Research Workshop
"Governance in Telecoupled Land Systems"

19th – 20th April 2018, University of Bern, Switzerland

Workshop Report

Jointly organized by

University of Bern, Institute of Geography & Centre for Development and Environment

Leuphana University, Faculty of Sustainability

Osnabrück University, Institute of Social Sciences

Humboldt Universität zu Berlin, IRI THESys & Geography Department

Contents

1. Programme

Wednesday, 18th April 2018
19.00   Informal get-together (Restaurant Beaulieu, Erlachstrasse 3, www.restaurantbeaulieu.ch)

Thursday, 19th April 2018
08.45   Registration and welcome coffee
09.15   Opening session (facilitator: Christoph Oberlack)   •   Welcome, workshop objectives and programme

	• Introduction of participants • Results of the preparatory survey
10.30	Coffee break

11.00	Session 1: Creating common ground (facilitator: Jonas Nielsen)
	• Flashtalks: Introducing the four organizing projects and their perspectives on hot topics regarding governance in telecoupled systems
	    o GOVERNECT (Jens Newig, Andrea Lenschow)
	    o COUPLED, HU Berlin (Jonas Nielsen, Cecilie Friis)
	    o Governing Telecoupled Resource Systems for Environmental Justice (Christoph Oberlack)
	    o R4D Managing Telecoupled Landscapes (Peter Messerli, Julie Zähringer)

12.45	Lunch: UniESS Bistro (Schanzeneckstrasse 1)
14.15	Session 2: Plenary session: How do you address the conceptual and methodological challenges? (facilitator: Jens Newig)
15.45	Coffee break
16.00	Session 3: Plenary session: Governing telecouplings? What are the governance challenges and what are the governance mechanisms? (facilitator: Cecilie Friis)
17.30	Session 4: Closing of day 1, GLP working groups (Ariane de Bremond), outlook to day 2 (facilitator: Christoph Oberlack)
18.00	End of day 1
19.00	Workshop dinner Injera Ethiopian Restaurant, Gesellschaftsstrasse 38, Bern (www.injera-restaurant.ch)

Friday, 20th April 2018	
8.30	Welcome back, coffee & tea
8.45	Session 5: Open Session (facilitator: Julie Zähringer) • Introduction to session 5 • Identification of unresolved issues, ways forward
10.00	Coffee break
10.30	Session 6: Breakout groups
12.00	Session 7: Closing Plenary (facilitator: Christoph Oberlack) • Reporting back from breakout groups • Outlook
12.45	End of workshop

2. Participants

Name		Organization	Position
Almut	Schilling-Vacaflor	University of Osnabrück	Postdoctoral Researcher
Andrea	Winiger	University of Bern	Research Assistant
Anna	Frohn Pedersen	Humboldt Universität zu Berlin	PhD Researcher
Ariane	de Bremond	University of Bern & University of Maryland	Senior Researcher
Benedetta	Cotta	Leuphana University Lüneburg	Postdoctoral Researcher
Cecilie	Friis	Humboldt Universität zu Berlin	Postdoctoral Researcher
Chinwe	Ifejika Speranza	University of Bern	Professor
Christian	Kimmich	Masaryk University	Postdoctoral Researcher
Christoph	Oberlack	University of Bern	Postdoctoral Researcher
Elke	Kellner	University of Bern	PhD Researcher
Enrico	Celio	ETH Zurich	Postdoctoral Researcher
Flurina	Schneider	University of Bern	Head of Cluster
Gabi	Sonderegger	University of Antwerp	PhD Researcher
Janine	Hauer	Humboldt Universität zu Berlin	PhD Researcher
Jean-David	Gerber	University of Bern	Professor
Jens	Newig	Leuphana University Lüneburg	Professor
Jonas	Østergaard Nielsen	Humboldt Universität zu Berlin	Professor
Jorge	Llopis	University of Bern	PhD Researcher
Julie	Zähringer	University of Bern	Postdoctoral Researcher
Ravaka	Andriamihaja	University of Bern	PhD Researcher
Sébastien	Boillat	University of Bern	Postdoctoral Researcher
Ursina	Anesini	University of Bern	Research Assistant

3. Workshop objectives

Overall objective: Bring together early-career and established researchers to advance shared understanding and to allow in-depth discussion of current conceptual and methodological challenges in analyzing governance in telecoupled land systems.

The specific workshop objectives were:
1. **Discuss current conceptual and methodological challenges and good practices** in research on governance in telecoupled land systems.
2. **Generate common understanding** and increased precision about telecoupled land systems and the challenges and opportunities of governance in telecoupled land systems.
3. **Discuss the added value** of the telecoupling framework in relation to similar existing concepts, e.g. global commodity chains, or transboundary pollution.
4. **Discuss future forms of collaboration.**

4. Insights about the four workshop streams

The workshop was organized along four major streams, which were identified through a preparatory survey:
- Stream 1: Conceptual questions on governance in telecoupled systems
- Stream 2: Identifying and tackling methodological challenges
- Stream 3: Governance issues and governance mechanisms in telecoupled systems
- Stream 4: Added value of telecoupling in view of related approaches

4.1. Conceptual questions on governance in telecoupled systems

4.1.1. Conceptualizing the link between governance and telecoupling

Perspective:

The following three relations between telecoupling and governance have been proposed. They can be separated empirically to describe a phenomenon.

