

Sara Velander¹ ; Niklas Wagner² ; Lisa Biber-Freudenberger² ; Thomas Dietz¹

¹Institute of Political Science, Westfälische Wilhelms-Universität Münster; ²Center for Development Research (ZEF), Rheinische Friedrich-Wilhelms-Universität Bonn

Introduction

To face today's cumulative climate-, health-, and biodiversity- crises, the global community decided in 2015 to establish the Sustainable Development Goals (IPBES, 2019). However, the multidimensional characteristics of the SDGs could lead to conflicts leading to competing demands among civil society, scientists, governments, and industries concerning the prioritization of specific goals (Mainali et al., 2018). A potential avenue to foster concerted action and bridge knowledge divides on complex problems that generate these tradeoffs and synergies are science-policy interfaces (SPIs). An SPI is the exchange of evidence between scientists, policymakers, knowledge holders and users, who can use this information to influence the outcomes of policy decisions on the environment (UNEP, 2017). IPBES is a prime example of a global, institutionalized organization developing recurring interface activities on biodiversity. Past research identified complexity and power as factors on the effectiveness of science-policy interactions in advising on an integrated response to sustainable development (Gupta, 2014; Koetz, 2011). This study is based on the prevailing knowledge gaps in the literature on ways how SPIs address complexity and will shed light into power relations within SPIs (Ojanen et al., 2021). This planned study will inform the growing scholarly discourse on the effectiveness of SPIs, such as IPBES, in generating tangible, multiscale outcomes on sustainable development.

Research objectives & aims

There are two main objectives of this study:

1. SPIs coping with complexity

To identify how and the extent to which institutionalized, global SPIs cope with complexity in issues related to sustainable development.

2. Institutional and Power Analysis of SPIs

To understand institutional features of SPIs hindering or promoting their effectiveness, including a power-relation analysis.

→ Aim: Policy Recommendations

Out of the research goals, we aim to develop a set of policy recommendations for SPI actors to manage trade-offs between SDGs and power relations.

