

# Impact Assessment as procedural framework for Risk Governance

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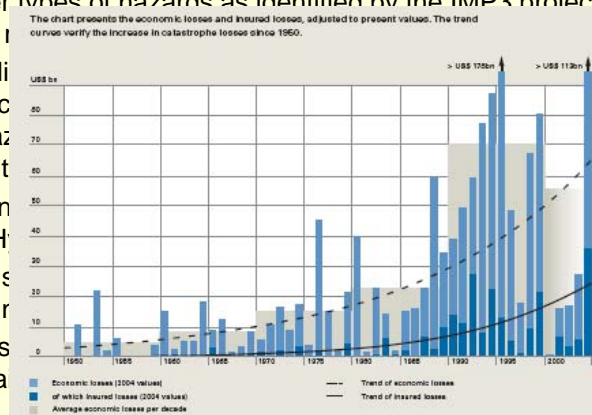
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## 1. Introduction

- The following talk aims at disaster risks, caused by natural hazards.
- The significant rising trend in economic losses is mainly triggered by the growing damage potentials and not caused by the natural phenomena itself.
- Other types of hazards as identified by the IMP3 project are also from

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- „Sustainable development must be resilient with respect to the natural variability of the earth and the solar system. The natural variability includes such forces as floods and hurricanes and shows that much economic development is unacceptably brittle and fragile“ (FEMA 1997).
- “A resilient community is one that lives in harmony with nature’s varying cycles and processes”. This includes events like earthquakes, storms, floods as natural events, which cause harm only for a non-sustainable society (Godschalk 1999).
- Disaster resiliency should be added to sustainability’s economic, social and environmental aspect (Greiving 2002, 203).
- Sustainability can be understood as a mission aiming at an adaptation of societies to future consequences of present processes. In that sense, sustainability can be seen in line with resilience.
- However, what’s about the spatial dimension of resilience, in particular on the European level?

#### **Present situation in assessment of natural hazards/risks**

- Fragmented with respect to type of hazard, given thread, legal framework, risk culture
- Disaster driven process: The intensity of attention paid to natural hazards typically depends on the experiences from recent events.
- Dominance of hazard assessment: The assessment side is dominated by hazard assessment (and not risk assessment).
- Lack of multi-hazard approaches: With a few positive exceptions a multi-risk approach is not used.
- Mainly use of specific sectoral planning instruments.
- Presently not considered in SEA practice.

Table 1: Basic information in dealing with natural hazards

Country	Authority in charge of risk assessment	Authority in charge of risk management	Existence of Hazard maps	Existence of risk maps	Used vulnerability indicators	Multi-risk aspect considered?	Attention to public awareness?
<i>Finland</i>	SEP	SEP, SPP	0	-	PD	-	0
<i>France</i>	SEP	SEP, SPP	+	0	PD	+	+
<i>Germany</i>	SEP	SEP, SPP	+	0	DP	-	0
<i>Greece</i>	SEP	SEP, SPP	0	0	No data	-	0
<i>Italy</i>	SEP	SEP, SPP	0	0	No data	0	No data
<i>Poland</i>	SEP	SEP, SPP	0	0	DP, PD, OI	-	+
<i>Spain</i>	SEP	SEP, SPP	+	0	PD, OI	-	No data
<i>U.K.</i>	SEP	SEP, SPP	0	0	No data	-	+

SEP = sectoral planning  
SPP = spatial planning

+ high importance/yes  
0 medium importance/partly  
- low/no importance/no

DP = economic damage potential  
PD = population density  
OI = other indicators

## 2. Disaster risk related policy in Europe

- Generally speaking, an EU-wide harmonisation in dealing with risks would be a step forward to territorial cohesion, which is propagated by the EU (Art. III "The Union's objectives" para. 3 of EU Constitution Draft).
- Article III-184 ("Civil Protection") determines that *"the Union shall encourage cooperation between Member States in order to improve the effectiveness of systems for preventing and protecting against natural or man-made disasters within the Union"*.
- ESDP, Goal 142 underlines, that *"[...] In dealing with risks, it is important, in particular, to take the regional and transnational dimensions into account."*
- EDSP Policy option 46 aims at: *"Development of strategies at regional and transnational levels for risk management in disaster prone areas"*.
- As part of the "post-ESDP" process, the *EU Working Group on Spatial and Urban Development* proclaims, that *"areas at risk from large-scale natural disasters (e.g. flooding) need risk assessment and management incorporating a European perspective"*.

