Risk governance

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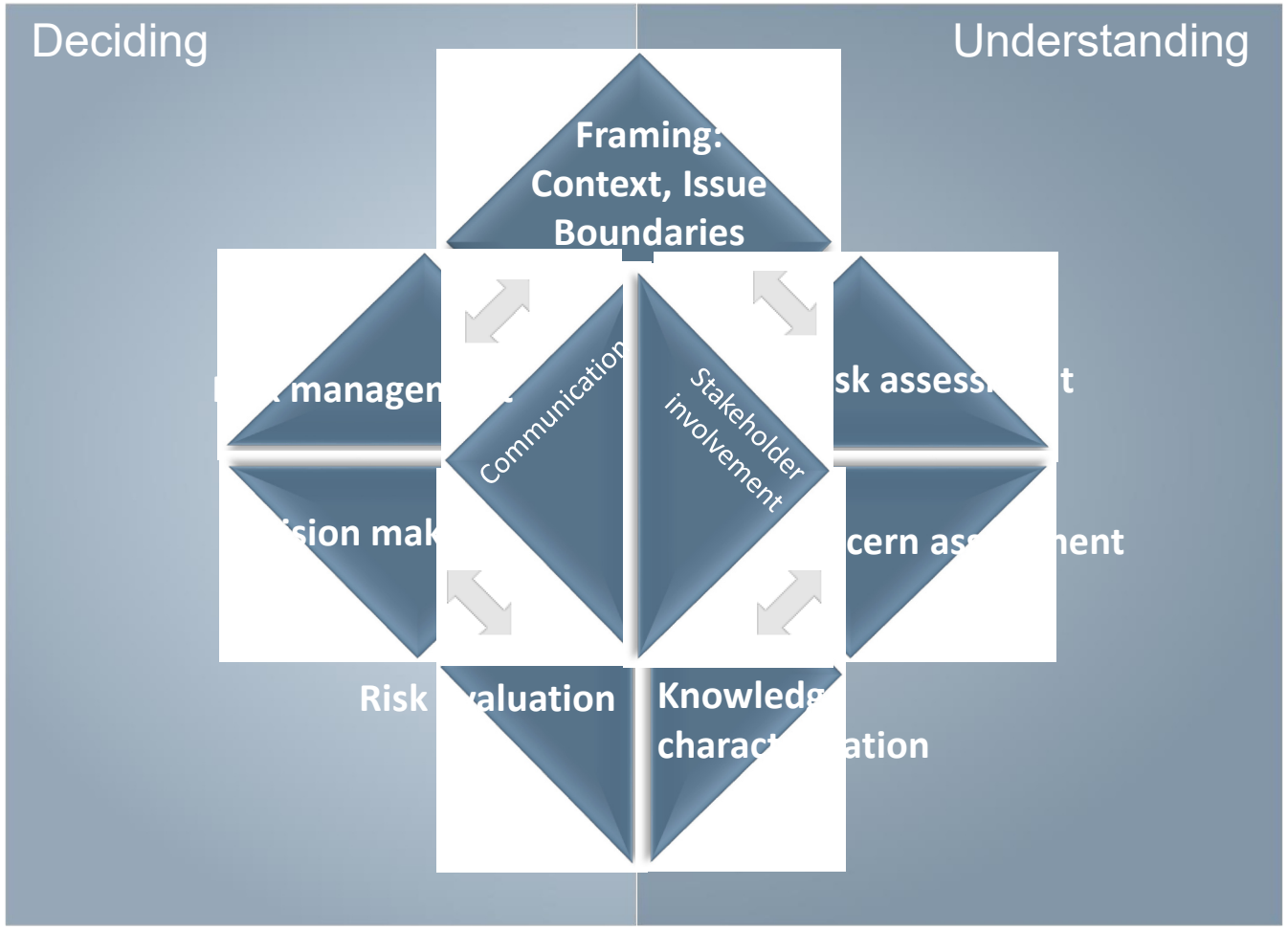
