



Actors constellation method as TD Research Method

Strengthening Research & Educational Competences of HEIs for
Gender Sensitive InfoRmal Settlement Transformation- GIRT

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2nd June, 2023



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- Introduction to TD: concepts
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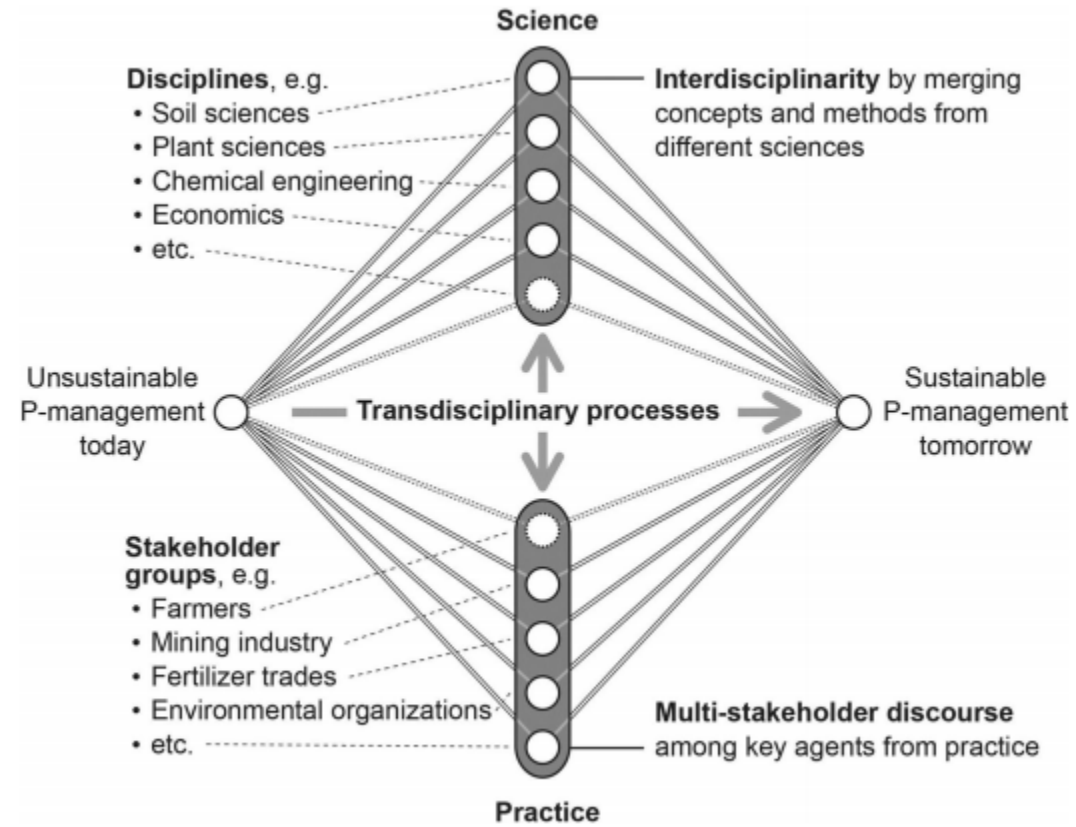
Transdisciplinary Research

- 1. Concepts:
- Transdisciplinary is an approach that represents a functional synthesis of methodologies and a broad point of view that combines different fields and provides the pools of critical knowledge needed to deal with problems in a structured way (Scholz et al. 2000a)
- It combined both the societal actors who are affected by a problem and turned into a scientifically valid research question.

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- TD is a means to understand the research or societal problems among researchers and stakeholders.
- Zurich 2000 ,elaborated TD as the efficient use of knowledge by relating different epistemic (i.e., ways of knowing) when dealing with a complex societally problems, knowledge and values from practice in science as well as for developing and utilizing science knowledge and practice.

Cont'd



2. Significance TD

- TD supports to understand vulnerability of societies, clear out challenges such as adaptation to climate change, globalization, climate change, demographic changes or environmental pollution, transition of energy systems, human and environmental health management , biophysical and technological layers of these problems (European Commission 2012).

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- economic and ecologically sustainable development
- applies domain-specific knowledge within an integrated framework and intervention involving a high degree of collaboration among disciplines.
- TD facilitate achievement of SDG related to humanitarian crises including: eradicating extreme poverty and hunger; reducing child mortality; improving maternal health; combatting HIV/AIDS, malaria and ensuring environmental sustainability (United Nations, 2014)
- dismantling of disciplinary boundaries, rather than ad hoc collaborations, that could transform the scientific enterprise and deliver the potential to address previously intractable problems.

3. Relevance to our project

- Informal settlement focusing of womens' access and vulnerability
- The issue is comprised of different stakeholders and disciplines.
- Stakeholders: farmers, gov't, non-gov't and private
- Disciplines: land tenure, urban planner, infrastructure, sociologist, ecologist, agriculture and so on.
- Support to integrated and develop the framework

4. Actor constellation(CA)

- CA is retrospective in innovation prospective by identification of strategic approaches to understand highly complex processes of invention and diffusion.
- CA set of tools that facilitates access to a scientific object of study from different points of view and using different approaches based on empirical societal objects,
- CA is heterogeneous elements and their effectiveness within innovation processes ,
- CA tie the chronological or , phase constellations, factual and societal relations that are relevant to innovations, outlining of the elements, relations and functional conditions.

