Risk Governance and Acceptability

Meeting the Challenges to Deal with Risks of our Society

International Conferenc

Stavanger, January 12, 200

Ortwin Ren

Stuttgart University and University of Stavang

Part 1

Problems of present situation

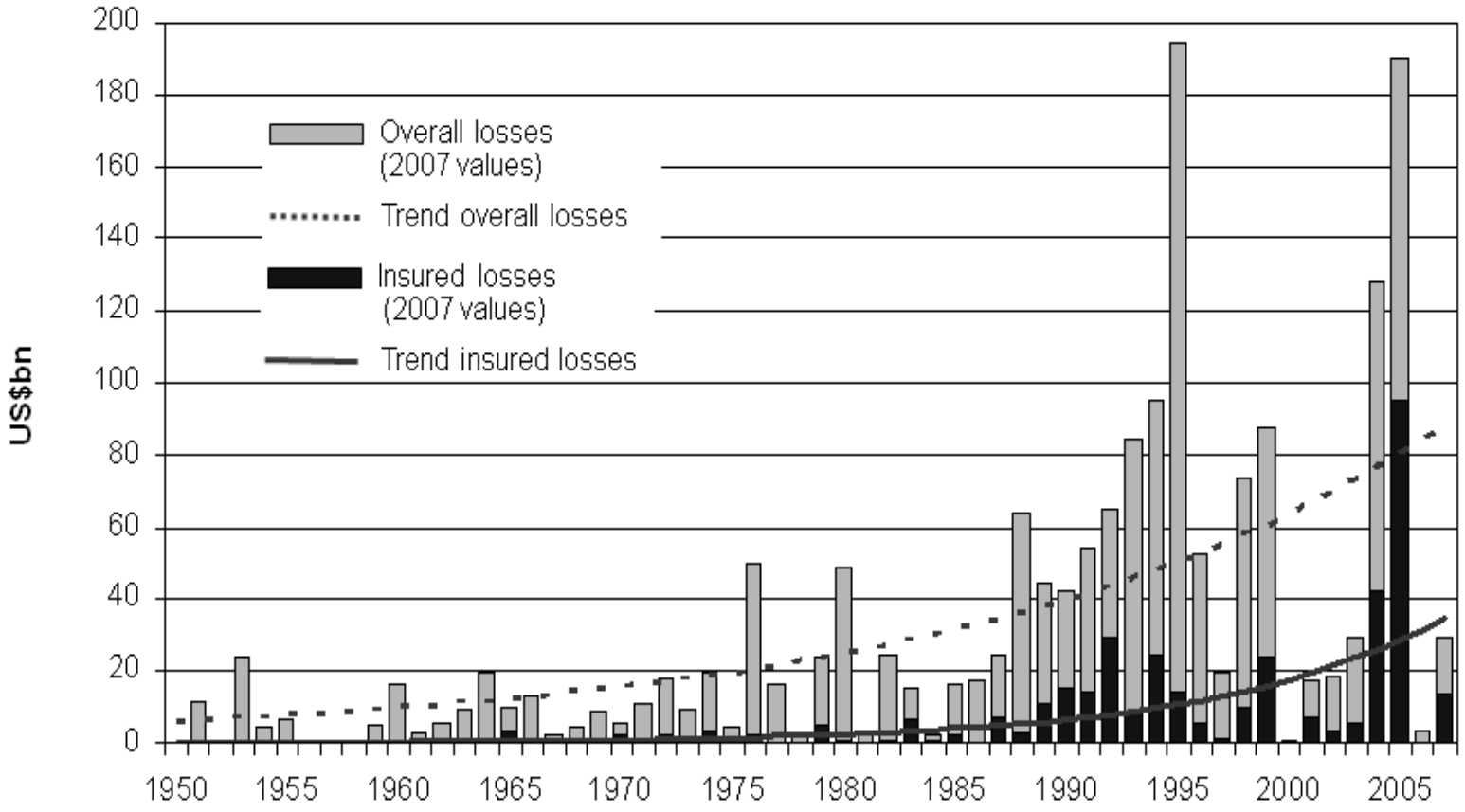
RECENT TRENDS (I/II)

- Increase of population density and urbanization
- Increase of catastrophic potential and decrease of individual risk (at least in OECD countries)
- Increase in uncertainty due to interconnectiveness and fast global changes (risk networks)
- Strong links between natural, technical, social and economic risks
- Increased uncertainty about natural hazard patterns and frequencies due to global change

