



TRANSDISCIPLINARY RESEARCH: PRINCIPLES, PROCESSES, AND PRODUCTS

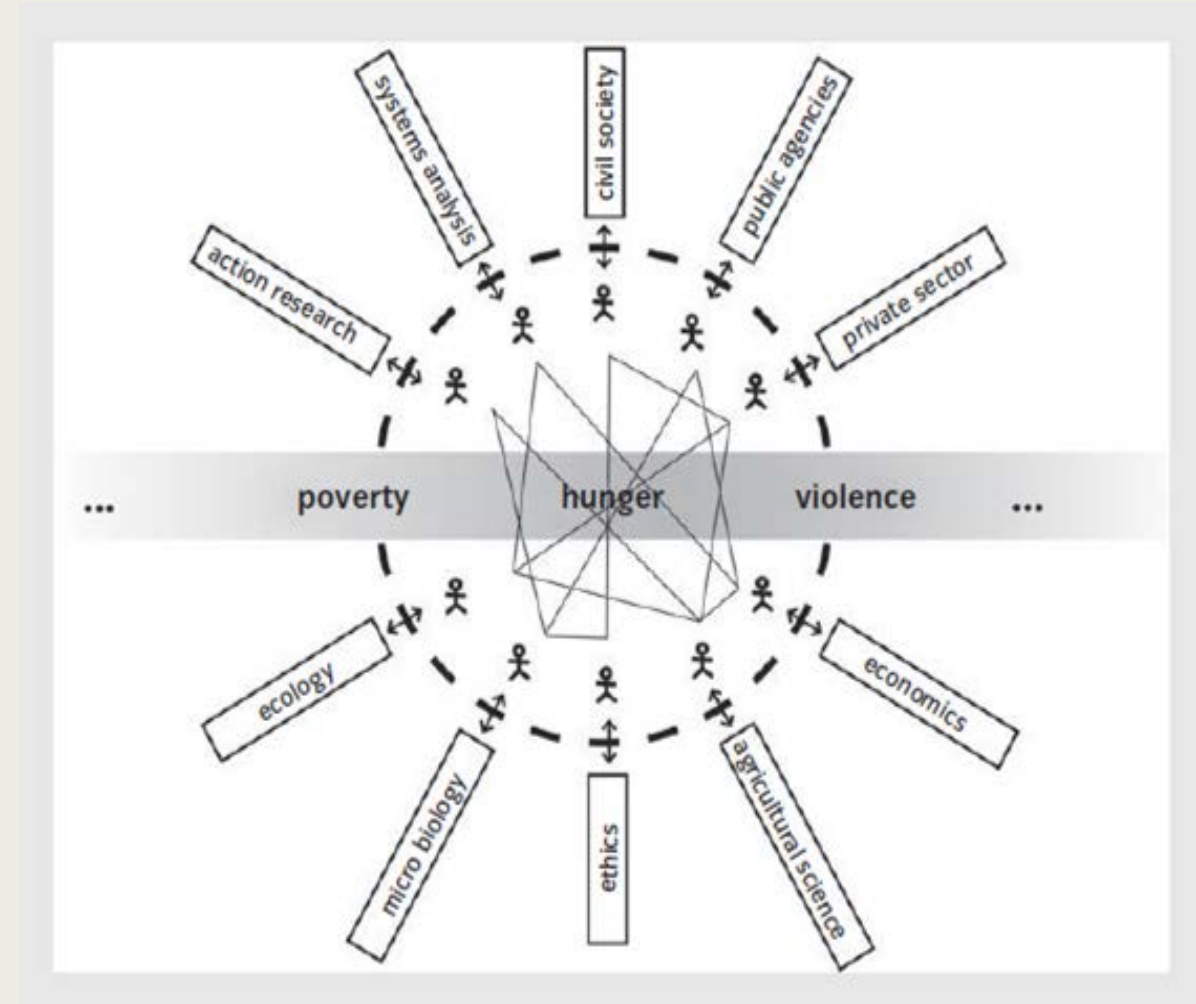
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SESYNC – NSF Accelerating Research Preparedness Workshop

