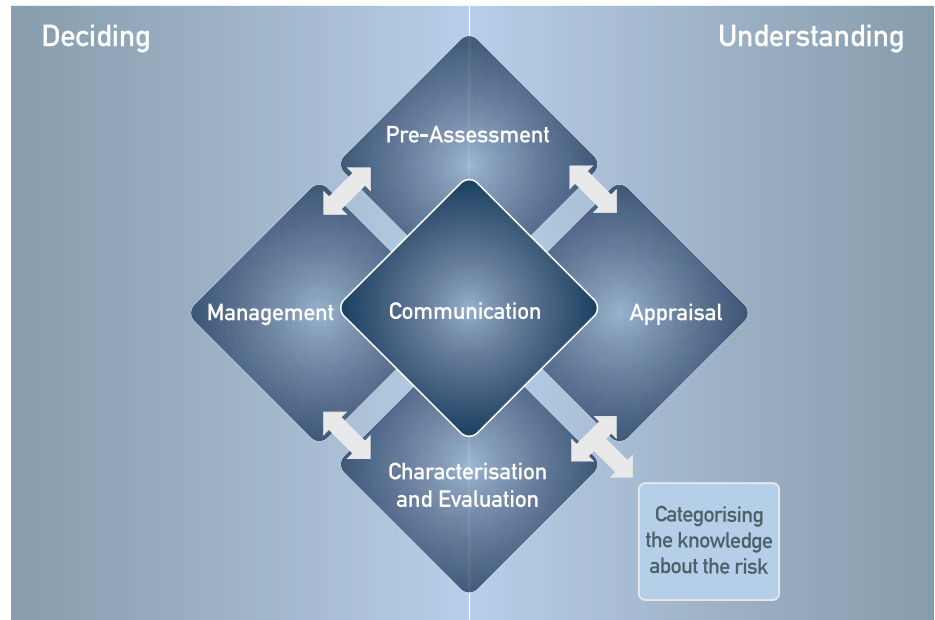
Auszug aus:

IRGC - International Risk Governance Council (2008): An introduction to the IRGC Risk Governance Framework.

<http://irgc.org/wp-content/uploads/2012/04/>

[An\\_introduction\\_to\\_the\\_IRGC\\_Risk\\_Governance\\_Framework.pdf](http://irgc.org/wp-content/uploads/2012/04/An_introduction_to_the_IRGC_Risk_Governance_Framework.pdf) [Zugriff: 07. 10. 2013].

# III The IRGC risk governance framework: description



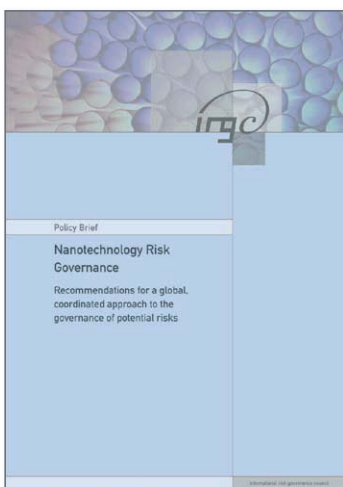
IRGC’s risk governance framework distinguishes between **analysing and understanding** a risk – for which risk appraisal is the essential procedure – and **deciding** what to do about a risk – where risk management is the key activity. This distinction reflects IRGC’s support for the clear separation of the responsibilities for risk appraisal and management as a means of maximising the objectivity and transparency of both activities. Those responsible for both should be jointly involved in the framework’s other three elements: pre-assessment, characterisation and evaluation, and communication.

## 1. Pre-assessment

IRGC’s approach begins with risk pre-assessment: **early warning and “framing”** the risk in order to provide a structured definition of the problem and how it may be handled.

### BOX 1: Framing nanotechnology

Understanding how different stakeholders frame the same risk is a crucial part of pre-assessment. For example, **nanotechnology** is seen by some stakeholders as primarily an extension of existing technologies into new application areas, others perceive it as a revolutionary innovation that could transform major parts of today’s economy, and others see it as another global risk similar to nuclear energy or genetically modified organisms.