RECENT TRENDS (II/II)

- Increase of vulnerability with respect to technological, social and natural risks
- Exponential increase in payments by insurance companies for compensating victims of natural catastrophes
- High potential for (symbolic) social amplification and attenuation
- Severe equity problems with respect to vulnerability between and among nations

Increase in global losses



Source: Kunreuther et al. 2008 (*Data from Munich Re, 2008 Geo Risks Research – in U.S. $ billon indexed to 2007)*

Part II

Risk Governance:

A new perspective towards managing global change

WHAT IS RISK GOVERNANCE?

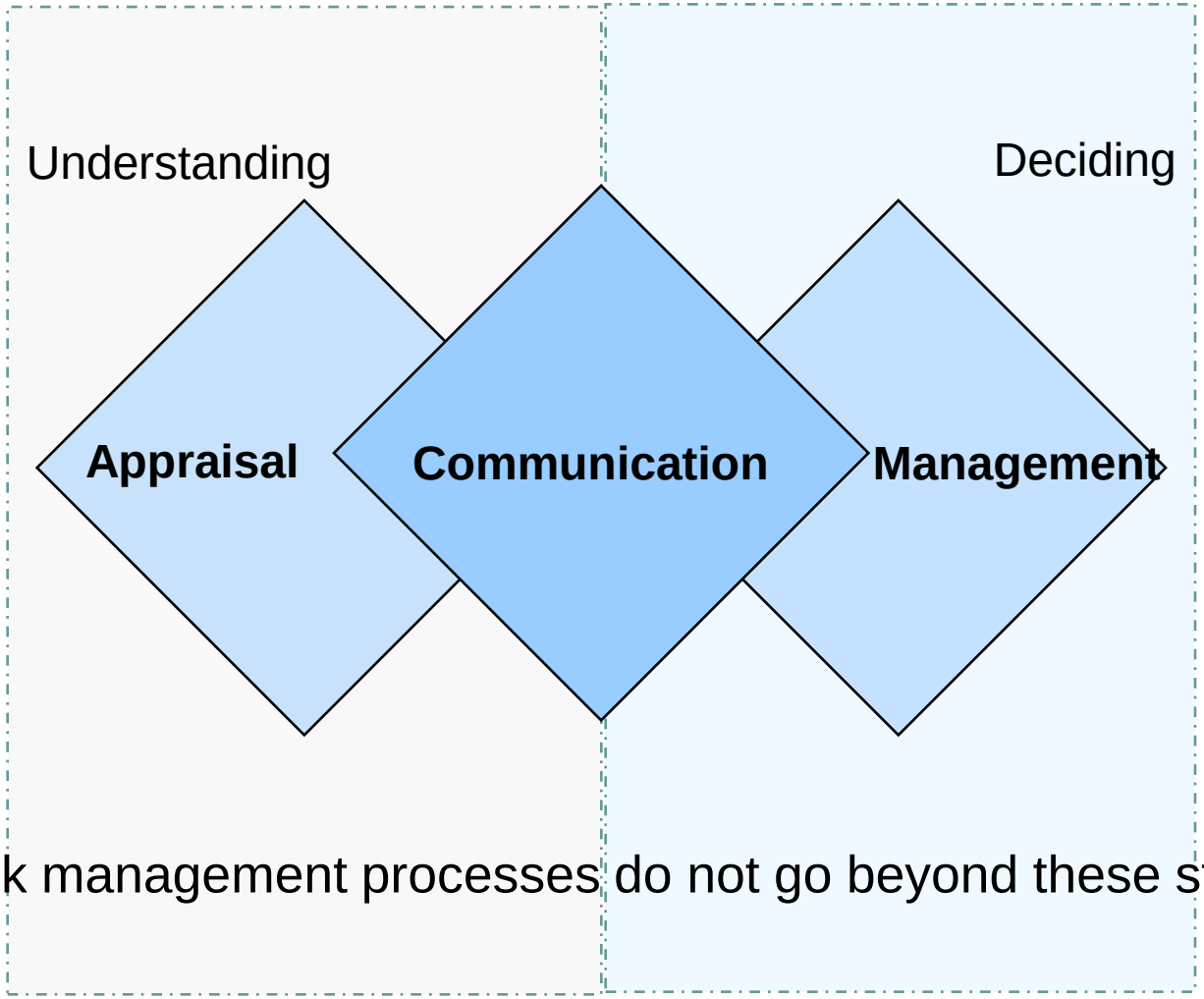
- ***Governance*** refers to the actions, processes, laws, traditions and institutions by which authority is exercised and decisions are taken and implemented.

