# Multilateral governance of technological risks; editors' overview [1]

Taebi, Behnam; van Asselt, Marjolein; van de Poel, Ibo

**DOI**
10.1080/13669877.2022.2104345

**Publication date**
2022

**Document Version**
Final published version

**Published in**
Journal of Risk Research

Journal of Risk Research

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rjrr20

# Multilateral governance of technological risks; editors' overview [1]

Behnam Taebi, Marjolein van Asselt & Ibo van de Poel

**To cite this article:** Behnam Taebi, Marjolein van Asselt & Ibo van de Poel (2022): Multilateral governance of technological risks; editors' overview [1] , Journal of Risk Research, DOI: 10.1080/13669877.2022.2104345

**To link to this article:** https://doi.org/10.1080/13669877.2022.2104345

Published online: 08 Aug 2022.

JOURNAL OF RISK RESEARCH
https://doi.org/10.1080/13669877.2022.2104345

Routledge
Taylor & Francis Group

EDITORIAL



# Multilateral governance of technological risks; editors' overview[1]

Behnam Taebi[a], Marjolein van Asselt[b*] and Ibo van de Poel[a]

[a]Values, Technology and Innovation, Technische Universiteit Delft, Delft, Netherlands; [b]Faculty of Arts & Social Sciences, Universiteit Maastricht, Maastricht, Netherlands

Many technological risks transcend national borders and need to be managed in a supranational and *multilateral* fashion. Climate change risks and the solutions proposed for dealing with it, for instance, create risks that could only be managed multilaterally. Nuclear risks—both risk associated with nuclear accidents and nuclear materials—are also essentially multilateral. This is why there is an elaborate set of international institutions, regulations, guidelines and conventions in place to ensure the safety and security of millions of tons of radioactive material (both fuel and waste) and a vast number of nuclear facilities and to minimize the hazards in case of incidents. Much of what is currently in place in the global nuclear safety regime is an acknowledgement of the transboundary character of nuclear risks and they were a response to major nuclear accidents, particularly Chernobyl accident (Taebi and Mayer 2017).

The need for a multilateral approach to risk governance does not only arise when consequences of technological risks are cross-boundary (such as in a nuclear accident) or rather globally by definition (such as climate change), but also when the (potential) risk itself is created in activities that are inherently international; think of civil aviation (Mackenzie 2010) or the use of GMO in agriculture or risks associated with AI applications. International collaborations are also indispensable for managing or reducing certain risks such as in water pollutions, risks associated with Antimicrobial Resistance.

Yet another dimension of transboundary governance of risk is collaborative risk management, such as might develop in the case of nuclear waste disposal. While it is commonly assumed that nuclear waste disposal is—in principle—the responsibility of the sates in which it has been produced, there is serious thinking about joining forcing for enabling multinational nuclear waste repositories, for instance a European Repository in which EU countries with small amounts of radioactive waste could join forces to jointly dispose of their waste (IAEA 2005; Rosner, Kollar, and Malone 2015).

Indeed, the governance of such multinational repositories will not only require the involvement of several national states and supranational organizations such as the EU, the International Atomic Energy Organisation (IAEA), but also various communities within those states, as well as non-governmental organizations at the national and international level (e.g. Jenkins and Taebi 2019). This illustrates that—in addition to a supranational approach—these risks are governed in a *multi-level* way. That is, their governance involves a complex combination of local, regional, national and supranational actors, as well as non-state actors including corporations and civil society (Marks 1993; Vos and Everson 2009; van Asselt, Versluis, and Vos 2013).

**CONTACT** Behnam Taebi b.taebi@tudelft.nl Values, Technology and Innovation, Technische Universiteit Delft, Jaffalaan 5, Delft, 2600 AA, Netherlands
*Next to her academic affiliation over the period of editing this special issue, she has been affiliated with the Dutch Safety Board and the policy evaluation board of the city of Rotterdam.

We argue that supranational risks inevitably need to be governed coherently involving multiple interacting levels; we call this *multilateral risk governance*. In this special issue we aim to conceptualize and develop multilateral risk governance. Both the conceptualization and the further development of multilateral risk governance require the engagement of different disciplines in articulating and tackling the underlying ontological, epistemological, methodological and normative dimensions. This Special Issue aims to pinpoint some of the peculiarities of multilateral risk governance from such an interdisciplinary perspective. In so doing, we aim to shed light on current and required regulatory responses at the international and national level towards various transboundary risks and their associated uncertainties. Since the multilateral regimes co-shape national regulatory responses and also (at least partly) emerges from the interplay between national responses to risks, it is highly important to understand the multitude of different approaches present at the international level. In this way, we can better explore what approaches could be used to enhance effective multilateral risk governance.

The papers in this special issue have been clustered around three main questions of multilateral risk governance: (i) what does multilateral governance entail?, (ii) how to deal with uncertainties in stakeholder engagement?, and (iii) how to address normative dimensions of multilateral risk governance?