IRGC’s policy brief on “Nanotechnology Risk Governance” can be downloaded from [www.irgc.org](http://www.irgc.org)



Pre-assessment clarifies the various perspectives on a risk, defines the issue to be looked at and forms the **baseline** for how a risk is assessed and managed. Crucially, it captures and brings to the open both:

- the variety of issues that stakeholders and society may associate with a certain risk (and the related opportunities), and
- existing indicators, routines and conventions that may help narrow down what is to be addressed as the risk, as well as the manner in which it should be addressed.

The main questions in pre-assessment are:

- What are the risks and opportunities we are addressing?
- What are the various dimensions of the risk?
- How do we define the limits for our evaluations?
- Do we have indications that there is already a problem? Is there a need to act?
- Who are the stakeholders? How do their views affect the definition and framing of the problem?
- What are the established scientific/analytical tools and methods that can be used to assess the risks?
- What are the current legal/regulatory systems and how do they potentially affect the problem?
- What is the organisational capability of the relevant governments, international organisations, businesses and people involved?



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***Potential governance deficits in pre-assessment:***

- *Warning: signals of a known risk have not been detected or recognised*
- *Scope: a risk which is perceived as having only local consequences may in fact be much broader (and vice-versa)*
- *Framing: different stakeholders may have conflicting views on the issue*
- *“Black swans”: no awareness of a hazard or possible risk*



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### BOX 2: How framing influences the entire risk governance process, including final decisions – genetically modified crops<sup>1</sup>

Some of the differences between EU and US approaches to the regulation of GM crops can be traced to a very early difference in the framing of the technology for regulatory purposes. In the EU, because GM crops were framed as a radical departure from any products that had previously been on the market, with potentially unpredictable properties, they were seen to require a *de novo* consideration of the risks they might present and the regulatory systems that could be put in place to control them, i.e. they were seen as requiring path-breaking regulatory approaches. The analogy most frequently used for GM crops by European regulators was the introduction of alien species with the attendant risks of uncontrollable spread in the natural environment (Royal Commission on Environmental Pollution (RCEP), 1989).

Most companies and US regulators on the other hand, in line with the OECD approach, framed them as inherently similar to existing products developed through conventional plant breeding programmes and therefore not requiring any additional scrutiny beyond existing regulatory systems, for example for pesticides, food for human consumption or animal feeds (i.e. they were seen as requiring path-dependent and evolutionary regulation).

## 2. Appraisal

Risk appraisal develops and synthesises the knowledge base for the decision on whether or not a risk should be taken and, if so, how the risk can possibly be reduced or contained. Risk appraisal comprises both a **scientific risk assessment** – a conventional assessment of the risk's factual, physical and measurable characteristics including the probability of it happening – and a **concern assessment** – a systematic analysis of the associations and perceived consequences (benefits and risks) that stakeholders, individuals, groups or different cultures may associate with a hazard or cause of hazard. The concern assessment is a particular innovation of the IRGC framework, ensuring that decision makers account for how the risk is viewed when values and emotions come into play.

Scientific risk assessment deals with the following types of questions:

- What are the potential damages or adverse effects?
- What is the probability of occurrence?
- How ubiquitous could the damage be? How persistent? Can it be reversed?
- How clearly can cause-effect relationships be established?
- What scientific, technical and analytical approaches, knowledge and expertise should be used to better assess these impacts?
- What are the primary and secondary benefits, opportunities and potential adverse effects?

Concern assessment deals with such questions as:

- What are the public's concerns and perceptions?
- What is the social response to the risk? Is there the possibility of political mobilisation or potential conflict?
- What role are existing institutions, governance structures and the media playing in defining public concerns?
- Are risk managers likely to face controversial responses arising from differences in stakeholder objectives and values, or from inequities in the distribution of benefits and risks?