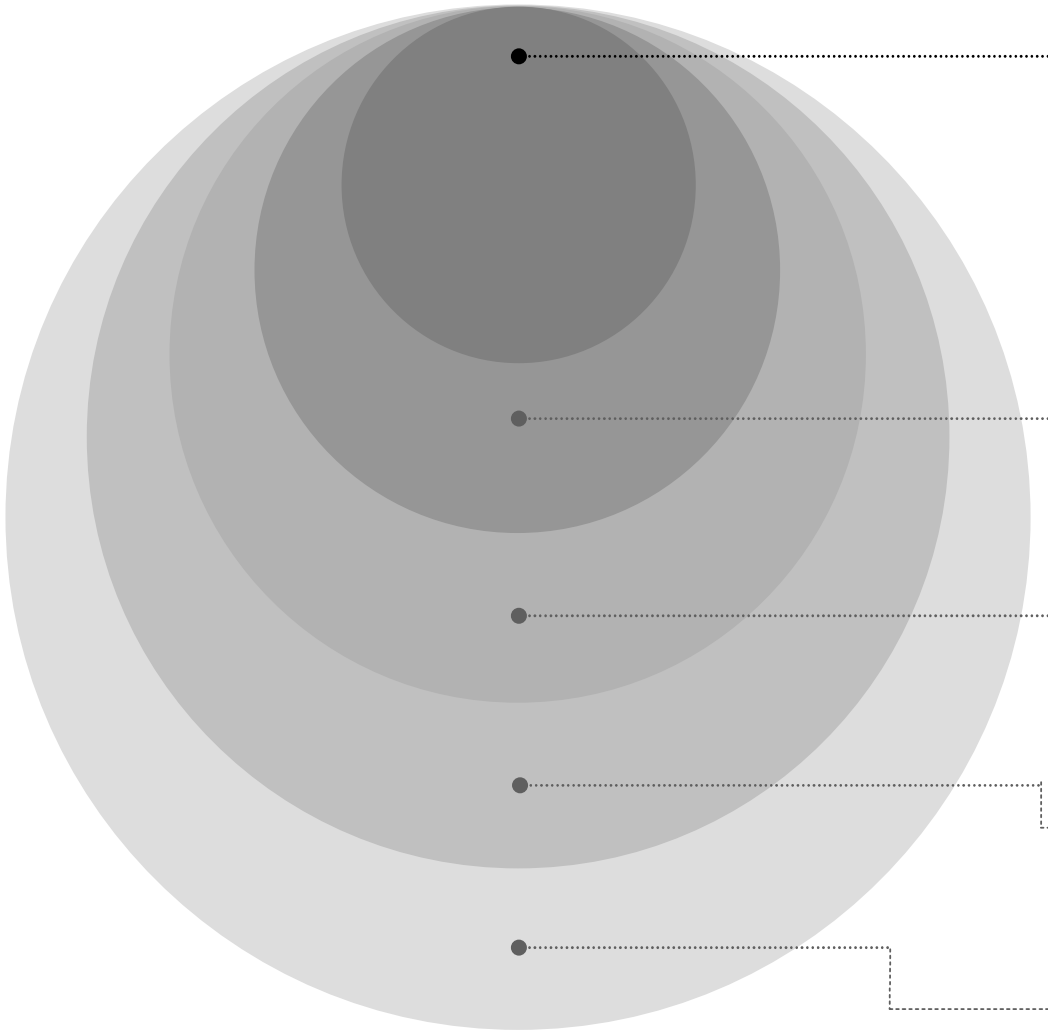
IRGC'S Risk Governance Framework



