



**An introduction to
the IRGC
Risk Governance
Framework**

The International Risk Governance Council (IRGC) is an independent organisation whose purpose is to improve the understanding and management of emerging systemic risks that may have significant impacts on human health and safety, the environment, the economy and society at large. IRGC's work includes developing concepts of risk governance, anticipating major risk issues and developing and providing risk governance policy recommendations for key decision makers.

Many current risk issues are complex, uncertain, or even ambiguous. In most cases, the potential benefits and risks interconnect. IRGC's mission is to facilitate a better understanding of risks and their scientific, political, social, and economic contexts. It also provides support on how to manage them when there are knowledge gaps, time constraints and policy trade-offs. IRGC believes that improvements in risk governance are essential to taking optimal risk-related decisions and to maximising public trust in risk management processes, structures and decisions.

Drawing on an analysis of established approaches to risk management, IRGC has developed a Risk Governance Framework whose purpose is to help policy makers, regulators and risk managers both understand the concept of risk governance and apply it to their handling of risks. A detailed description of the framework was published in IRGC's White Paper "Risk Governance – Towards an Integrative Framework" in 2005¹. In this document we summarise its main points and identify potential deficits in the risk governance process.

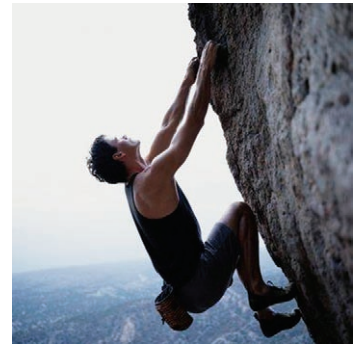
Since its founding in 2003, IRGC has received financial contributions from the Swiss Secretariat for Education and Research, Swiss Agency for Development and Cooperation, US Environmental Protection Agency and Department of State, Austrian Federal Ministry for Transport, Innovation and Technology, Korean National Program for Tera-level Nanodevices, Electricité de France, Swiss Re, Oliver Wyman Limited, Allianz Technology Center, E.ON Energie AG, Aare-Tessin AG für Elektrizität and the ETH Domain.

More information on IRGC and the IRGC's Risk Governance Framework may be obtained from www.irgc.org or by email to: governance@irgc.org



¹IRGC White Paper No1 "Risk Governance – Towards an Integrative Approach", IRGC, Geneva, 2005. The full text of this document can be downloaded from www.irgc.org

I Systemic risks: the need for improved governance	4
II Handling systemic risks with the IRGC framework	6
III The IRGC risk governance framework	8
1. Pre-assessment	8
2. Appraisal	10
3. Characterisation and evaluation	12
4. Management	13
5. Communication	14
IV Categorising the risk issue	16
V Stakeholder involvement	18
VI Widening the horizon	20
Conclusion	22
Notes	23



I Systemic risks: the need for improved governance

Risk is an uncertain (generally adverse) consequence of an event or activity with respect to something that humans value. Risks are often accompanied by opportunities.

Systemic risks are embedded in the larger context of societal, financial and economic consequences and are at the intersection between natural events, economic, social and technological developments and policy-driven actions. Such risks are not confined to national borders; they cannot be managed through the actions of a single sector; they require a robust governance approach if they are to be adequately managed. The governance of systemic risks requires cohesion between countries and the inclusion within the process of governments, industry, academia and civil society.

Governance refers to the actions, processes, traditions and institutions by which authority is exercised and decisions are taken and implemented.

Risk governance deals with the identification, assessment, management and communication of risks in a broad context. It includes the totality of actors, rules, conventions, processes and mechanisms and is concerned with how relevant risk information is collected, analysed and communicated, and how management decisions are taken. It applies the principles of good governance that include transparency, effectiveness and efficiency, accountability, strategic focus, sustainability, equity and fairness, respect for the rule of law and the need for the chosen solution to be politically and legally feasible as well as ethically and publicly acceptable.

Risk accompanies change. It is a permanent and important part of life and the willingness and capacity to take and accept risk is crucial for achieving economic development and introducing new technologies. Many risks, and in particular those arising from emerging technologies, are accompanied by potential benefits and opportunities.

The challenge of better risk governance lies here: to enable societies to benefit from change while minimising the negative consequences of the associated risks.

