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Transdisciplinary research: why and how?

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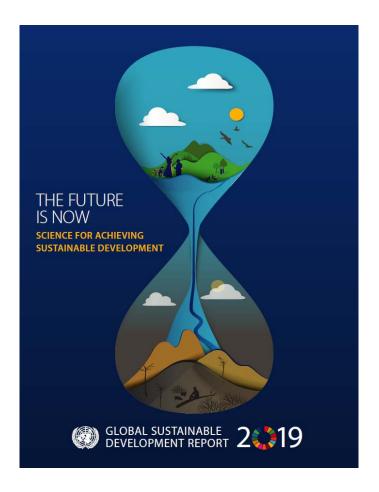
"A Sustainable Europe through Transdisciplinary Research"

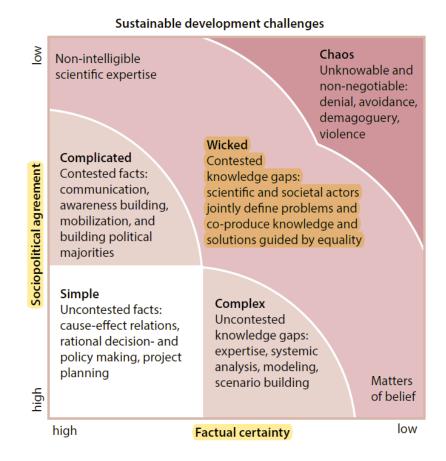
Mission of Switzerland to the European Union, Brussels, 5 February 2020