- ***Risk governance*** refers to the actions, processes, laws, traditions and institutions by which decisions about risk handling are prepared, taken and implemented

WHAT IS RISK GOVERNANCE?

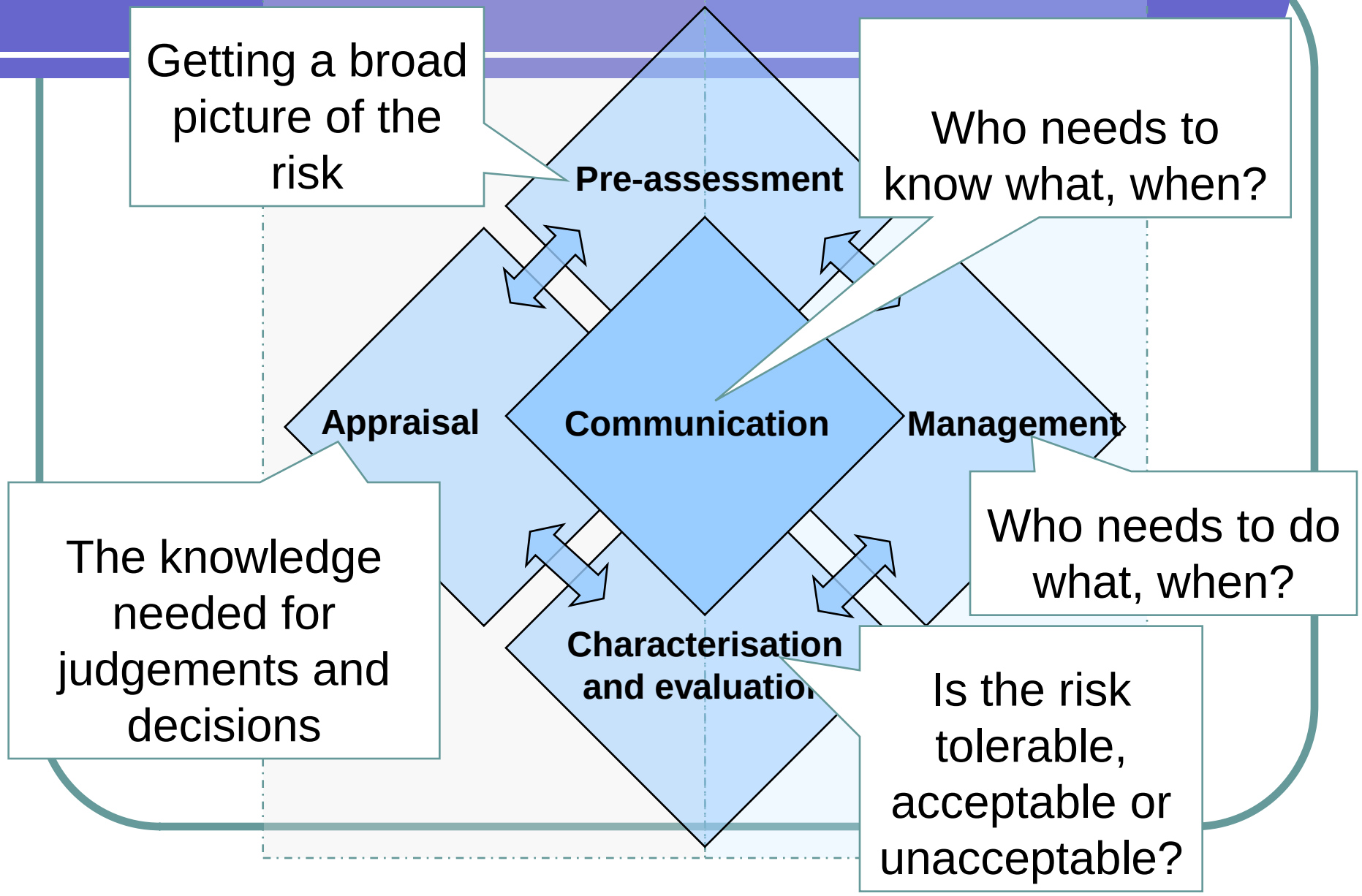
- ***Best practice in risk governance*** integrates the principles of good governance within the processes of risk identification, assessment, management and communication and includes criteria such as effectiveness, accountability, efficiency, fairness and social and ethical acceptability