Sound risk governance minimises:

- Inequitable distribution of risks and benefits between countries, organisations and social groups
- Differing approaches to assessing and managing the same risk
- Excessive focus on high profile risks, to the neglect of higher probability but lower profile risks
- Inadequate consideration of risk trade-offs
- Failure to understand secondary effects and linkages between issues
- Cost of inefficient regulations
- Decisions that take inappropriate account of public perception
- Loss of public trust



IRGC's **risk governance framework** is a comprehensive approach to help understand, analyse and manage important risk issues for which there are deficits in risk governance structures and processes. The framework comprises five linked phases:

1. Pre-assessment
2. Appraisal
3. Characterisation and evaluation
4. Management
5. Communication

These interlinked phases, which are summarized in the following pages, together provide a means to gain a thorough understanding of a risk and to develop options for dealing with it.

II Handling systemic risks with the IRGC framework

Policy makers are often required to make decisions and take actions under considerable time pressure, with incomplete information and often faced by conflicting advice. Even in situations of **knowledge deficit** decisions must be made and action is often needed.

The IRGC's framework can assist in giving guidance, even in situations of high complexity, uncertainty or ambiguity. It can help **detect current or potential deficits** within the risk governance process, and so enable decision makers to act on the basis of known facts, transparent assumptions and broad societal values and interests. The framework can also encourage people to **raise the relevant questions**, the answers to which will help reduce uncertainty and increase the capacity to deal with the unanticipated and the unknown.

Besides the standard elements of risk handling – risk assessment, management and communication – the IRGC framework incorporates additional activities which reflect the need to deal with risk in a way that fully accounts for the **societal context** of both the risk and the decision that is reached.

Risk handling is not just about risk management. It starts at the much earlier stage of **“risk pre-assessment”**, in which the essential aspects of the risk, particularly how it is framed by different stakeholders and whether or not there are any applicable legal or other existing rules or processes, are identified early and broadly.

To help achieve effective risk management and meaningful engagement with stakeholders, IRGC recommends a **categorisation of risks** (whether they originate from natural, technological, economic or environmental causes) as predominantly **simple, complex, uncertain or ambiguous**.

IRGC also emphasises the crucial role of **communication**. This includes not only informing people of a risk or of a risk management decision, but also establishing the two-way dialogue needed at all stages of the risk handling process – including communication between those responsible for taking risk-related decisions and those responsible for providing the knowledge on which the decisions are based. Excellent communication is particularly important for the involvement of stakeholders in participative risk-related decision making and conflict resolution and for ensuring that they can make informed choices about the risk, balancing factual knowledge about it with their own interests, concerns, beliefs and resources.

It is also necessary to accept and account for the **variety of risk cultures** around the world, as these will require different methods for, particularly, management and communication. Also, as risk cultures vary (for example, over time and according to the level of economic development), timing is a key criterion. What is possible now in one environment may not be possible elsewhere. What is not feasible today may be feasible tomorrow.

Cutting across each of these elements is the role played by **stakeholders** in analysing the risk and in sharing the decisions about it. For example, the interests and intentions

behind the introduction of genetically modified crops were and remain very different across countries. This reflects both differences in risk cultures and the diverse roles and interests of various stakeholders.

The framework therefore offers an interdisciplinary and multi-level governance approach. Most notably, it urges risk governance institutions to gather not only knowledge about the physical impacts of technologies, natural events or human activities but also knowledge about the concerns that people associate with these and other causes of risks.

Classifying risks

Risks differ in a number of ways. One approach to understanding the differences is to consider a number of dimensions which typically should influence the risk governance process.