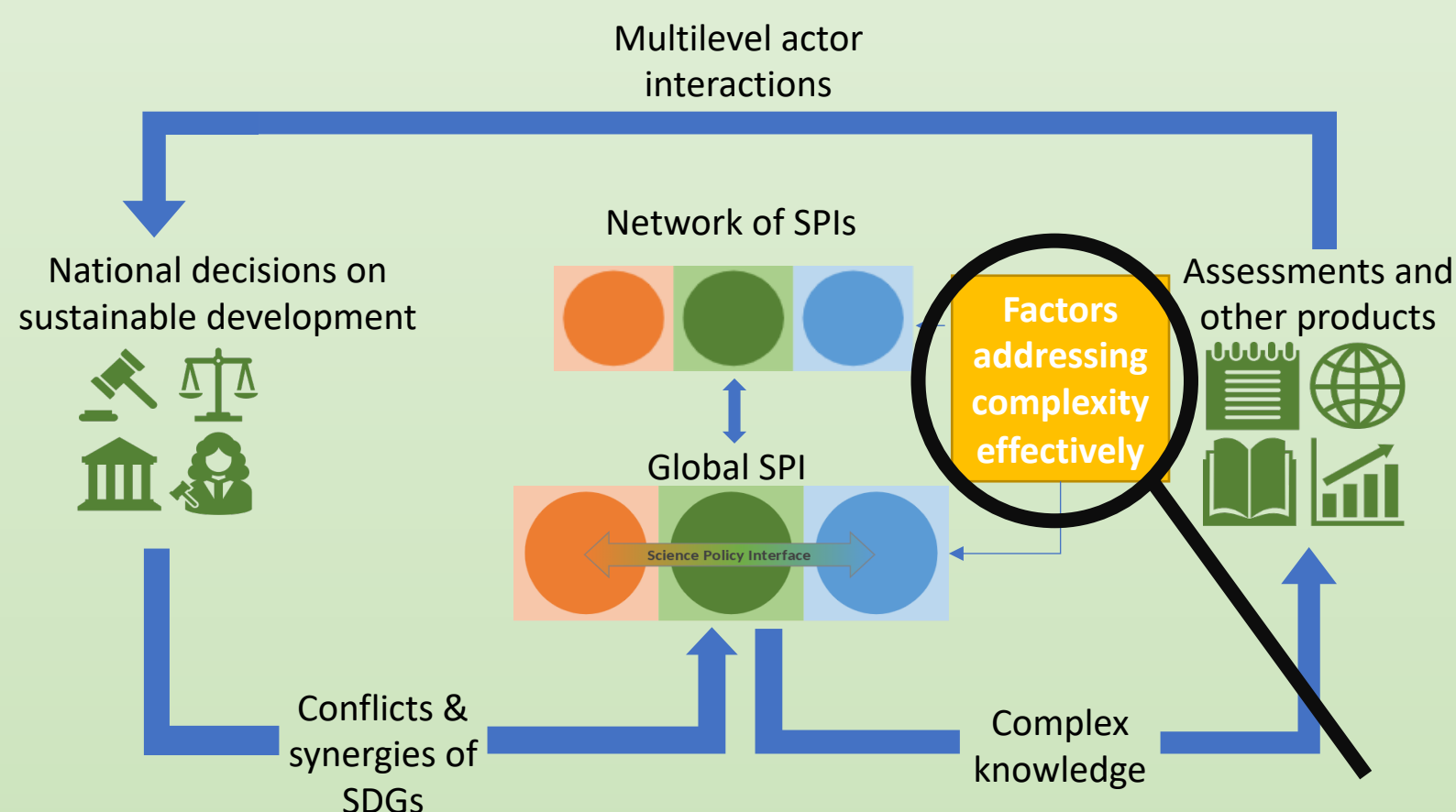


Figure 1: Conceptual framework showing the cycle of complex knowledge transfer within and between SPIs and between decisionmakers

Data collection

Document analysis: SPI outputs



Survey: SPI participants



Semi-structured interviews: SPI participants



Participant observation: meetings



Process of analysis

Social network analysis



Quantitative text analysis



Process mapping

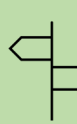


Figure 2: Methodology

Methodology

With a broad sample of participants in different, global SPIs related to sustainable development (IPBES included), we will employ mixed quantitative and qualitative methods for data collection and analysis, summarized in Figure 2 on the left. The sample includes authors of assessments, advisory experts, reviewers, scientists, NGOs, governmental policymakers, staff, and civil society groups. The data collection will be performed both virtually and on-site at Conference of the Parties (COPs) of United Nations conventions and public meetings of global SPIs. For the first objective, social network analysis and quantitative text analysis will, firstly, be used to map and analyze the interactions of global SPIs focusing on different aspects of sustainable development. Secondly, they will be used to identify the content and flow of knowledge on complexity of SDGs between stakeholders within global SPIs. The second research objective will be built on a theoretical framework based on institutional theory to design an institutions and power relations analysis. Process mapping will be used to suggest the key factors related to the institutional design of an SPI that inhibit or promote complexity management and power imbalances in global SPIs.

Contact

Sara Velander - ZEF

Genscherallee 3, 53113 Bonn, Germany

svelande@uni-bonn.de

Niklas Wagner - ZEF

Genscherallee 3, 53113 Bonn, Germany

wagner@uni-bonn.de

Cooperation partners



References

Gupta, J. (2014). Global Scientific Assessments and Environmental Resource Governance: Towards a Science-Policy Interface Ladder. In *The Role of Experts in International and European Decision-Making: Irrelevant, Advisors or Decision-makers*. M. Ambrus, K. Arts, H. Raulus and E. Hey [eds]. (pp. 148–170). Cambridge University Press.

IPBES. (2019). *The global assessment report on biodiversity and ecosystem services: Summary for policymakers*. S. Díaz, J. Settele, E. S. Brondizio, E. S., H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Palasky, A. Purvis, J. Razaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). (p. 56). IPBES secretariat.

Koetz, T. (2011). *Institutional dynamics of science-policy interfaces in international biodiversity governance*. Autonomous University of Barcelona.

Mainali, B., Luukkainen, J., Silveira, S., & Kaivo-oja, J. (2018). Evaluating Synergies and Trade-Offs among Sustainable Development Goals (SDGs): Explorative Analyses of Development Paths in South Asia and Sub-Saharan Africa. *Sustainability*, 10(3), 815. <https://doi.org/10.3390/su10030815>

Ojanen, M., Brockhaus, M., Korhonen-Kurki, K., & Petrokofsky, G. (2021). Navigating the science-policy interface: Forest researcher perspectives. *Environmental Science & Policy*, 118, 10–17. <https://doi.org/10.1016/j.envsci.2021.01.002>

UNEP. (2017). *Strengthening the Science-Policy Interface: A gap analysis*.