CONVENTIONAL RISK MANAGEMENT

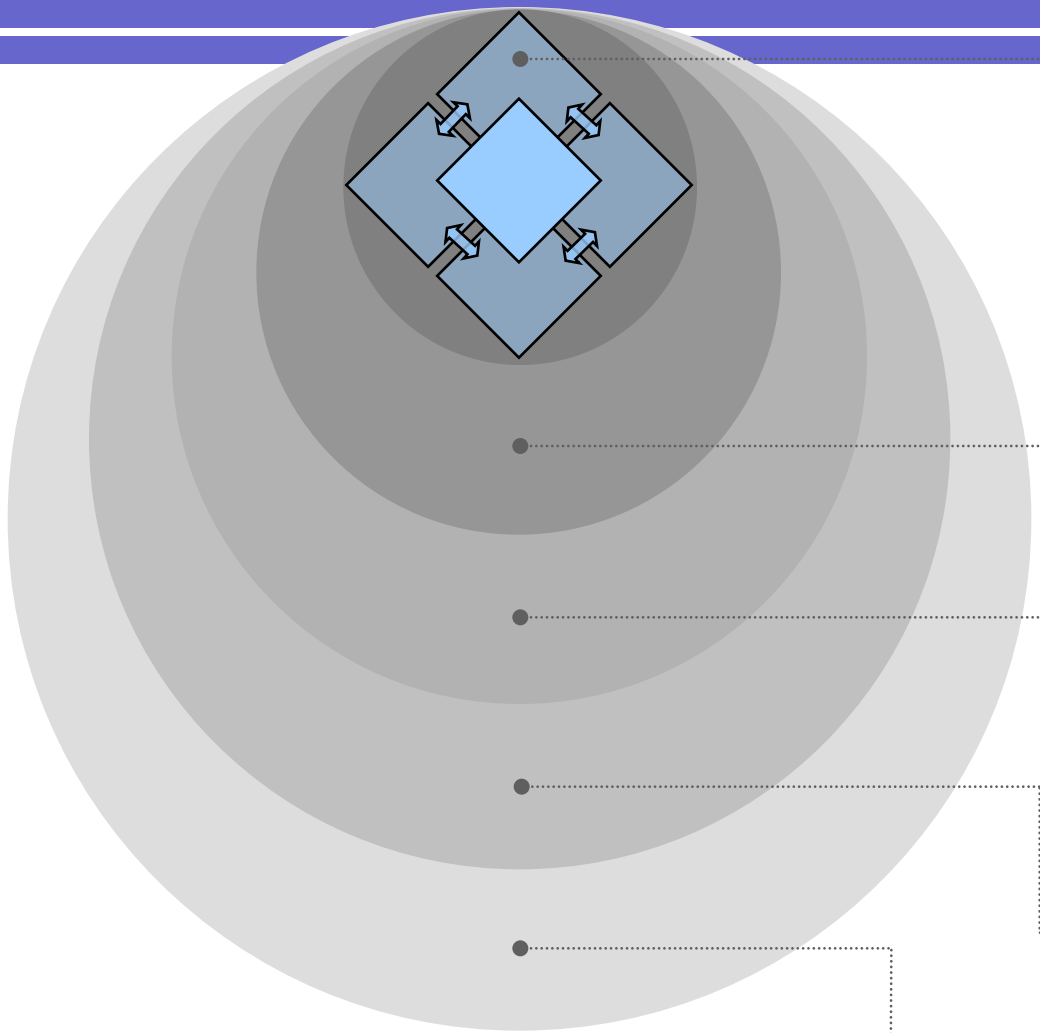


Most risk management processes do not go beyond these steps

IRGC's RISK GOVERNANCE FRAMEWORK



RISK GOVERNANCE GOES MUCH FURTHER



Core Risk Governance Process