Defining the context in which risk governance is organised



Core Risk Governance Process
- Risk assessment
- Risk evaluation
- Risk management
- Communication

Organisational Capacity
- assets
- skills
- capabilities

Actor Network
- politicians
- regulators
- industry/business
- NGOs
- media
- public at large

Political & Regulatory Culture
- different regulatory styles

Social Climate
- trust in regulatory institutions
- perceived authority of science
- degree of civil society involvement
- **RISK CULTURE**

Characterizing the knowledge we have about the risk, to provide guidance to stakeholder involvement and identify possible risk management strategies

Complexity

Refers to the difficulty of identifying and quantifying causal links between a multitude of potential causal agent and specific observed effects

Large infrastructure network, e.g. electricity grid, internet

Uncertainty

A state of knowledge in which, although the factors influencing the issues are identified, the likelihood of any adverse effect of the effects themselves cannot be precisely described.

E.g. growing biomass for fuel, vs. for food; impact on greenhouse gas emissions

Ambiguity

Giving rise to several meaningful and legitimate interpretations of accepted risk assessments results

Risks related to genetically modified crops

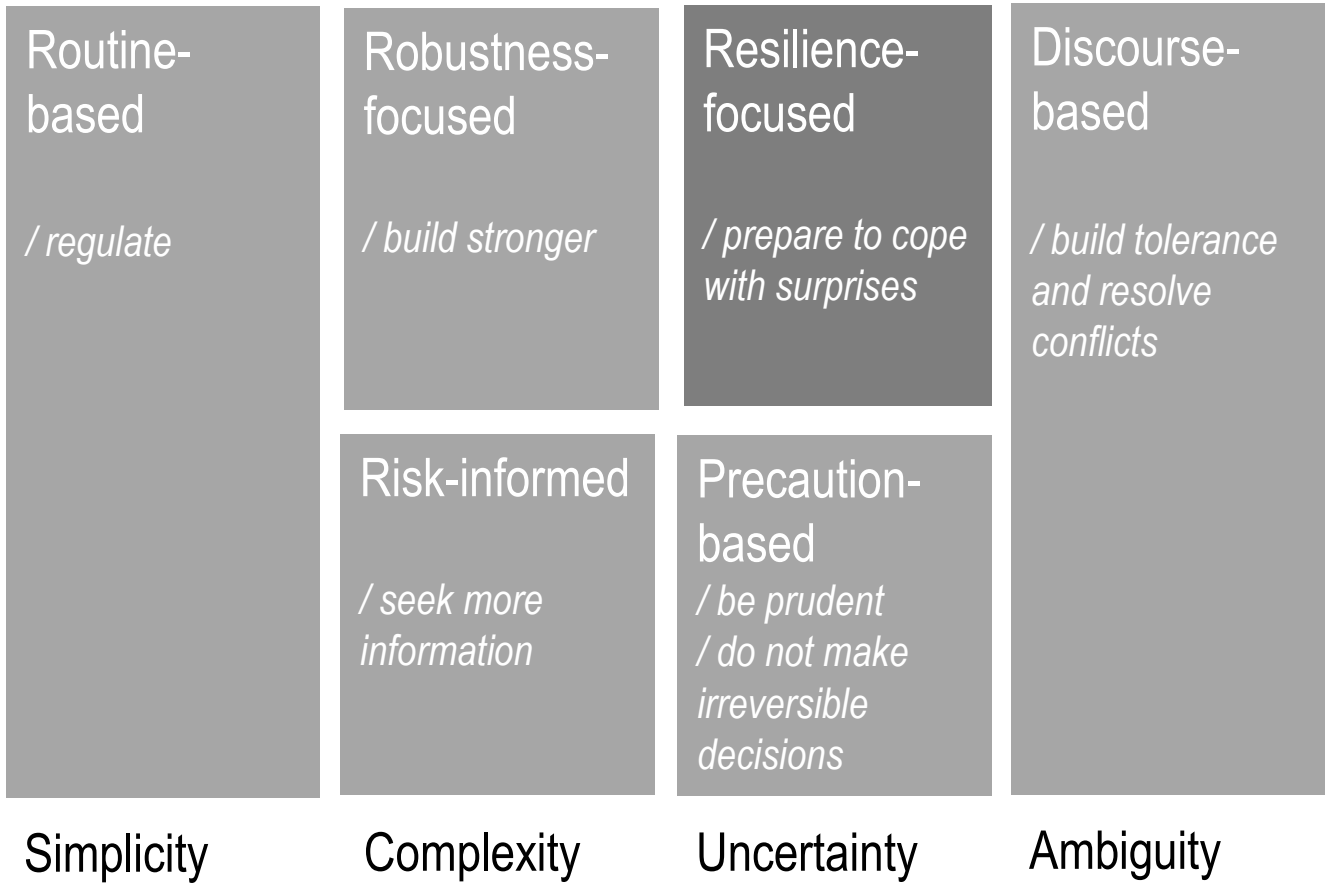
Risk Management Strategies

of the risk
- exposure
- vulnerability

Strategies directed at the risk absorbing system

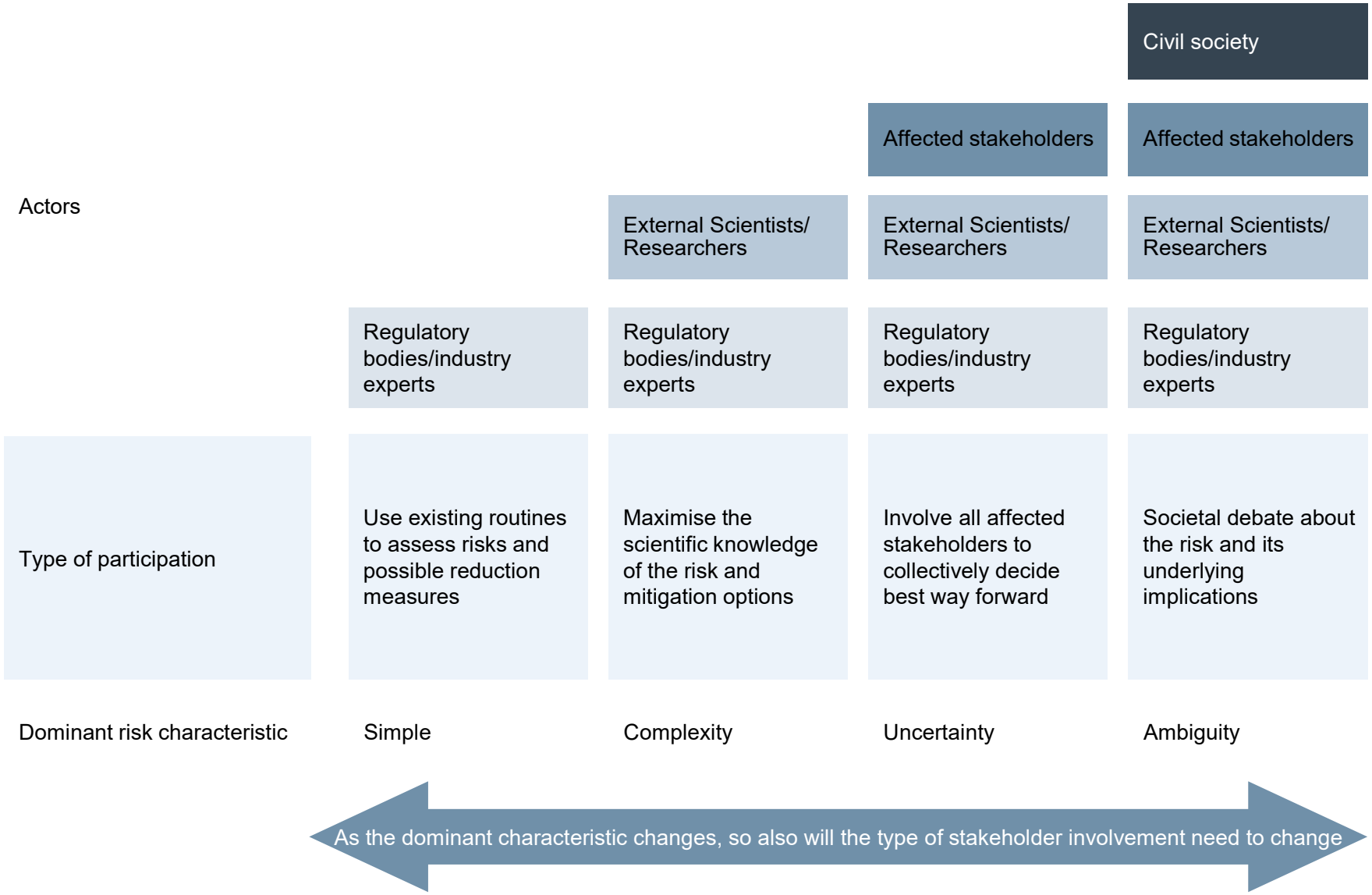
of the risk
- hazard

Agent-based strategies



(adapted from: IRGC risk governance framework, 2005)

Involving stakeholders to assess and manage risks



Risk governance deficits observed from the Fukushima

- **Risk-related knowledge base was deficient or inadequate.**