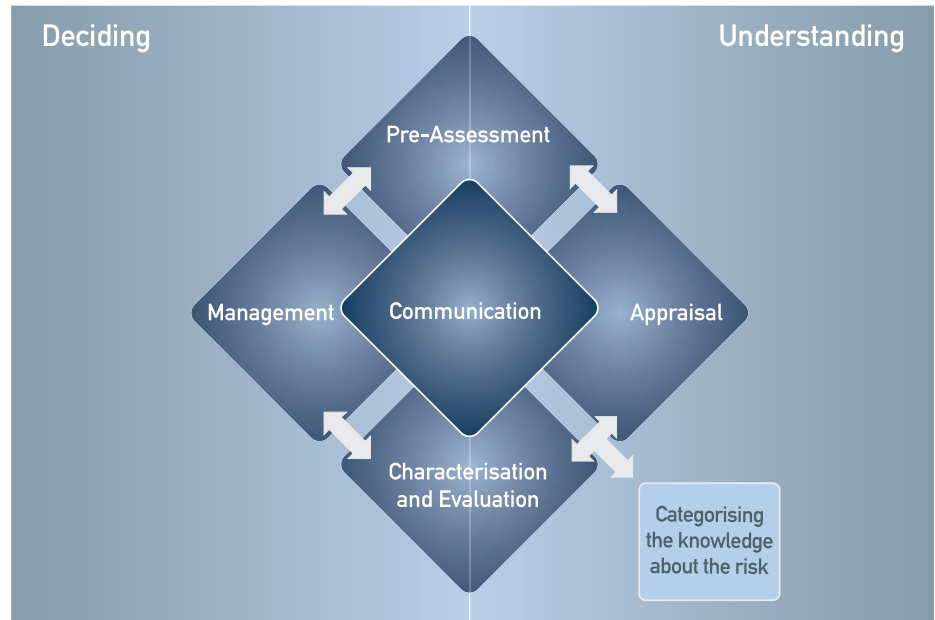
Several dimensions relate to the risk itself. For example:

- *Degree of novelty – is the risk emerging, re-emerging, increasing in importance, current (topical) or institutionalised (already subject to management decisions)?*
- *Scope: is the risk local, dispersed, transboundary or global?*
- *Range: does the risk impact on human health and safety, the environment, capital assets, trade, etc?*
- *Time horizon: what is the time frame available for analysing a risk?*
- *Type of hazard: is it ubiquitous, persistent and/or irreversible?*
- *Delay: Is there a long time span between the trigger of the risk and its effects (latency)?*
- *For the risks introduced by developments in science and technology: is the change incremental or breakthrough?*

Other dimensions relate to risk evaluation or management decisions, such as:

- *Does the risk handling require international cooperation?*
- *Does it meet or violate other important societal values, business prospects, equity concerns, security requirements, or trade agreements?*
- *Possibility of transfer or insurability.*
- *Level of public concern and stakeholder involvement.*
- *Form of regulatory framework: regulation/standards/guidelines/laissez-faire; national/international; level of compliance.*
- *Form of public-private partnerships and the degree of governmental regulation versus self-regulation.*

III The IRGC risk governance framework: description



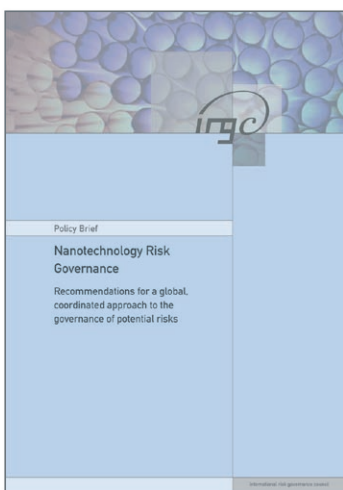
IRGC’s risk governance framework distinguishes between **analysing and understanding** a risk – for which risk appraisal is the essential procedure – and **deciding** what to do about a risk – where risk management is the key activity. This distinction reflects IRGC’s support for the clear separation 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

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?



Copyrights: NASA



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*



Copyrights: Andrea E. Janda

BOX 2: How framing influences the entire risk governance process, including final decisions – genetically modified crops¹

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 Spar²

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”.



Copyrights: Greenpeace / David Sims



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 BSE³

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”.

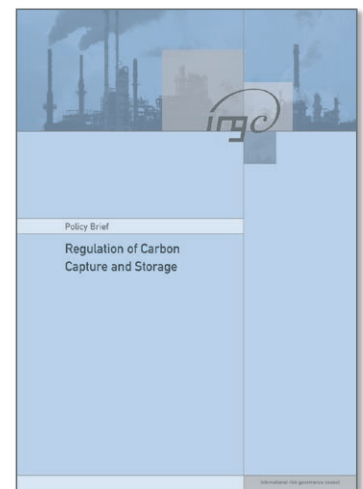
Another is the impact of delay. The first report of a cow “behaving unusually” was in December 1984. It was 9 months before samples from the animal were tested by the UK Central Veterinary Laboratory; BSE was diagnosed a week later. It took another 10 months for the existence of the new disease to be 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