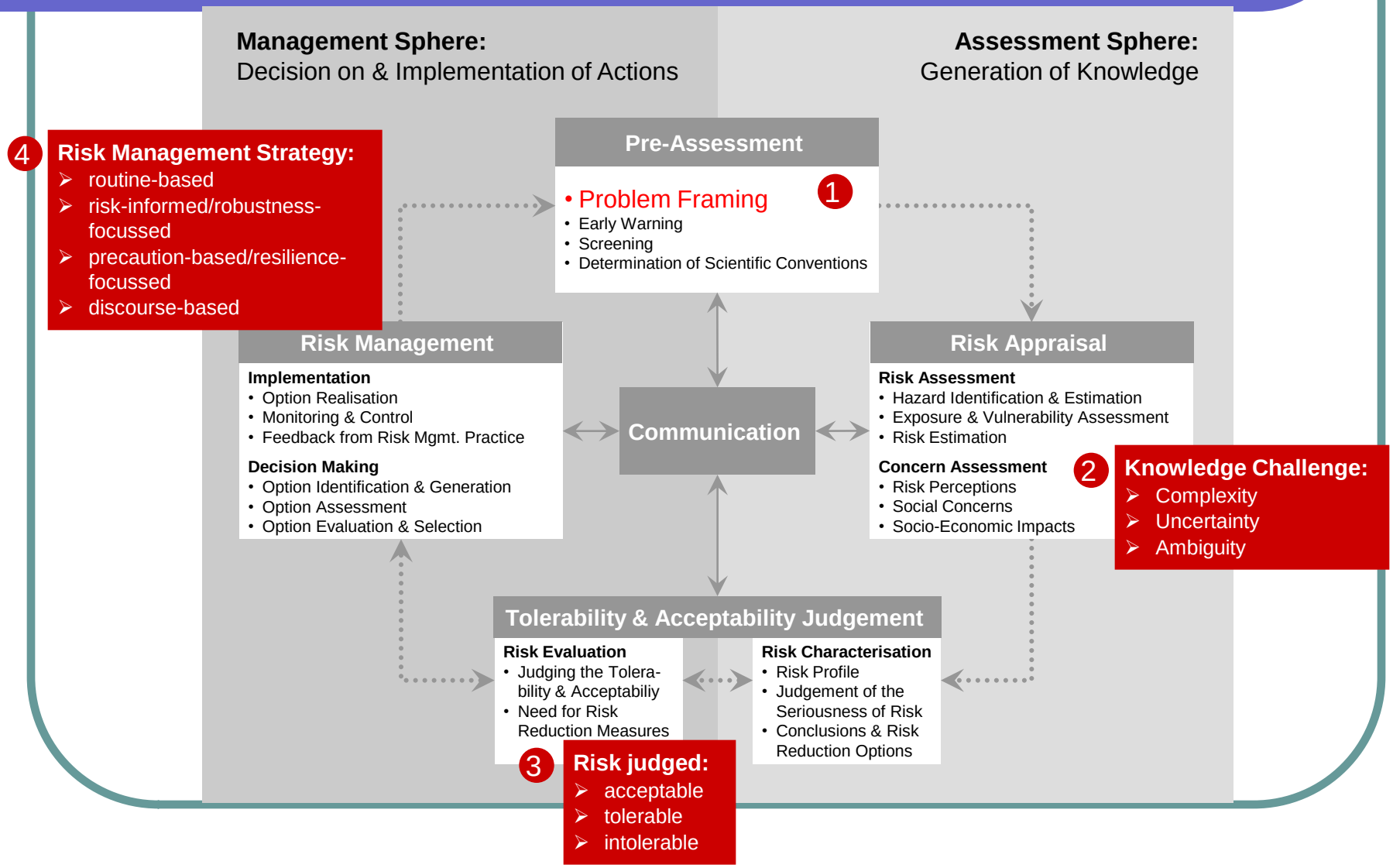
Organisational Capacity
- assets
- skills
- capabilities

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

Social Climate
- trust in regulatory institutions
- perceived authority of science
- civil society involvement