Why? SDGs as wicked problem: high uncertainties and conflicting values



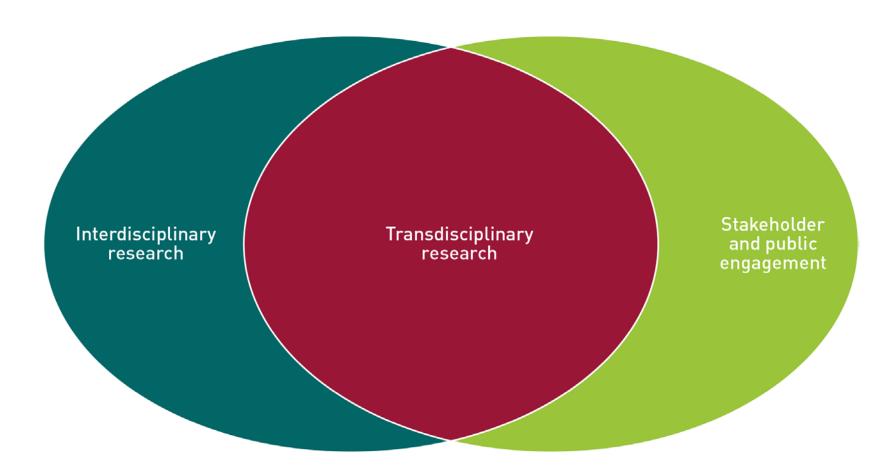


Source: Messerli et al., 2019



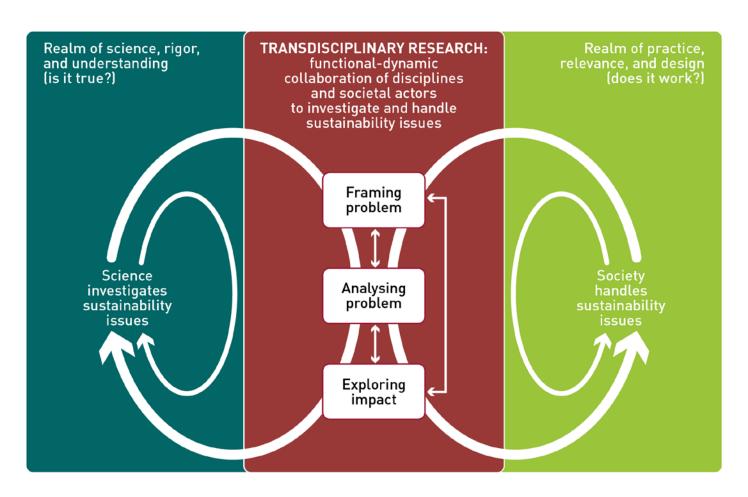
How? Transdisciplinary research

- across disciplines and beyond science



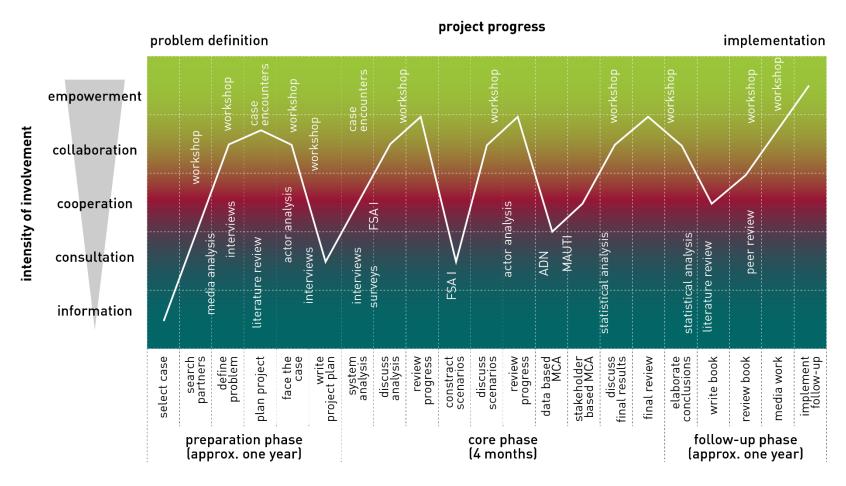


How? Coordinated process of science/practice - joint problem framing key ("co-design")





How? Functional-dynamic collaboration – "co-creation" in a systematic manner





References & further resources

- Jahn, T., Bergmann, M. & Keil, F. (2012). Transdisciplinarity: Between mainstreaming and marginalization. Ecological Economics 79: 1-10.
- Krütli, P., Stauffacher, M., Flüeler, T. & Scholz, R.W. (2010). Functional-dynamic public participation in technological decision making: Site selection processes of nuclear waste repositories. Journal of *Risk Research 13*(7): 861-875 DOI: 10.1080/13669871003703252
- Lang, D. J., Wiek, A., Bergmann, M., Stauffacher, M., Martens, P., Moll, P., Swilling, M. & Thomas, C. J. (2012).
 Transdisciplinary research in sustainability science: practice, principles, and challenges. Sustainability Science 7: 25-43
- Messerli, P.,... & Richardson, K. (2019). Global Sustainable Development Report 2019: The Future is Now–Science for Achieving Sustainable Development. Available at https://sustainabledevelopment.un.org/gsdr2019
- Pohl, C., Krütli, P., & Stauffacher, M. (2017). Ten Reflective Steps for Rendering Research Societally Relevant. GAIA 26(1), 43-51 doi: 10.14512/gaia.26.1.10
- Stauffacher, M., Flüeler, T., Krütli, P. & Scholz, R. W. (2008). Analytic and Dynamic Approach to Collaboration: A
 Transdisciplinary Case Study on Sustainable Landscape Development in a Swiss Prealpine Region. Systemic
 Practice and Action Research 21(6): 409-422.

Further resources on the Web

- https://naturalsciences.ch/topics/co-producing_knowledge/methods/td-net_toolbox
- https://td-academy.de/; https://td-academy.de/node/18
- https://i2s.anu.edu.au/resources/tools/
- https://www.teamsciencetoolkit.cancer.gov/Public/Home.aspx
- https://www.wiki.ed.ac.uk/display/ISSTIInterdisciplinary/Interdisciplinary+Briefing+Notes