- 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*



IV Categorising the risk issue – the importance of knowledge



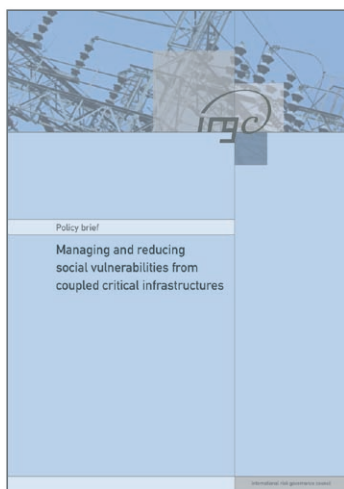
Copyrights: Amanda Boucc

The IRGC risk governance approach to a particular risk depends in part on the state and quality of knowledge about that risk.

During the “risk appraisal” phase a considerable amount of knowledge is developed as a result of the risk and concern assessments. IRGC’s approach places particular emphasis on categorising the knowledge about the cause-effect relationships. This **knowledge challenge** is important to categorise the risk as being predominantly simple, complex, uncertain or ambiguous. Doing so can assist in designing both risk management strategies and in planning for the participation of stakeholders in the risk handling process.

Relatively *simple* risks (e.g. home fire safety), where the benefits of taking regulatory action may be straightforward and uncontroversial (e.g. smoke detectors) require a different approach to risk evaluation and governance compared to risks that are increasingly *complex, uncertain and/or ambiguous* (with respect to the perceptions and values associated with the risks).

- **Complexity** refers to difficulties in identifying and quantifying causal links between a multitude of potential causal agents and specific observed effects. Examples of highly complex risks include the risks of failures of large interconnected infrastructures and the risks of critical loads to sensitive ecosystems.



IRGC’s policy brief, “Managing and reducing social vulnerabilities from coupled critical infrastructures” can be downloaded from www.irgc.org

Complexity: Managing and reducing the social vulnerabilities of coupled critical infrastructures

The IRGC policy brief “Managing and Reducing the Social Vulnerabilities of Coupled Critical Infrastructures” concluded that the complex networks by which many essential services (such as electricity, gas, water and information and communication systems) are distributed and supplied are further complicated by their interdependencies. The two infrastructures identified as most critical in developed economies are electricity and ICT systems. To deal with such a complex risk issue, IRGC’s recommendations include the need for policy makers to make prioritising the security of electricity supply a central principle and to mandate that the current public Internet is not used to control critical systems.

- **Uncertainty** refers to a lack of clarity or quality of the scientific or technical data. Highly uncertain risks include many natural disasters, acts of terrorism and sabotage and the long-term effects of introducing genetically modified species into the natural environment.

Uncertainty: Carbon capture and storage

Carbon capture and storage (CCS) represents a massive opportunity to reduce CO₂ emissions from power generation, but uncertainties regarding regulatory frameworks, liability regimes, financing and public acceptance mean that, although the technology needed to introduce CCS on a commercial scale is already available, many challenges remain. The IRGC policy brief “Regulation of Carbon Capture and Storage” emphasises the needs for an international regulatory framework that can evolve as scientific and technical knowledge increases, for resolving issues relating to long-term management and liability at storage sites, for transparency in communication, and for a resolution to issues relating to how CCS investments are funded and earn economic rent. A further recommendation is for the construction and operation of a diverse portfolio of commercial-scale demonstration plants from which a full range of scientific and technical data can be collected and used to inform longer-term policy decisions.

- **Ambiguity** results from divergent or contested perspectives on the justification, severity or wider meanings associated with a given threat. Risks subject to high levels of ambiguity include food supplements, hormone treatment of cattle, passive smoking, some aspects of nanotechnology and synthetic genomics.

Uncertainty and ambiguity: Nanotechnology

A key finding of the IRGC project “Nanotechnology Risk Governance” is that policy makers could usefully distinguish between passive nanostructures (which are already incorporated in over 500 commonly available products such as sunscreens and paints) and active nanostructures and systems. For both, IRGC’s recommendations include the need to increase the investment in and learning from risk assessments in order to reduce uncertainty. For active nanostructures and systems, some of whose potential benefits may have far-reaching and transformative societal impacts, there are higher levels of ambiguity, requiring policy makers to include the widest possible range of stakeholders in a discourse aimed at identifying the most desirable and acceptable nanotechnology applications.