Political & Regulatory Culture
→ different regulatory styles

ESSENTIAL DISTINCTIONS WITHIN THE CORE PROCESS



PREASSESSMENT

Importance of Framing

Looks like a high risk from the outside

Importance of Framing

But consider this…

Importance of Framing

Or this…

IMPORTANCE OF FRAMING

- *Frames represent social and cultural perspectives*
  - Challenge or problem
  - Opportunity or risk
  - Innovation or intervention
- *Frames determine boundaries of what is included and excluded*
  - Time and duration (future generations, sustainability)
  - Location and space (the universe, all nation, Norway, Stavanger)
  - Social class and stratus (vulnerable groups, poor, immigrants)
  - Types of adverse effects (physical, mental, social, cultural)
  - Primary or secondary impacts (ripple effects)
  - Criteria taken into account (risk reduction, cost, benefit, equity, environmental justice, value violations…)

APPRAISAL

Components of Risk Knowledge

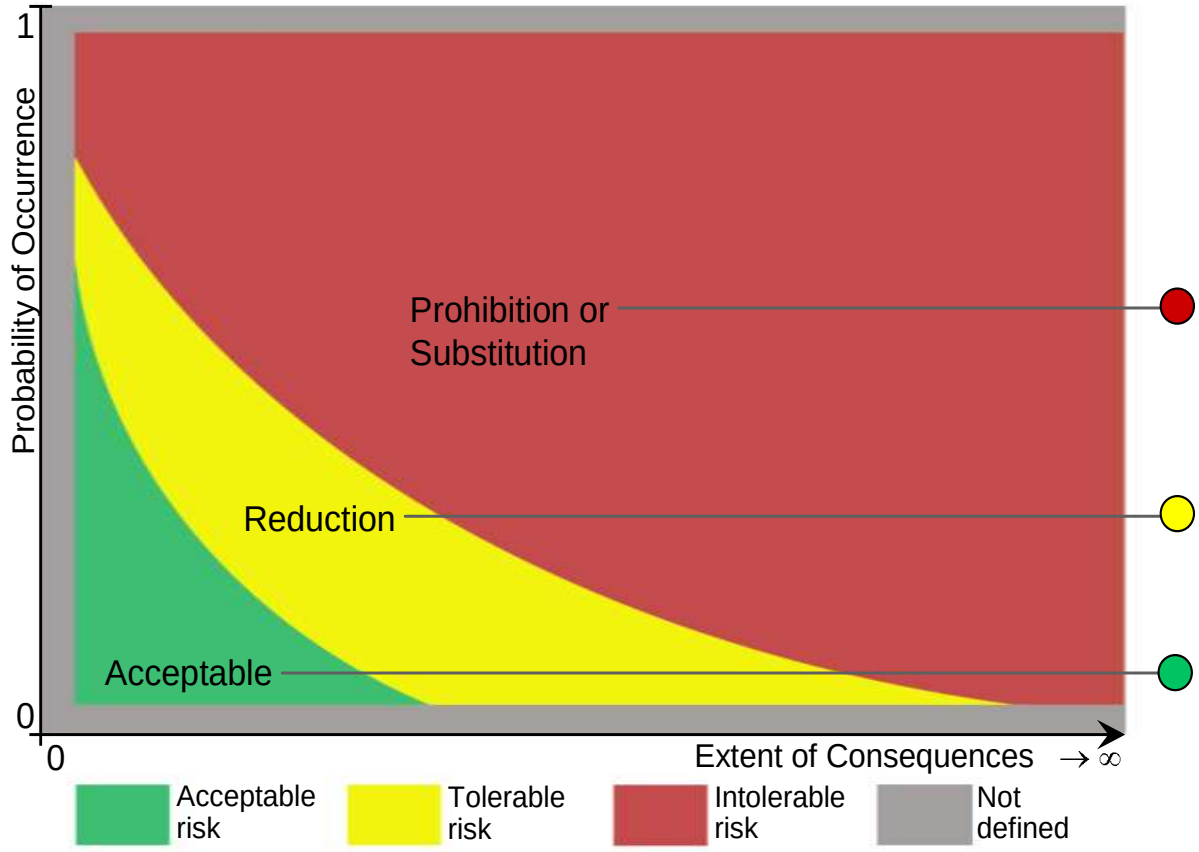
- **Complexity** in assessing causal and temporal relationships
- **Uncertainty**
  - variation among individual targets
  - measurement and inferential errors
  - genuine stochastic relationships
  - system boundaries and ignorance
- **Ambiguity** in interpreting results
  - Interpretative ambiguity (What does it mean?)
  - Normative ambiguity (Is it tolerable?)