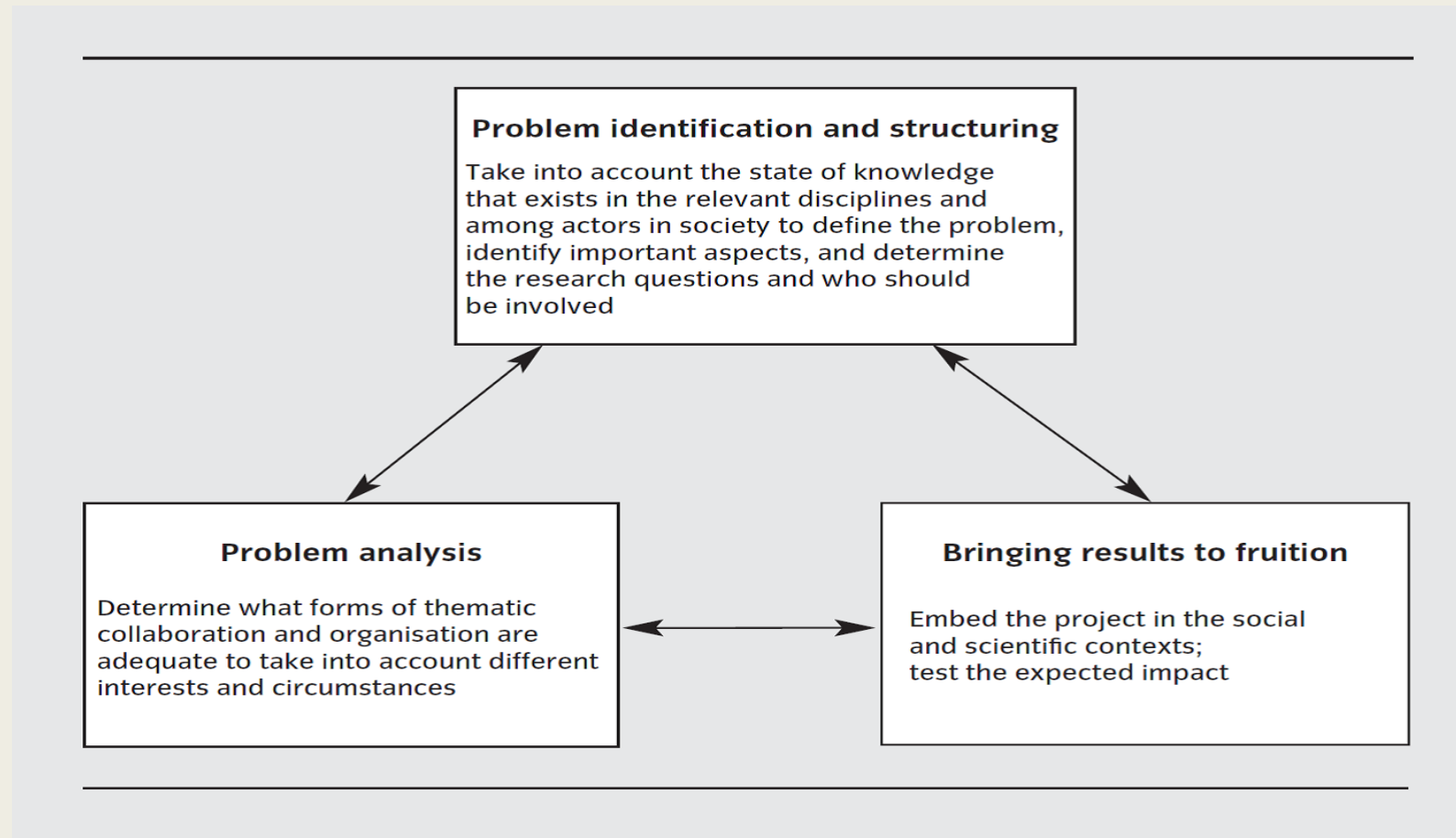
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Principles of a Transdisciplinary Research Project

- **Grasp** the complexity of the problem
- **Account for** the diversity of perspectives and worldviews
- **Link** theoretical and local (case-specific knowledge)
- **Develop** knowledge, practices, policies, and products that promote the common good



The Recursive Research Process in Transdisciplinary Research



(Hirsch Hadorn, Pohl, and Bammer, 2010)

Case 1: Constructive Technology Assessment of Nanotechnologies

- **The Societal Problem:** Asymmetry between ‘impactors’ (those at the source of technological impacts) and ‘impactees’.
- **Concentric Approach Versus Constructive Approach to Technology Assessment**
- **Goal:**
 - *Increase reflexivity* between interaction, feedback, and learning and translate into actions and interactions
 - *Broaden the design and development of technology* by including social scientists and science, technology and society scholars, mediators, private sector, NGOs, and technologists
 - *Use socio-technical scenario mapping:* Consider non-linear evolution, accept complexity, mapping and analyzing dynamics of technology development, identifying different scenarios, ethical and social considerations, social, legal, health, environmental, distributional impacts

(Ripp, 2008)

Case 2: Sustainability Foresight

- **Transdisciplinary social-ecological research program** aimed to develop sustainable development alternatives for German utility sectors in a timeframe of 25 to 30 years
- Development of science, technology, policy strategies using **foresight methods**
- Broad stakeholder participatory process
 - *Structure and future dynamics of sectors*
 - *Sectoral goals and trade-offs*
 - *Actions to support transformation*
- Visioning workshops, participatory scenario workshops, sustainability assessments, variety of development trajectories leading to **more widely shared agenda for sustainable development**

(Truffer, B., Voss, J.-P., and Konrad, K., 2008)