- The working group recommended “a *strand in future regional policy reflecting the need for a territorial approach to development, where all regions of the EU are in principle eligible, depending on the chosen priority themes (e.g. accessibility, vulnerability to natural disasters, etc).* This would give more emphasis to strategic territorial development frameworks”.
- The Commission aims at a so called “safety impact assessment” (EC 2003, DG Environment): “*Community legislation already provides that major projects or programmes have to be accompanied by an environmental impact assessment. It is also important to ensure that projects and programmes do not unduly increase the risk to people or the environment. For this reason, a flexible tool should be conceived to ensure that proper account has been taken of the risk.*”
- For post-2006, Michel Barnier (DG Regional Policy) expressed his desire for “*each Structural Fund programme to include a specific budget for the 'prevention of natural risks' ”*. He also called for a genuine European civil protection force, coordinated at intergovernmental level.

### **3. Integration of disaster risks into Impact Assessment**

- An appropriate procedural framework for risk assessment would be indispensable to reach the mentioned EU environmental objectives and coordinate the several risk-related directives.
- For that purpose, the directives 97/11/EC (Amended Environmental Impact Assessment”) and 2001/42/EC (“Strategic Environmental Assessment”) offer appropriate legal basis.
- Main reasons for launching the SEA directive:
  - Impossibility of assessing alternatives and interactions between several projects when considering only the effects of single projects on EIA level.
  - Only minor changes of a project based on the results of an EIA could be taken into account, because the basic decision had been already made on the programme or plan level.

- The material scopes of the EIA as well as SEA refer to plans/projects which are likely to have significant effects on the environment.
- Article 3 EIA: "The EIA shall identify, describe and assess [...] the direct and indirect effects of a project on the following factors:
  - **human beings**, fauna and flora;
  - soil, water, air, climate and the landscape;
  - **material assets** and the cultural heritage;
  - the interaction between the factors mentioned in the first, second and third indents."

- The following risk-related aspects have to be regarded particularly (see Annex III EIA directive):
  - the extent of the impact (geographical area and size of the affected population),
  - the transfrontier nature of the impact,
  - the magnitude and complexity of the impact,
  - the probability of the impact,
  - the duration, frequency and reversibility of the impact.
- The corresponding SEA requirements (Annexes I and II SEA directive) are more spatially oriented
  - spatial extent of effect,
  - value and vulnerability of the area
  - cumulative effects.
- Thus, a material interrelationship between risk assessment and the key objectives of the EIA and SEA is clearly visible.
- Moreover, an increasing damage potential (vulnerability) or impact on the hazard potential as a consequence of the realisation of a plan/project can be understood as a significant effect on the environment.

- Although SEA and EIA directives can be understood in that sense, a more explicit mentioning of the vulnerability of the plan/project related to natural disasters would be suitable.
- #11 of Canadian EIA guidelines: *“Potential effects of the environment on the project must be examined using the same criteria for significance as used in the assessment of effects of the project on the environment.”*
- Possible adverse effects of the environment on the project may include:
  - destruction of the project or components of the project;
  - negative impacts to the operation and productivity of the project;
  - increase to cost of project development;
  - revisions to project design;
  - increase maintenance frequency and costs, and
  - requirement for future project modifications.