Linking a risk’s characteristics to how it is managed

Distinguishing between simple, complex, uncertain and ambiguous risks can help to design a risk management strategy.

- Simple risk problems can be managed using a ‘routine-based’ strategy, such as introducing a law or regulation.
- Complex risks can be addressed on the basis of accessing and acting on the best available scientific expertise, aiming for a ‘risk-informed’ and ‘robustness-focussed’ strategy. Robustness refers to the degree of reliability of the risk reduction measures to withstand threatening events or processes that have not been fully understood or anticipated.
- Uncertain risks are better managed using ‘precaution-based’ and ‘resilience-focussed’ strategies, with the intention being to apply a precautionary approach to ensure the reversibility of critical decisions and to increase a system’s coping capacity to the point where it can withstand surprises.
- Finally, for ambiguous risk problems the appropriate approach comprises a ‘discourse-based’ strategy which seeks to create tolerance and mutual understanding of conflicting views and values with a view to eventually reconciling them.

V Stakeholder involvement

– coping with plural values and interests



IRGC has broadened the concept of risk assessment by adding the parallel activity of concern assessment – the consideration of individual, organisational and societal perceptions of and concerns about the consequences of risk. Both are relevant inputs to risk evaluation and risk management.

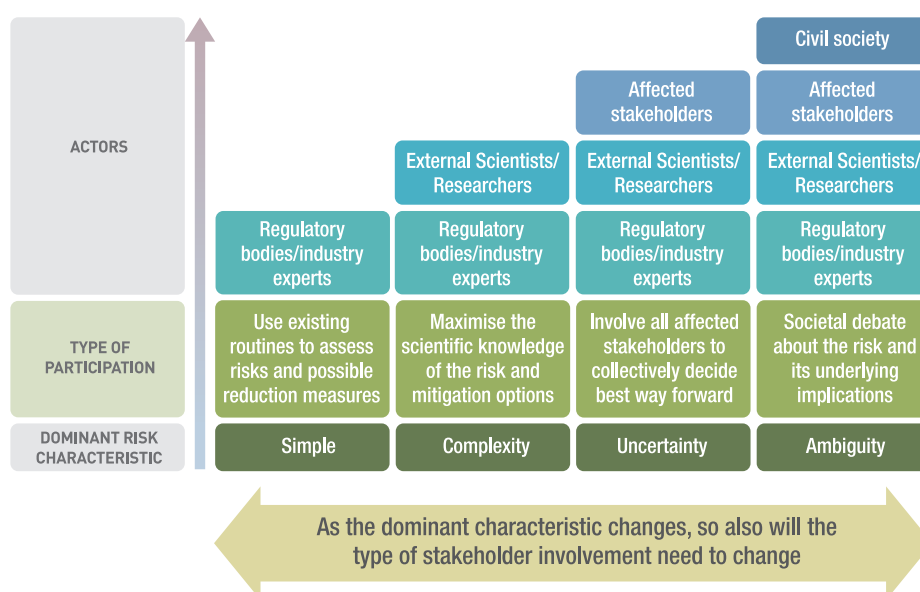
In addition, it provides guidance on how best to implement the idea of inclusive governance. **Inclusive governance** is based on the assumption that all stakeholders have something to contribute to the process of risk governance and that their inclusion improves the final decisions rather than impedes the decision-making process or compromises the quality of scientific input.

Very few risk governance models currently include procedures or guidance for how, or when, to involve the concerns of stakeholders – particularly the general public.

IRGC recommends that decision makers consider using the dominant characteristic of a risk as the basis for deciding on the appropriate level of stakeholder involvement in the process.

Whilst *simple* risks may require little consultation on the nature of the risk itself because of their routine nature (although consultation may be needed on the choice of the most effective method of control), highly *complex* and *uncertain* risks may benefit from wider dialogue amongst, respectively, a broader base of people with expert knowledge or all directly affected stakeholders. Risks with high levels of *ambiguity* are those for which wider stakeholder consultation is recommended, not least as a means of trying to reconcile the various framings that different stakeholders may have when interpreting a risk or evaluating the options for its management.