RISK APPRAISAL

- **Risk Assessment**
  - Hazard identification and estimation
  - Exposure assessment
  - Risk estimation
- **Concern Assessment**
  - Socio-economic impacts
  - Economic benefits
  - Public concerns (stakeholders and individuals)

Tolerability and Acceptability Judgment

TRAFFIC LIGHT MODEL



Risk is not worth taking in exchange for the benefit; drastic risk reduction necessary before reconsidering

Public risk reduction measures necessary, but benefit is worth the risk

No public intervention necessary, yet private action desirable

RISK MANAGEMENT

RISK MANAGEMENT STRATEGIES (I): COPING WITH ROUTINE AND COMPLEXITY

- **Routine Risk Management**
  - Sufficient knowledge of key parameters
  - Little complexity, clear causal knowledge
  - Standard Assessment sufficient
  - Risk-benefit analysis and risk-risk comparisons as basic tool for evaluation
- **Risk-Informed Management**
  - High complexity of causal risk models
  - Little uncertainty and ambiguity
  - Expanded risk assessment / need for knowledge management
  - Emphasis on robust risk management strategies, i.e. risk standards including safety factors
  - Emphasis on close monitoring of outcomes

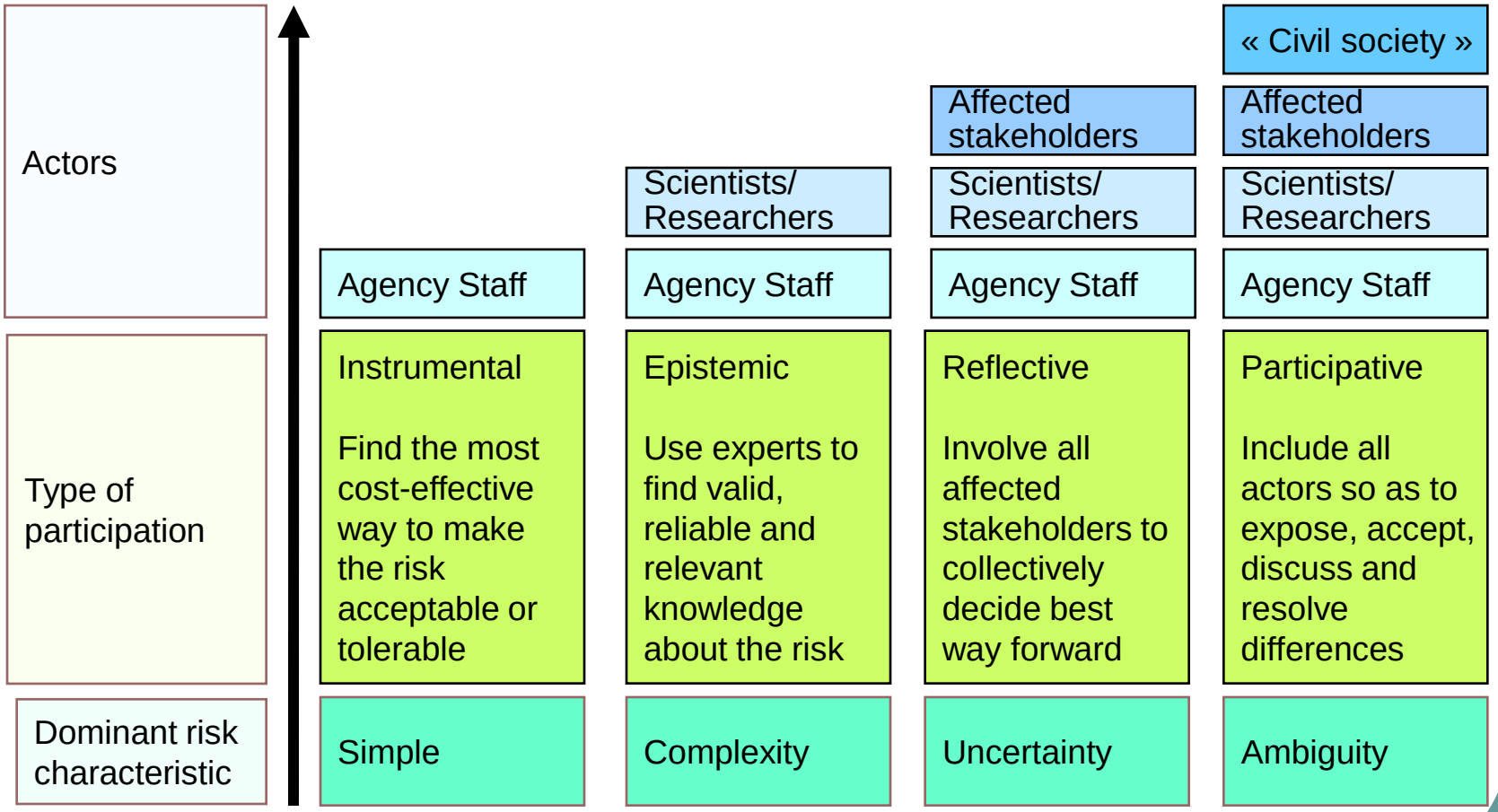
RISK MANAGEMENT STRATEGIES (II): COPING WITH UNCERTAINTY

- **Precaution-Based Management**
  - High uncertainty or ignorance
  - Adverse effects plausible but quantification not reliable
  - Appraisal of uncertainty by statistical means
  - Goal of risk management: avoidance of irreversible effects
  - Instruments:
    - Negotiation between too little and too much precaution
    - classic: ALARA etc.
    - new: containment, diversification, monitoring; substitution

RISK MANAGEMENT STRATEGIES (III): COPING WITH AMBIGUITY

- **Discourse-Based Management**
  - High ambiguity
  - Goal of risk management : to find consensus or tolerance
  - Instruments:
    - stakeholder involvement
    - public debate
    - risk communication

STAKEHOLDER INVOLVEMENT



Risk Communication

Risk Communication at PREASSSSMENT

- ***Internal***
  - Informing other agencies and getting feedback from them (who is affected and how does it relate to their mandate?)
- ***External***
  - Media briefing about process to start
  - Inviting stakeholders to provide feedback and framing suggestions (if risk appears to load high on uncertainty and ambiguity)

Risk Communication during APPRAISAL

- ***Internal***
  - Informing the appropriate scientific departments in other agencies and, if necessary, organize workshops

- ***External***
  - Media briefing and announcement to stakeholders that assessment process is on its way (*low complexity*)