- The procedures, carried out within both directives, correspond in an almost ideal way with the usual steps of a risk assessment process, as shown by the following table.
- EIA and SEA are well established by legislation and can be described as an existing procedural framework for managing the environment in general and especially risks from natural as well as technological hazard threatening the environment.
- This framework can be understood as a great chance for establishing risk assessment as an obligatory task within every decision about a spatial plan/programme as well as project.
- Prerequisite: communicating importance of natural hazards for SEA/EIA, probably amendment of directives in order to guarantee for an obligatory consideration of effects of the environment on plans/projects.
- Important challenge in dealing with risks, to be discussed more in detail: recreating trust in public decision-making.

#### **4. Trust as a main challenge for dealing with risks**

- Uncertainty and ambiguity are the main challenges that characterise the dealing with risks in society.
  - Uncertainty reduces the strength of confidence in an estimated cause and effect chain. Uncertainty is related to the occurrence and/or magnitude of a hazardous effect.
  - Ambiguity denotes the variability of legitimate interpretations based on identical observations. Ambiguity exists due to differences in criteria or norms to interpret or judge a given situation.
- A socially widely accepted development path should be pursued in order to resolve value conflicts and assure fair treatment of concerns and visions.
- This framework has to take into account the interests of coming generations as well as intragenerational (spatial) justice.
- This is in particular important for most of the projects subject to Art. 4 (1) of the EIA directive (i.e. public infrastructure, chemical industry etc.) but also relevant for plans and programmes.

- In particular the management of risks has become increasingly politicised and contentious.
- Importantly, it is definitions of risk which affect risk policy and moreover, defining risk is an exercise in power in view of existing ambiguity.
- Normative concepts are the basis for mandatory regulations in states that are governed according to law.
- In this context the main function of justice is the creation of a system of rules which aims at avoiding unwished consequences of natural as well as man-made events.
- Resulting from this concept the juridical dimension of risk management becomes clearer.
- The responsibility to define or to exclude certain material or immaterial goods as subjects of protection is a question of political power (see debates about limiting values of potentially hazardous substances, e.g. nano particles).
- Distrust in public decision-making can be understood as central how disparities between "real" and "perceived" risk might engender public discourse.
- Thus, the importance and difficulty of maintaining trust, and the complex, socio-political nature of risk call for a new approach.

## 5. The Risk Governance approach

- The term “governance” refers to the capacity of actors, social groups and institutions to build an organizational consensus, to agree on the contribution of each partner and on a common vision.
- Risk governance can be defined as process by which risk information is collected, analysed and communicated and management decisions are taken.
- Better involvement and more openness as well as better policies, regulation and delivery have been identified as key objectives by the White Paper on European Governance, launched by the EC in 2001.
- Risk governance principles have been integrated in the ISDR, as endorsed in January 2005 in Hyogo: *“Promote and improve dialogue and cooperation among scientific communities and practitioners working on disaster risk reduction, and encourage partnerships among stakeholders, including those working on the socioeconomic dimensions of disaster risk reduction”*.

- Risk governance seems to be most important for those risks which are related with a high uncertainty of probability/magnitude or a considerable ambiguity.
- In both cases, consensus and acceptability of decision-making have to be seen as crucial for success of any risk management strategy.
- Both, measures based on mandatory decisions of public administration as well as those, private stakeholders are responsible for, need to be accepted for their implementation.
- Examples: Evacuation orders, Building protection, Risk awareness.
- The absence of risk governance principles makes institutional settings vulnerable and may lead to increased ambiguities and in the end to distrust in public decision-making.
- In the following, some process-oriented aspects will be discussed as able to cause misfits in decision-making.