A structure for stakeholder involvement



The involvement of stakeholders is both to ensure that the risk handling process is inclusive and responsive to those affected by it and to maximise the effectiveness and acceptability of the decisions that are made.

Potential governance deficits relating to stakeholder involvement:

- *Exclusion: accidental or deliberate exclusion of stakeholders and/or their views*
- *"Authority knows best": a deliberate refusal to seek or accept knowledge or to communicate with other interested parties leads the stakeholders with power to make the decisions, irrespective of the need for consultation and dialogue*
- *"Paralysis by analysis": selection of an overly inclusive process leads to inertia or indecision*

BOX 5: Reaching agreement through stakeholder involvement – Vienna Airport⁴

Increasing opposition to the increase of air traffic and associated noise around Vienna Airport came to a head in 2000 when neither the airport authority nor the local authority consulted local interest groups about plans for a third runway. Eventually the airport operating company, which anticipated escalation of conflicts that could lead to long delays within the Environmental Impact Assessment, decided to address public concerns and set up an Environment Mediation Process.

The process was initiated by the Viennese Environmental Legal Office and the airport operating company. 55 parties took part in the mediation process, including adjacent districts in Vienna and adjoining communities, the Lower Austrian Environmental Legal Office, citizen groups, political parties of Vienna and Lower Austria, aviation organisations, professional associations and the Donau Auen National Park. This process constituted the largest environmental mediation process in Europe.

At its conclusion in June 2005, contracts were signed by all parties except a couple of political parties involved. These included a legally binding framework for the extension of the airport and regulation of the number of flight movements.