## 1. What does multilateral governance entail?

In their contribution to this Special Issue, Spruijt and Petersen (2020) discuss the complexities associated with governing public health risks. In their paper, they take the case of the governance of Antimicrobial Resistance (AMR) risks. These are risks that develop when bacteria adapt and grow in the presence of antibiotics. AMR risks can easily travel beyond national borders and need to be governed multilaterally. What further complicates the matter is that drug-resistant bacteria could circulate within and between different reservoirs—i.e. humans and animals. The governance of such risks therefore needs to be considered in conjunction. Through a literature review, Spruijt and Petersen show the complexity of the governance challenges of AMR risks, while pinpointing relevant themes to be considered. They distil five themes of levels, sectors, responsibilities, uncertainties, and values that need to be taken into account.

In the next paper, Anna Berti Suman (2019) considers multilateral governance of environmental health risk as a possible response to the complexity of current risk problems. She discusses the case of Asian haze—serious air pollution generated by forest and peatland fires and occurring in the Equatorial Asia—as a case of problems with a common cause that can only be governed in a multilateral fashion. Suman focuses specifically on the role of the international community and civil society actors, whether they are collectively organized (e.g. NGOs) or not (e.g. on-the-ground citizens). In her analysis of multilateral governance, she specifically focuses on issues of responsibility.

A current policy notion that has responsibility at its core is the Responsible Research and Innovation (RRI) approach. Marie-Valentine Florin (2019) argues in her contribution to this special issue that RRI and multilateral risk governance share some key rationales. While innovations could be help to reduce existing risks, they could also themselves lead to new and sometimes unprecedented risks. She discusses the difficulties of implementing RRI principles in practice and presents an analogy between the existing procedural and normative processes for RRI and risk governance. Multilaterally managing risks of emerging technologies is a core challenges of RRI.

## 2. How to deal with uncertainties in stakeholder engagement?

Stasik and Jemielniak (2021) discuss the diverging impact of widespread Internet communication on public involvement in risk governance processes. In spite of some language barriers, internet

communication is not necessarily confined to national borders. Since internet communication lacks trustworthy verification by traditional gatekeepers, such as credible institutions and experts, the expert community often perceives it as a source of disturbance in risk communication. Stasik and Jemielniak argue against this dominant view and show how internet communication could create new avenues for public involvement in risk governance, which could hamper but also strengthen how responsible the overall process is. They review three case studies in Poland: the rise of anti-vaccination attitudes, opposition to shale gas production, and urban air quality, in which Internet-enabled participation has played an important role. Stasik and Jemielniak explore how internet enabled participation could provide a reasonable alternative for the shortcomings of a system based solely on state agencies' activities. They propose a framework for internet-enabled participation that accounts—among other things—for uncertainties in risk governance.

How to deal with uncertainties is also at the heart of the contribution by Wardman and Bouder (2022). They review efforts made by the European Food Safety Authority (EFSA) —particularly their 'uncertainty reform'—in the identification, representation, and public disclosure of scientific uncertainty in its risk assessment and communication. The introduction of EFSA's uncertainty reforms has opened a welcome space for academic and policy dialogue. It could be considered an attempt to reconcile the 'uncertainty paradox' by accommodating wider concerns about uncertainty. This strategic initiative will nevertheless struggle to reconcile ongoing stakeholder concerns about the legitimacy, direction, and authority of the agency's scientific opinions and expert advice. Wardman and Bouder warn for what they call the 'amplification of institutional incertitude'. They further offer some policy recommendations to take greater account of the socio-political context in which the assessment and communication of uncertainty takes place.

## 3. How to address normative dimensions of multilateral risk governance?

In the last contribution to this special issue, Vilhunen et al. (2019) focus on the questions of public acceptance and ethical acceptability when it comes to intergenerational risks. They focus on risks associated with nuclear waste disposal in Finland. Final disposal of nuclear waste generated in nuclear power plants is an ethical issue with implications within and across generations. They address this issue from the perspective of nuclear communities that host nuclear waste disposal sites. The authors investigated justice issues—both procedural and distributive—by carrying out a resident survey in two Finnish communities being considered as alternative sites for a second repository. More specifically, they investigated the residents' conceptions of justice and trust regarding the repository of nuclear waste management and how these conceptions related to acceptance of the repository.

In conclusion, this special issue discusses three critical questions for better conceptualizing multilateral risk governance. First, it spells out multilateral governance, specifically for public health and environmental risks. Second, it discusses how to deal with uncertainties in stakeholder engagement for multilateral risk governance. Third, some normative issues pertaining to justice related issues have been discussed for multilateral risk governance.