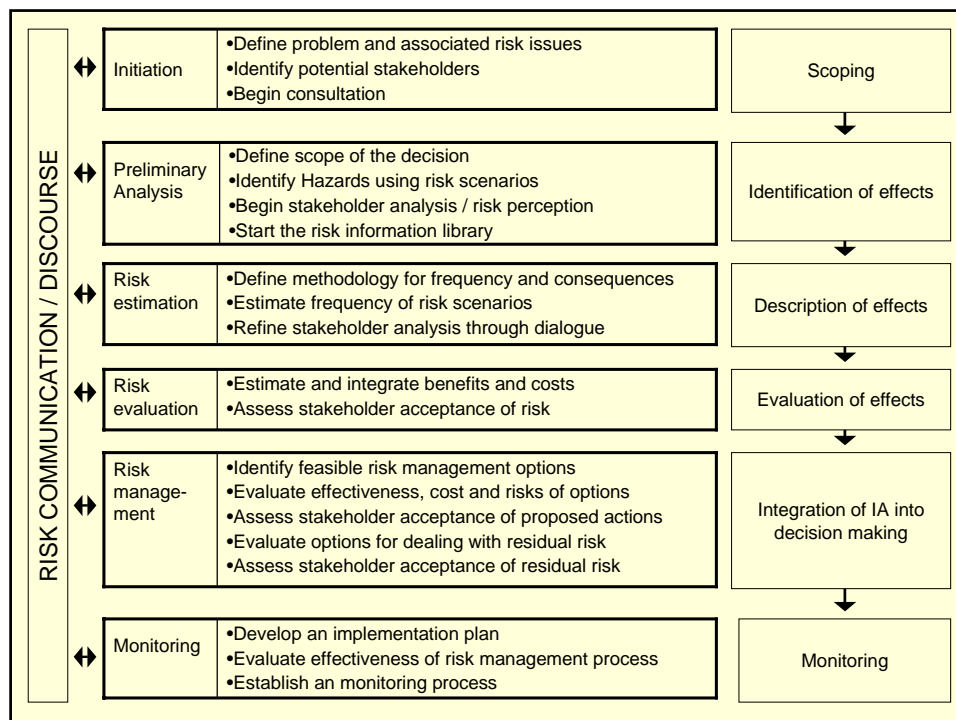


- **Risk assessment:**
  - Reduce complexity to pre-framed dimensions marginalising societal concerns.
  - Emphasise the differentiation between a scientific risk assessment and a political risk management.
  - Concentrate only on economic damage potentials instead of measuring vulnerability.
  - Propose more scientific expertise and research when the issue is to decide in the context of large uncertainties.
  - Bring new experts when the need is to involve stakeholders and to make decision-makers more accountable to them.
  - Let the non-experts believe that safety is the absence of risk.
- **Risk communication:**
  - Involve stakeholders without making explicit the extent and limit of their remit to influence final decisions.
  - Focus a possible dialogue on risk while the problem is in the justification of the activity.

- **Risk management:**
  - Impose a local decision justified by an overriding global interest.
  - Present the decision-making process as “scientific”.
  - Make irreversible decisions when society or affected people is not ready to take such a step.
- Put a normative decision in the “safe hands” of independent administrative bodies.

## 6. Consequences for Impact Assessment

- More public participation into both, risk assessment and risk decision-making is needed for more legitimacy and public acceptance of the resulting decisions.
- For that purpose, the consultation of the public (Art. 7 EIA, Art. 6 SEA) can be used: „*The Member States concerned [...] shall also arrange for the information referred to in paragraphs 1 and 2 to be made available, within a reasonable time, to the [...] the public concerned in the territory of the Member State likely to be significantly affected; and ensure that [...] the public concerned are given an opportunity, before development consent for the project is granted [...].*”



- The following criteria can be understood as actions to qualify the process of risk governance within the impact assessment procedure und to avoid misfits:
  - Empowering the affected individuals and groups and engaging them appropriately.
  - Operating in an atmosphere of mutual respect and trust.
  - Creating the conditions for stakeholders to appropriate the relevant scientific evidence to meet their needs.
  - Producing practicable decisions and strategies, flexible and open to revision with time.
  - Creating a process recognised as legitimate and fair by the stakeholders.
  - Providing feed-back to the involved stakeholders on the decisions taken.
  - Taking care for evaluation and monitoring of decisions' consequences, taking into account the stakeholders view. Readjust decisions if necessary.