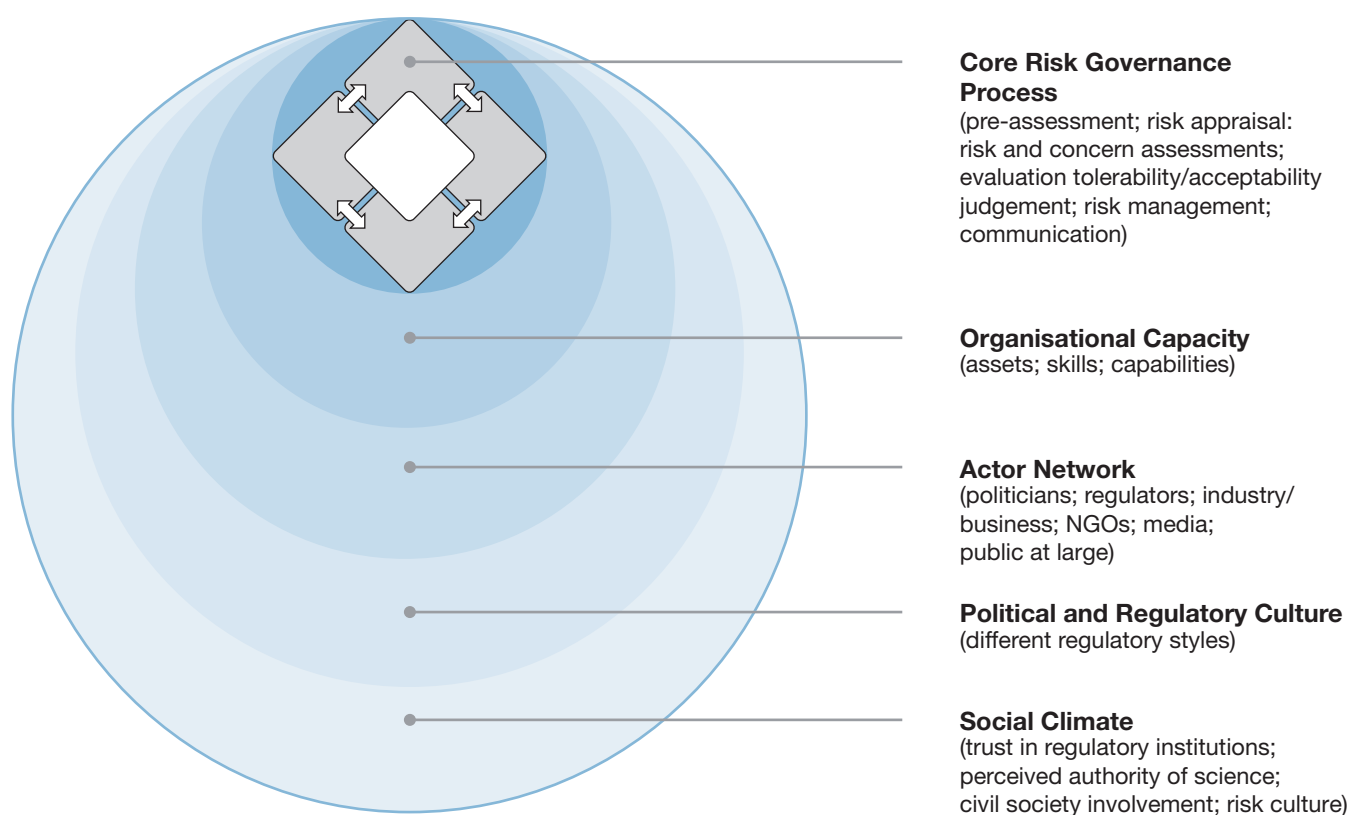
Copyrights: Gerald Fischer-Bernsteiner

VI Widening the horizon – the importance of context

P 20

Alongside the conventional elements of risk assessment, risk management, and risk communication, **the framework stresses the broader social, institutional, political and economic contexts that must be taken into account in risk-related decision-making.**

Risk governance in context



For example, **the organisational capacity** of an organisation or system (the capability of key actors in the risk governance process to fulfil their roles) and the **political cultures** (the governmental and regulatory ‘styles’ that define particular institutions or countries) are important in determining governance processes. Also important are the **risk culture**, which impacts on the level of risk tolerance (or risk aversion), and the degree of **trust** in the institutions responsible for risk governance.

BOX 6: Acknowledging multiple actors in coastal zone management⁵

Responsibility for the coastal area of the East of England Region is distributed amongst many management bodies (national, regional and local) with overlapping responsibilities and jurisdictions. A complex policy framework is illustrated by the many national laws and EU regulations that pertain both to the coastal land area and to coastal waters. With no single entity responsible for such issues as economic development and environmental protection, this is a situation that can lead to confusion, poor integration of policy and management activity, and poor decision-making. A study by CoastNet has recommended that a common vision and policy goal be developed that is inclusive of all those involved in the management of the coastal zone, including development of a particular focus on the future of flood and coastal defence.



Copyrights: Tomasz Nowak

*Many governance deficits originate from the lack of an appropriate **legal or regulatory framework**. Sometimes there is no appropriate structure or process. Alternatively, some regulatory structures overlap and compete with others, creating conflicts which complicate how risks are handled.*

Bioenergy risks: the importance of context

IRGC's project on the governance of the opportunities and risks of biomass energy has found that a full understanding of the *context* in which the policy decisions are made is vital and that, as a result, policies will need to differ between countries.

This is primarily due to the enormous diversity of energy needs and production capacity, agricultural and forestry practices, climate change impact, technological capacities and economic and social conditions. It is also due to differences in priorities and objectives of the organisations which comprise the *actor network*. For example, policies may prioritise different objectives such as reducing carbon emissions, enhancing national energy security and independence, or catalysing rural economic development.

Within society at large, differences in culture and values mean that, often independently of scientific data, some social groups may view bioenergy as a threat to the security of food supplies whilst others view bioenergy as a potential source of new income. Although the same principles and objectives of risk governance will be needed to develop and implement policies for bioenergy, the *context* will mean that the policies themselves may vary widely.



The IRGC framework is innovative, comprehensive and flexible. It offers guidelines for identifying, understanding and addressing the essential elements of sound risk governance. It can help risk governance institutions to structure their tasks. It can assist in diagnosing deficits in the risk governance process and provide suggestions for how to correct them. Internationally, the framework can add to efforts to harmonise risk governance approaches and find common denominators for risk handling in a globalised and plural world.

The framework is not intended as a recipe or a checklist which can guarantee that all relevant aspects are considered when analysing a risk and its governance process and structures. It cannot replace thinking or, for that matter, creativity. However, by building into conventional risk analysis and management such “soft” issues as societal values, concerns and perceptions of risk and by looking into the interactions between the various actors involved in the process, the IRGC risk governance framework can contribute to the development of more inclusive and effective risk governance strategies.