**Potential governance deficits in risk appraisal:**

- *Information: there is scarcity of scientific data about the risk and/or about people's concerns, or, if there is sufficient information, there is a failure to accept it*
- *Confidence: there is a low confidence level in the data, the model or the interpretation of it*
- *Lack of attention to interdependencies and interactions between actors and between actors and the risk target*
- *Inadequate attention is given to the concerns of stakeholders*

**BOX 3: When risk appraisal takes no account of concern assessment - Brent Spar<sup>2</sup>**

One reason for the furore around the planned disposal by Shell of the Brent Spar offshore platform in 1995 was that, although "Shell had carried out an environmental impact assessment in full accordance with existing legislation, and firmly believed that their actions were in the best interests of the environment, they had severely underestimated strength of public opinion". Before Shell could complete disposal of the platform it was occupied by Greenpeace activists and journalists as part of Greenpeace's worldwide campaign against disposal of the platform at sea. Greenpeace's actions received extensive media coverage and led to a consumer boycott of Shell, although Greenpeace did not itself call for the boycott. Shell lost between £60-100million mostly from lost sales across northern Europe; in Germany "even Molotov cocktails were thrown at Shell petrol stations". Subsequently there has been some criticism of the scientific basis for the Greenpeace campaign: "their information about the amount of potentially harmful substances in the rig was simply wrong".



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### 3. Characterisation and evaluation

IRGC's inclusion of this element is deliberately intended to ensure that the **evidence** based on scientific facts is combined with a thorough understanding of **societal values** when making the sometimes controversial judgement of whether or not a risk is "**acceptable**" (risk reduction is considered unnecessary), "**tolerable**" (to be pursued because of its benefits and if subject to appropriate risk reduction measures) or, in extreme cases, "**intolerable**" and, if so, to be avoided.

This phase involves making a judgement based on such questions as:

- What are the societal, economic and environmental benefits and risks?
- Are there impacts on quality of life?
- Are there ethical issues to consider?
- Is there a possibility of substitution? If so, how do the risks compare?
- Does a choice of a particular technology impact on the risk? How?
- What are the possible options for risk compensation, or reduction?
- What are the societal values and norms for making judgements about tolerability and acceptability?
- Do any stakeholders – government, business or other – have commitments or other reasons for wanting a particular outcome of the risk governance process?

#### **Potential governance deficits in risk characterisation and evaluation:**

- *Exclusion: when some stakeholders and their views or significant benefits and other consequences are accidentally or deliberately excluded from the evaluation process*
- *Indecision: when there is indecision or lack of responsiveness, whether voluntary (act of authority) or involuntary (overly inclusive process with stakeholders leads to inertia)*
- *Transparency: when trade-offs are not made explicit and hidden agendas seem to determine the outcome of the evaluation process*
- *Overlooking values – failing to fully consider social needs, environmental impacts, cost-benefit analyses and risk-benefit balances*
- *Timing: when the timing issues are not properly addressed*

#### BOX 4: Risk governance lessons from BSE<sup>3</sup>

In the UK alone, 4.4 million cattle were slaughtered and the total costs of dealing with Bovine Spongiform Encephalopathy (BSE) (mad cow disease) are estimated at £4.4 billion. Additionally, 165 human deaths have resulted from the associated new variant Creutzfeldt-Jakob disease (vCJD). The BSE epidemic has many lessons for risk governance.

One is that “no evidence of proof is not evidence of no proof”. In the early stages of the epidemic the public was advised that there was “no scientific evidence that BSE can be transmitted to humans”; such advice did not make clear that there was no evidence either way. Equally, even after government acceptance of the link, advertising by the beef industry stated: “There is no proof of a link between BSE and CJD”.