  - For emergency preparedness and response and severe accident management policy-making, a wide range of knowledge and information are inevitably needed and should be understood by decision-makers and responders in emergency situation.
- **Interface problem among stakeholders was a serious underlying problem.**
  - Advances in tsunami research have made the uncertainty of tsunami predictions more obvious in the tsunami experts' community. Nevertheless, their recognition of uncertainty was not transmitted to the nuclear safety experts.
- **Appreciation or understanding fundamental changes and interdependencies of agents in complex societal system was lacking.**
  - Inward-looking and non-holistic management might hinder awareness of the systemic and multi-faceted natures of many risks of critical infrastructure and economic system advancement.
- **Deficits in legal system and departmentalized emergency response scheme could exacerbate risks and make organizations insensitive to risk.**
- **Organizational capacity building for managing risks (in particular, specialized competence and knowledge, organizational integration, flexibility and its network) was inadequate.**
  - The backdrop of the deficit is an absence of safety culture.
- **Scientific advices were not coordinated in crisis situation at all.**
  - In risk governance, scientific advice can play a critical role in not only the routine but also emergency situation. During the Fukushima nuclear accident, the Japanese government experienced difficulties in taking wholly consistent action.

Taniguchi T (2014) Lessons learned from deficits analysis of nuclear risk governance. Inter– national symposium on earthquake, tsunami and nuclear risks after the accident of TEPCO's Fukushima Daiichi Nuclear Power Stations, Kyoto University, 30 October 2014, Kyoto, Japan

”Deficits” still remain unsolved in post accident phases

- See Juraku, https://core.ac.uk/download/pdf/81604895.pdf