The societal dimension is expressed in the actors and symbolic elements

social actors (e.g. persons, groups, stakeholders, organisations),

- natural elements (e.g. landscape, livestock, soil, ground water),
- technical elements (e.g. energy, factories, infrastructure) and
- signs (e.g. rules, laws, concepts and principles).

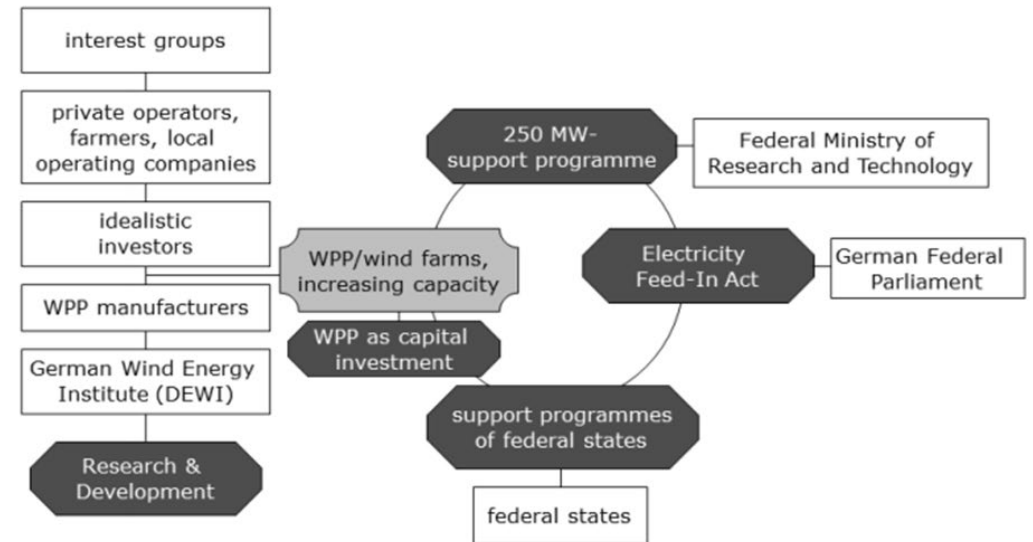


Source: Schön et al. (2007, 18).

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- A Constellation Analysis
- Mapping of the Constellation
- Analysis and Interpretation of Characteristics
- Analysis of the
- Processes of Change

Figure 3: Breakthrough of Wind Energy in Germany 1991 to 1995



WPP = wind power plant
WE = wind energy
Based on Bruns et al. (2009).

5. Experience of TD

- 1.Socioeconomic and Environmental Impact of Expropriation of Agricultural Land for Urbanisation in Ethiopia PhD thesis in Antwerp University by Wubante Fetene advised by
- 1.Prof. dr. ir. Steven Van Passel, Department of Engineering management, Faculty of Business
- & Economics, Antwerp University, Belgium
- Prof. Amare Sewnet Minale, Department of Geography and Environmental Studies, Faculty of
- Social Science, Bahir Dar University, Ethiopia

Publications

- 1. Wubante F., Steven Van Passe, Amare Sewnet, Enyew A., Jan Nyssen (2023). Nexus between land development and the value of ecosystem services in Ethiopia: A contingent valuation study. *Environment, Development and Sustainability*
- 2. Wubante F., Steven Van Passel, Jan N., Amare Sewnet Enyew Adgo (2021). Eliciting farmers' preferences and willingness to pay for land use attributes in Northwest Ethiopia: A discrete choice experiment study. *Land Use Policy*.
- 3. Wubante F., Van P., Amare Sewnet, Annelies B. Jan N.; Enyew A. (2020). Uncovering Ecosystem Services of Expropriated Land: The Case of Urban Expansion in Bahir Dar, Northwest Ethiopia. *Land*.
- 4. Wubante, F., Amare Sewnet, Enyew, A., Hossein A., Nyssen, J., Van (2019). Take out the farmer: An economic assessment of land expropriation for urban expansion in Bahir Dar, Northwest Ethiopia. *Land use policy*

Data Used

- Land expropriated
- and crop price ,Survey, FGD and observation
- quantitative and qualitative analysis
- Stakeholder's involved
- Farmers, municipality official and experts

Cont'd

- THE IMPACT OF URBANIZATION ON LAND-USE CHANGE AND FARMERS' LIVELIHOOD IN ETHIOPIA by Melaku Bogale Ghent University
- Prof. dr. Ben Derudder Department of Geography, Ghent University, Belgium
- Prof. dr. Amare Sewnet Minale Department of Geography and Environmental Studies, Bahir Dar University, Ethiopia

Publication

- 1. Melaku B, Ben Derudder, Amare Sewnet, Steven Van Passel, Enyew Adgo & Jan ,N.(2023). Stakeholder perspectives on farmers' resistance towards urban land-use changes in Bahir Dar,Ethiopia. Journal of Land Use Science.
- 2.Melaku B, Ben D, Amare Sewnet , Steven V. Passel, Enyew A, Jan N(2022). Analyzing the impact of land expropriation program on farmers' livelihood in urban fringes of Bahir Dar, Ethiopia. Habitat international .
- 3. Melaku B., Derudder, B., Amare Sewnet, Van P., S., Nyssen, J., Enyew A(2020). Modeling the Impact of Urbanization on Land-Use Change in Bahir Dar City, Ethiopia: An Integrated Cellular Automata–Markov Chain Approach. Land

Data used

- Land sat images,
- DEM
- Survey, FGD, IIK and observation
- Stakeholder's involved
- Farmers, brokers, municipality officials and experts



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