  - Depending on degree of knowledge, press conferences or press releases on results (*high complexity*)
  - Conducting hearings, Delphi, or other information gathering techniques with appropriate knowledge carriers (*high complexity and uncertainty*)

Risk Communication during EVALUATION

- ***Internal***
  - Involving all affected agencies if risk characterisation is either uncertain or evaluation controversial
- ***External***
  - Press conferences with assessors and managers on evaluation results and protective measures (*low uncertainty and ambiguity*)
  - Information of stakeholders and invitation for written review (*high uncertainty and low ambiguity*)
  - Deliberation with stakeholders about values/perspectives and assigning trade-offs (*high ambiguity*)

Risk Communication during MANAGEMENT

- ***Internal***
  - Involving all affected regulatory or government bodies if risk management measures have impacts on their mandate

- ***External***
  - Press conferences on selection of management measures *(low uncertainty and ambiguity)*
  - Information of stakeholders about regulatory impact review and, if needed, organisation of hearings (*high uncertainty and low ambiguity*)
  - Engaging in formal deliberations with stakeholders and representatives of the public (*high ambiguity*)

PART III

Conclusions

CONCLUSIONS I

- Problems in handling risks:
  - Plural values and knowledge claims
  - Expert dissent on risk and benefits
  - Transboundary nature of risks
  - Social amplification and attenuation via perception and social mobilization
  - Pressure from globalized economy
  - Lack of organizational capacity in many countries
  - Lack of effective governance structures

  Emergence of systemic risk that cross national and sectoral boundaries (ripple effects)

- Need for integration of risk analysis and perception

CONCLUSIONS II

Four risk management regimes should be used to deal with these new risk challenges:

- **simple risk management**: standard risk assessments
- **risk-informed management:** expanded risk assessments; seeking expert consensus and epistemological clarification
- **precaution-/resilience-based management:** negotiated safety level under uncertainty; seeking stakeholder consensus and relying on containment and resilience
- **discourse-based management:** value-based orientation; seeking more public input and stakeholder involvement for interpretative variability and normative controversy

QUOTE

- “What man desires is not knowledge but certainty.”
  Bertrand Russell

- Policy makers cannot produce certainty but can help people to develop coping mechanisms to deal prudently with the necessary uncertainty that is required for societies to progress