## Note

1. This Special Issue emerged from a Workshop the guest editors organized in 2017 at Leiden University's Lorentz Centre on 'Multilateral governance of technological risk'. In this workshop, scholars from sociology, philosophy and ethics, Science and Technology Studies, anthropology, history, law, political science as well as the engineering sciences were brought together. Some of the ideas presented that were specifically targeting multilateral challenges of nuclear risks were directed to a second Special Issue of *Risk, Hazard & Crisis in Public Policy* on 'Multilateral governance of nuclear risks' (Taebi and Kuipers 2019). This special issue is the second output of the workshop.

## Acknowledgements

We wish to thank Leiden University' Lorentz Center and participants of the Lorentz Workshop 'Multilateral governance of technological risk' (May 2017), in which several of these papers were first presented. Their unique workshop program enabled us to bring together a very interdisciplinary group of scholars, which provided a fruitful basis for high-level exchange on multilateral risk governance.

We finally wish to thank Ragnar Löfstedt and Jamie Wardman for their support of the workshop, their encouragement and willingness to facilitate this special issue. Last but not least, all thank the authors who have contributed to this special issue for their high level papers and their willingness to include them in this special issue.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Funding

Behnam Taebi's work on this Special Issue is part of the research program Ethics of Socially Disruptive Technologies, which is funded through the Gravitation Program of the Dutch Ministry of Education, Culture, and Science and the Netherlands Organization for Scientific Research (NWO grant number 024.004.031). Ibo van de Poel's contribution is part of the project Value Change that has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 788321.

## References

Asselt, M. B. A. van., E. Versluis, and E. Vos. 2013. *Balancing between Trade and Risk: Integrating Legal and Social Science Perspectives*. Abingdon and New York: Routledge.

Berti Suman, Anna 2019. "The Role of Information in Multilateral Governance of Environmental Health Risk: Lessons from the Equatorial Asian Haze Case." *Journal of Risk Research* 0 (0): 1–17. doi:10.1080/13669877.2019.1617338.

Florin, Marie-Valentine 2019. "Risk Governance and 'Responsible Research and Innovation' Can Be Mutually Supportive." *Journal of Risk Research* 0 (0): 1–15. doi:10.1080/13669877.2019.1646311.

IAEA. 2005. *Multilateral Approaches to the Nuclear Fuel Cycle. Expert Group Report to the Director General of the IAEA*. Vienna: IAEA.

Jenkins, K, and B. Taebi. 2019. "Multinational Energy Justice for Managing Multinational Risks: A Case Study of Nuclear Waste Repositories." *Risk, Hazards & Crisis in Public Policy* 10 (2): 176–196. doi:10.1002/rhc3.12162.

Mackenzie, David 2010. *ICAO: A History of the International Civil Aviation Organization*. Toronto: University of Toronto Press.

Marks, G. 1993. "Structural Policy and Multilevel Governance in the EC." In *The State of the European Community: The Maastricht Debate and Beyond*, edited by A W Cafruny and G G Rosenthal, 2:391–410. Boulder: Lynne Rienner.

Rosner, R., L. Kollar, and J. P. Malone. 2015. *The Back-End of the Nuclear Fuel Cycle: Establishing a Viable Roadmap for a Multilateral Interim Storage Facility*. Cambridge, MA: American Academy of Arts and Sciences.

Spruijt, Pita, and Arthur C. Petersen. 2020. "Multilevel Governance of Antimicrobial Resistance Risks: A Literature Review." *Journal of Risk Research* 0 (0): 1–14. doi:10.1080/13669877.2020.1779784.

Stasik, Agata, and Dariusz Jemielniak. 2021. "Public Involvement in Risk Governance in the Internet Era: Impact of New Rules of Building Trust and Credibility." *Journal of Risk Research* 0 (0): 1–17. doi:10.1080/13669877.2020.1864008.

Taebi, Behnam, and Sanneke Kuipers. 2019. "Multilateral Governance of Nuclear Risks." *Risk, Hazards & Crisis in Public Policy* 10 (2): 142–154. doi:10.1002/rhc3.12170.

Taebi, B, and M. Mayer. 2017. "By Accident or by Design? Pushing Global Governance of Nuclear Safety." *Progress in Nuclear Energy* 99: 19–25. doi:10.1016/j.pnucene.2017.04.014.

Vilhunen, Tuuli, Matti Kojo, Tapio Litmanen, and Behnam Taebi. 2019. "Perceptions of Justice Influencing Community Acceptance of Spent Nuclear Fuel Disposal. A Case Study in Two Finnish Nuclear Communities." *Journal of Risk Research* 0 (0): 1–24. doi:10.1080/13669877.2019.1569094.

Vos, Ellen, and Michelle Everson. 2009. *Uncertain Risks Regulated*. Abingdon and New York: Routledge-Cavendish.

Wardman, Jamie K, and Frederic Bouder. 2022. "All We Have to Do is Be Uncertain': Assessing the 'Amplification of Institutional Incertitude' in European Food Safety and Risk Governance." *Journal of Risk Research* 0 (0): 1–15. doi:10.1080/13669877.2022.2053391.