ON LINE INTERNATIONAL SYMPOSIUM

Credibility of scientific expertise and decision-making

New challenges for health risk governance in a changing world

FRAMING SESSION

Scientific Contribution to Risk Governance and Communication in Times of Post-factual Confusion and Pandemic Crisis

Ortwin Renn (IASS Potsdam)

20th January 2021

Part 1:

Systemic Risk

Beyond COVID:
A new challenge?

Ortwin Renn (IASS Potsdam)

- Two main components
  - Risk agents
  - Risk absorbing systems

- Limited amount of risk agents
  - 3 Physical: Energy, Substance, Biota
  - 2 (4) Social: Information (Money), Power, (Violence),

- Emphasis on:
  - Risk agents: probabilistic risk analysis
  - Risk absorbing systems: vulnerability and resilience

- **A Primer on Systems Thinking in Risk**
  - Potential loss: breakdown of systems functionality
  - Likelihood of "infecting" others systems
  - Likelihood of risk cascades within and between systems
  - Often related to "Wicked Problems"
  - Governance requires systems approach in form of integrated and target-oriented policy packages

- ***Properties of Systemic Risks***
  - High complexity and interconnectivity
  - Stochastic relationships (second order uncertainty)
  - Non-linearity with tipping points or areas
  - Cross-sectoral and transboundary cascading effects (geographic, sectoral, political)
  - Leading to major ambiguities in interpretation and management (often attenuated)

What are examples for systemic risks?

- The intensity of human interventions into the natural environment (climate, biodiversity, pollution, …)
- The interconnectivity of technologies (cybersecurity, blackout, …)'
- Economic collapse (financial market, governance failures, trade wars,…)
- The social side effects of modernization and globalization (pandemics, social equity, populism, distrust in governments, …)

Part 2:

Systemic Risk:

Requirements for Risk Governance

- ***Nature of Challenges***
  - Limits of quantification and cause-effect assessments
  - Endless list of black swans
  - Plurality of knowledge claims and assessments
  - Contra-intuitive implications
  - Inadequacy of trial and error learning mode
  - Bad record for risk reduction worldwide

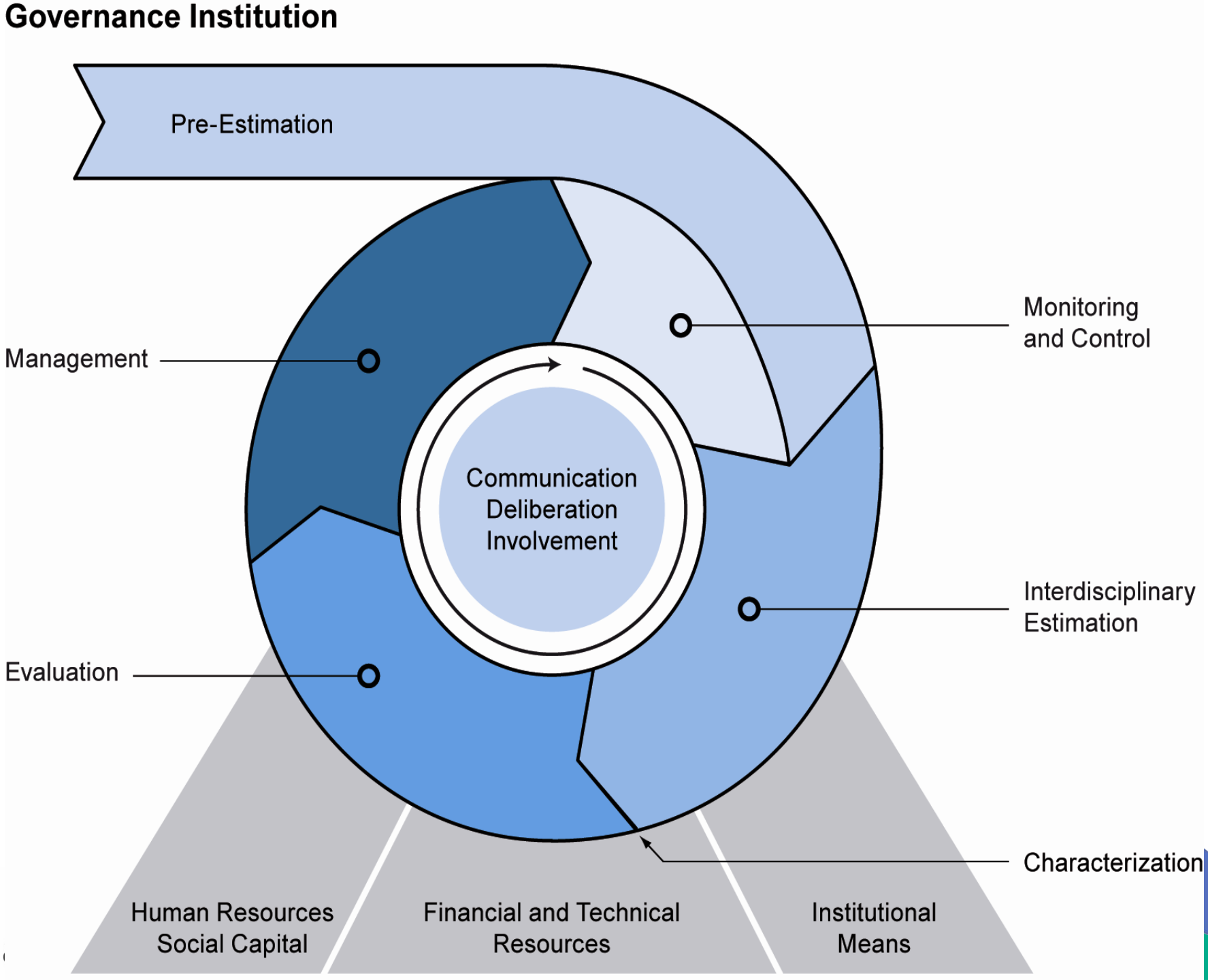
- *Confusion:* Living in a post-experience society
- *Driven by beliefs and feelings:* Living in a post-factual society
- *Distrust in elites:* Living in a post-trust society
- *Coping with ambiguity*: Living in a post-ethical society