## 7. Conclusions

- Impact Assessment can to be understood as common procedural framework for risk assessment in the EU.
- SEA seems to be more suitable for often large scale natural hazards, EIA for more project oriented technological hazards.
- In any case, a coordination between SEA and EIA is needed.
- The obligatory consultation of the public can be useful as a starting point for an extensive involvement of the public.
- This consultation process should be much more than just an information about the results of a risk assessment, made by public authorities.
- It has to be open for the concerns of potentially affected stakeholders from the early beginning.
- In so doing, the acceptance of public decision-making and the implementation of plans and projects might be more realistic.
- Thus, risk governance can be seen as procedural path towards the material goal of disaster resilience and Impact Assessment as a framework for risk governance.

#### **Own research activities**

- Misfits in interplay between institutions have been examined as part of
  - the finalised ESPON project 1.3.1 (“Spatial Effects of Natural and Technological Hazards in General and in Relation to Climate Change”).
  - the running EU 6th RF project ARMONIA (“Applied Multi Risk Mapping for Impact Assessment”)
  - and the ongoing ESPON project 2.4.1 „Impact of EU environmental policy (e. g. civil protection policy) on territorial development“.
- Misfits in interplay between institutions will be addressed as part of the forthcoming EU projects
  - MOUNTAINRISKS (Marie Curie Action).
  - CA POLIRISKS (“Polis at risk: Risk Governance for Urban Regions and the Creation of Synergies with Territorial Governance”).
  - and CA MIDIR (“Multidimensional Integrated Risk Governance Concept”).

**Thank you for your attention**

### Disaster Risks and EU funding policy

- In view of the various existing fragmented actions and instruments to cope with risks, a proposal is launched to bring together all aspects within one solidarity and reaction instrument.
- This means widening the perspective of the solidarity fund (to more proactive aspects).
- In terms of risk prevention, cohesion policy takes a two-pronged approach:
  - Providing financial aid for the less favoured regions
  - Support for those regions whose competitiveness must be supported for their development efforts to prove sustainable.
- The following table indicates the strengthened role of risk prevention within cohesion policy.
- Moreover, risk prevention will be part of the 7th Framework Programme (FP7).

### Disaster risks and the cohesion policy

	Period 2000 - 06	Period 2007 - 13
<b>Regional development</b>	<b>Revised strategic guidelines</b> <ul style="list-style-type: none"> <li>• Realisation of geological or stabilisation studies</li> <li>• Prevention plans for natural risks</li> </ul> <b>Interreg III</b> <ul style="list-style-type: none"> <li>• Joint planning and guidelines for the improvement and management of border areas</li> <li>• Highlighting sustainable development and conservation of cross-border forestry resources; disaster prevention</li> <li>• Development of joint risk management strategies</li> </ul>	<b>"Convergence" and "Competitiveness" objectives</b> Plans aimed at preventing and managing natural and technological risks <b>"Territorial cooperation" objective</b> Themes: <ul style="list-style-type: none"> <li>• Promotion of maritime security</li> <li>• Protection against flooding and protection of internal maritime waters</li> <li>• Prevention of and protection against erosion; earthquakes and avalanches</li> </ul> Actions: <ul style="list-style-type: none"> <li>• Supply of equipment</li> <li>• Development of infrastructure</li> <li>• Drawing-up and implementation of transnational assistance plans</li> <li>• Risk mapping systems</li> <li>• Development of joint instruments for preventing, monitoring and combating risks</li> </ul>
<b>Rural development</b>	<b>EAGGF</b> Prevention and repair of natural risks and forest fires affecting agricultural and forestry production	<b>ERDF</b> Prevention and repair of natural risks and forest fires affecting agricultural production and forestry production Development of forestry resources and improvement of their quality: <ul style="list-style-type: none"> <li>• Initial forestation of agricultural and non-agricultural land</li> <li>• Strengthening of the protective role of forests in combating soil erosion</li> <li>• Management of water resources and water quality</li> </ul>
<b>Fisheries policy</b>		Reconstitution of the production potential of the fisheries sector damaged by natural or industrial disasters

Source: info regio No. 15, December 2004.

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