What others have said about the IRGC risk governance framework

“The IRGC framework represents a new and important contribution to the broad body of work on risk management and sheds light on the kind of risk framework necessary to address 21st century global risk issues. It challenges the sustainability and scalability of generally accepted approaches adopted by the commercial sector.”

Peter Sutherland – Head of Group Risk & Compliance, Insurance Australia Group, Sydney, Australia

“I am attracted to the IRGC approach as it is a unique platform for global debate and addresses societal concerns head-on... With the IRGC’s innovative inclusion of pre-assessment and an explicit concern assessment in addition to more usual risk assessment, it may very well have developed a tool kit to achieve success. Industry, as part of our society, needs this sort of approach and guidance in order to make the huge investments in future technology a success for all stakeholders in society.”

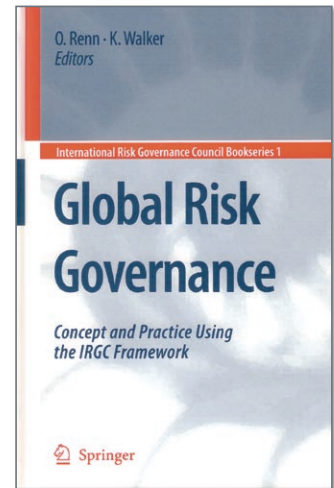
David Slavin – Research Director, Pfizer, UK

“For the community of risk management professionals worldwide, the work of the IRGC should be a permanent part of your risk library if only for the breadth of perspectives and worldwide collaboration that it represents on a spectrum of key topics for our profession... I wish to recognize the work of the IRGC and express my appreciation to its members for inspiring me. I suggest that you have made a noteworthy contribution to the community at large through careful, clear and cogent thinking on time-worn topics of our profession.”

Jan Mattingly – Risk Management Practitioner, Canada, and Member of ISO 31000 Risk Management Standard Working Group

Readers of this document who wish to learn more about the basis for the development of the IRGC's risk governance framework and read a detailed description of the framework are invited to download a copy of the IRGC White Paper No1 from our website (www.irgc.org) or to email: governance@irgc.org.

A further source of additional information is the book "Global Risk Governance – Concept and Practice Using the IRGC Framework" published by Springer Academic Publishers in 2008. This volume includes critiques of the framework by internationally renowned experts on risk governance, applications of the framework to specific risk issues, and a chapter in which Ortwin Renn – who has led this area of work by IRGC – itemises the lessons learned from the critiques and case studies as well as from IRGC's experience of using the framework in the two years since the publication of the White Paper.



References

¹ BOX 2 draws on 'Risk governance of genetically modified crops – European and American perspectives', Joyce Tait, published by Springer in 2008 in the book "*Global Risk Governance: Concept and Practice Using the IRGC Framework*"

² BOX 3 uses information taken from wikipedia, from 'The Brent Spar Controversy: An Example of Risk Communication Gone Wrong' by Ragnar Lofstedt and Ortwin Renn, in *Risk Analysis* (Vol. 17, No. 2, pp 131–136) and from 'Lessons from Brent Spar, comment by Dirk Maxeiner' at the 8th Zavikon Conference at Bieberstein Castle near Dresden in February 2003

³ BOX 4 uses information taken from Wikipedia, the Lords Hansard of 28th March 2001, from 'Have lessons been learned from the UK bovine spongiform encephalopathy (BSE) epidemic' by Michael O'Brien in the *International Journal of Epidemiology* (2000; 29 pp730-33), from 'The lessons from BSE' by J R Ashton in the *Journal of Epidemiology and Public Health* (2007; 67:134) and from 'The precautionary principle – lessons from BSE' by Michael Warhurst on www.website.lineone.net

⁴ BOX 5 is an edited extract from the final report of the EU-funded project Trustnet in Action (2007)

⁵ BOX 6 draws on information in a scoping study prepared by CoastNet for the Sustainable Development Round Table – East, published in March 2007.



international risk governance council

Chemin de Balxert 9
1219 Châtelaine
Geneva ■ Switzerland

tel +41 (0)22 795 17 30
fax +41 (0)22 795 17 39

info@irgc.org
www.irgc.org