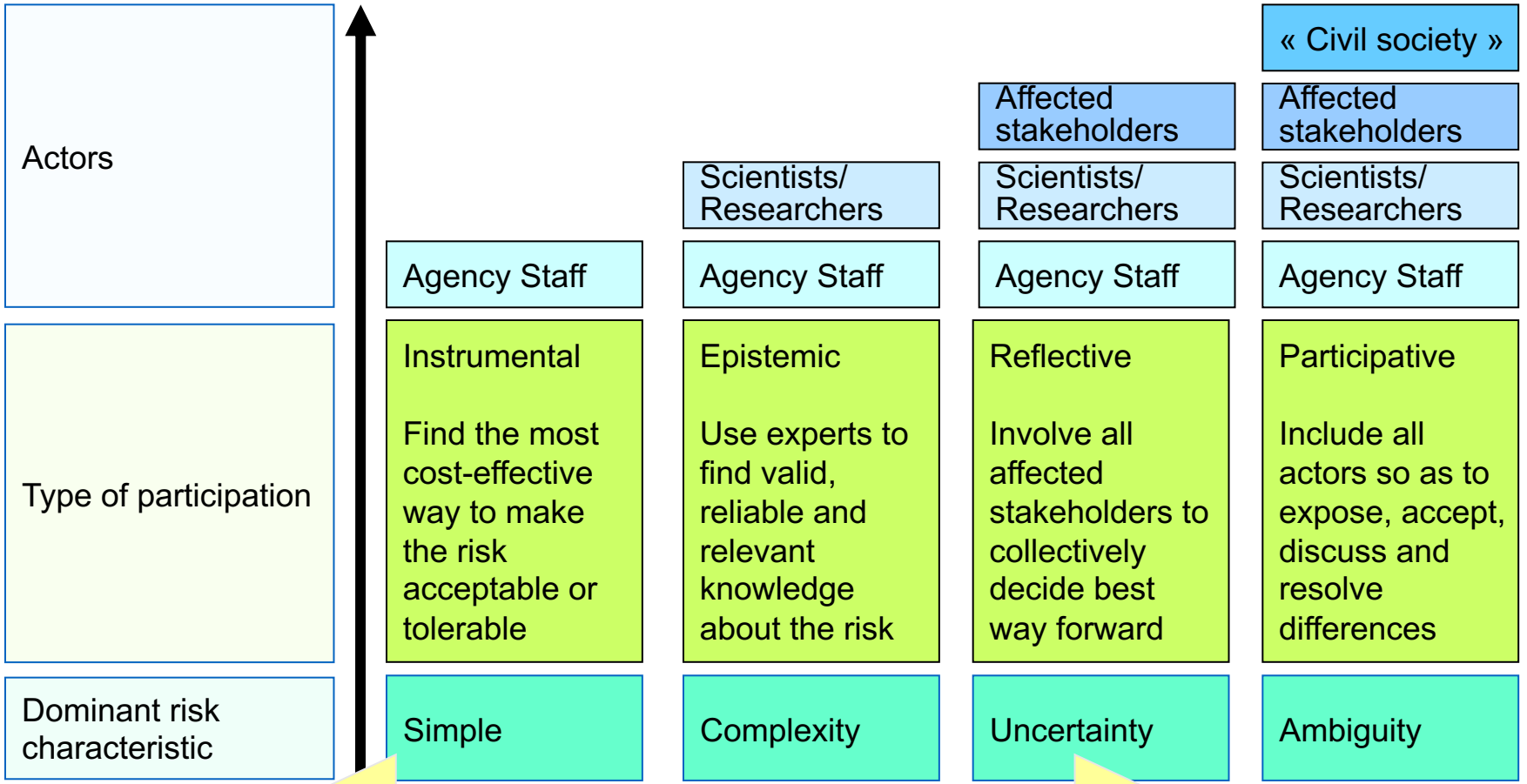
Need for integration

- Concept that links risk assessment with risk perception and socio-cultural processing of risk
  - Avoiding relativist view of knowledge
  - Including social constructions of risks;

- Concept that links physical and environmental risk analysis with financial, economic and social risk;
  - Explore complex cause-effect relationships between and among different risk domains
  - Look for cross-fertilization

- Concept that addresses the properties of systemic risk
  - Appropriate responses to psychological and social fallacies
  - Emphasis on inclusive governance models capable of providing adequate input


Governance Institution
Pre-Estimation
Management
Monitoring
and Control
Communication
Deliberation
Involvement
Interdisciplinary
Estimation
Evaluation
Characterization
Human Resources
Social Capital
Financial and Technical
Resources
Institutional
Means


Actors
Type of participation
Dominant risk characteristic
Agency Staff
Instrumental
Find the most cost-effective way to make the risk acceptable or tolerable
Simple
Scientists/ Researchers
Agency Staff
Epistemic
Use experts to find valid, reliable and relevant knowledge about the risk
Complexity
Affected stakeholders
Scientists/ Researchers
Agency Staff
Reflective
Involve all affected stakeholders to collectively decide best way forward
Uncertainty
« Civil society »
Affected stakeholders
Scientists/ Researchers
Agency Staff
Participative
Include all actors so as to expose, accept, discuss and resolve differences
Ambiguity
As the level of knowledge changes, so also will the type of participation need to change

Conclusions

- **Properties of systemic risks:**
  - High complexity
  - Cross-sectoral and cross-boundary cascading effects
  - Stochastic relationships between cause and effects
  - Non-linear functional relationship, often with tipping points
  - Lack of attendance to systemic risk by risk managers and regulators

- **Required management strategies**
  - Focus on resilience and risk absorbing system
  - Focus on a variety of unlikely stress scenarios
  - Focus on combinations of risk agent and corresponding risk cascades

- **Risk: Governance:**
  - Synthesis of framing, assessment (physical, social), evaluation, management, monitoring
  - Focus on risk agents' interaction, inclusiveness and resilience
- **Risk Communication:**
  - Addressing post-x tendencies
  - Using the risk participation escalator
- Need for an integrated governance approach for systemic risks providing understanding, orientation, strategies and co-production of knowledge and action

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

- Policy makers cannot produce certainty but can help policymakers and stakeholders to develop more adaptive coping mechanisms to deal prudently with the inevitable uncertainties that are related to technical and social changes