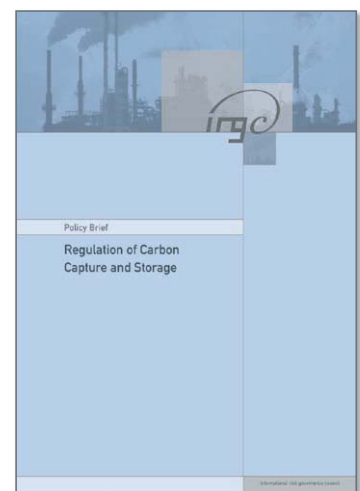
Another is the impact of delay. The first report of a cow “behaving unusually” was in December 1984. It was 9 months before samples from the animal were tested by the UK Central Veterinary Laboratory; BSE was diagnosed a week later. It took another 10 months for the existence of the new disease to be accepted, 7 months to inform Agriculture ministers and a further 9 months to inform the UK Department of Health. It took a full 9 years to extend a ban on using meat and bone meal to cover all farm animals.

## 4. Management

All tolerable risks will need appropriate and adequate risk management. **Risk management involves the design and implementation of the actions and remedies required to avoid, reduce, transfer or retain the risks.** Based on the development of a range of options and a consideration of the most appropriate of them, risk management decisions are taken and put into practice. Risk management includes the generation, assessment, evaluation and selection of appropriate risk reduction options as well as implementing the selected measures, monitoring their effectiveness and reviewing the decision if necessary.

The questions are:

- Who is, or should be, responsible for decisions within the context of the risk and its management?
- Have they accepted this responsibility?
- What management options could be chosen (technological, regulatory, institutional, educational, compensation, etc.)?
- How are these options evaluated and prioritised?
- Is there an appropriate level of international cooperation and harmonisation for global or transboundary risks?
- What are the secondary impacts of particular risk reduction options?



IRGC’s policy brief, “Regulation of Carbon Capture and Storage”, includes a number of recommendations for managing the introduction of CCS, and can be downloaded from [www.irgc.org](http://www.irgc.org)



- What potential trade-offs between risks, benefits and risk reduction measures may arise?
- What measures are needed to ensure effectiveness in the long term (compliance, enforcement, monitoring, adaptive management plans, etc.)?

#### **Potential governance deficits in risk management:**

- *No entity is responsible for managing the risk, or several are and things “fall between the cracks”*
- *Inadequate or ignored information: may lead to inappropriate decision*
- *Regulation: no appropriate regulatory structure or process*
- *Sustainability: short-term decisions lead to further, secondary problems*
- *Short-term expediency: authority makes a decision on a knee-jerk basis to give the impression of management*
- *Inflexibility: failure to revisit a risk decision in the light of new knowledge*
- *Indecision/lack of timeliness: delays or inaction make matters worse*
- *Inequity: decisions allot the risk and benefits unfairly*
- *Accountability: decision makers are isolated from the impact of their decision*
- *Implementation: decisions are ignored or poorly implemented*



## 5. Communication

Communication is of the utmost importance. It enables stakeholders and civil society to understand the risk itself. It also allows them to recognise their role in the risk governance process and, through being deliberately two-way, gives them a voice in it. Once the risk management decision is made, communication should explain the rationale for the decision and allow people to make informed choices about the risk and its management, including their own responsibilities. **Effective communication is the key to creating trust in risk management.**



Questions:

- What are the demands, needs and purposes for information and communication?
- How is information interpreted by those who receive it?
- What is known about the risk and the hazard, by whom, and how can it be conveyed to the interested stakeholders and public?
- How can communication be organised so that two-way information is effective, enlightening and timely?
- Are the concerns of stakeholders and the public being clearly articulated and are decision makers listening?
- How can communication be facilitated between and among regulators, risk assessors and other experts, risk managers and interest groups?
- What is the degree of confidence in the risk managers responsible for generating/ or disseminating information, and for organising a dialogue?
- What has been and can be the role of the media?



**Potential governance deficits in risk communication:**

- *One-way information instead of two-way communication prevents building a dialogue*
- *The communication is not adapted to the category of risk (simple, complex, uncertain, ambiguous) (see next section)*
- *Communication does not account for how different stakeholders receive and accept information*
- *Alienation: people's or organisations' concerns are treated as irrelevant or irrational; this may cause incomplete understanding of the full nature of risks as well as social mobilisation against the institution or the final decision*
- *Low level of confidence or trust in the decision-making process, the information given or the communication channel weakens the whole process*