1. **Governance induces telecoupling** (='policy driven displacement' sensu Kissinger et al. 2011), e.g. EU biofuel quotas trigger deforestation in SE-Asia. Thereby, governance often creates unsustainability.

2. **Governance co-ordinates telecoupled flows.** Telecoupled flows – e.g. commodity chains – are governed by (private) chain actors. Governance here is as much part of the problem (sustaining global chains) as of the solution (alleviating the adverse impacts of chains). It is also possible to purposefully **design governance arrangements in order to enable telecouplings** that prevent adverse spill-over effects while sourcing particular goods.

3. **Governance provides leverage points to 'solve' the sustainability problems created by telecoupling** in either of the connected regions, or in spillover regions. Essentially public environmental governance, possibly including private and civic actors.

Discussion points:

- **Governance as telecoupling?** If we frame governance as something which enables institutions to be implemented, enforced and monitored, then often distant interactions are needed to enforce institutions. Vice versa, it is the governance arrangements, which influence if we consider something a telecoupling or not.

- **Networked governance:** There are different arenas of governance in telecoupled systems. In telecoupled resource systems the regulation of resource uses is complex in the sense that there are many governance initatives at the same time that are operating as a network in trying to regulate access to a resource.

- **Governance as a flow?** What role does governance play in a perspective of telecoupled systems? Is governance adequately considered as one flow among others?

    o Perspective 1: Are all flows at the same level? Is governance a more important flow? A flow which controls the other flows?

    o Perspective 2: Flows are part of system dynamics, whereas governance is about human agency, social interactions, and decision-making for acting within and upon those system dynamics.

- **Integrative concept:** Governance and telecoupling need to be analysed by an integrative concept. For instance, from a social-ecological systems perspective, which looks at the interactions among governance systems, actors and resource systems, which are happening in linked spaces of interaction.

4.1.2. Is lack of governance a constitutive feature of telecouplings?

- Perspective 1: The **lack of governance of telecoupled interactions** is a constitutive feature of telecoupled systems. Each of the systems is governed independently of each other but there is no governance of the interaction between the systems, respectively of the spill-over effects. What is interesting is the associated spill-over effect of this non-governed part of the interaction. Why do we have these gaps? Why have these gaps not been better governed?

- Perspective 2: **Most telecoupled systems are governed**. There are institutions behind most flows, and institutional diversity and complexity (rather than absence) is the rule rather than the exception. Most flows are in some ways regulated and there are actors who are using the rules available to influence the shape of these flows. The question is rather: are flows and systems governed 'good enough' resp. in a way to reach sustainability?

4.2. Identifying and tackling the methodological challenges

4.2.1. Selecting and comparing cases of telecoupling

Comparative research designs can be interesting to build causal explanations. Example: when looking at different private and multistakeholder iniatives for different crops, comparative designs are useful to analyse why some initiatives are more stringent than others, why the uptake of one initiative is working better in certain context and for certain crops.

The issue of comparability is a real challenge because the concept of telecoupling is very abstract. Does it really make sense to compare different kinds of telecouplings (e.g. global commodity flows, financial flows, conservation initiatives)? At what level does it really make sense to do comparable work on telecouplings?

In your research how do you ensure comparability of case studies?

- Using a common framework to characterize similarities and differences among multiple cases.
- Looking for similar and comparable contexts, processes, problems, or outcomes of telecoupled systems.
- Choose a number of telecoupling cases within one broader region.
- Using the same methods for multiple cases.

In your research, which kind of criteria do you use to identify a case of telecoupling?

First proposition

- Presence of external multi-scale interactions (Ex. Int. Concession, crops which are export).

- It needs to have socio-economic relevance (normative dimensions).

- Governance and regulation are weak or incomplete, some inconsistence in the governance system regarding the socio-ecological governance.

Second proposition

- long distance between systems with linkages.

- external influences have come to outweigh local influence in the decision making process made by local land users in term of land use.

Third proposition

- Two socio-ecological systems are linked.

- There are flows (good / money/ people / other things).

- Look at sytems and assess whether they are dependent on external flow (imports / funding).

- Distant interaction (crossing international borders) that shape the focal system.

Fourth proposition

- Some observed land use change or sustainability impact in one of the two systems.

- Presence of a decoupling of production and consumption.

- Overlay of competing demands (demands are combination of distant & local demands).

- Distance can also be local, it has to involve some component of social interactions.

- They occur in socio-ecological systems.

- There are system bounderies which are being crossed (there are multiple systems).
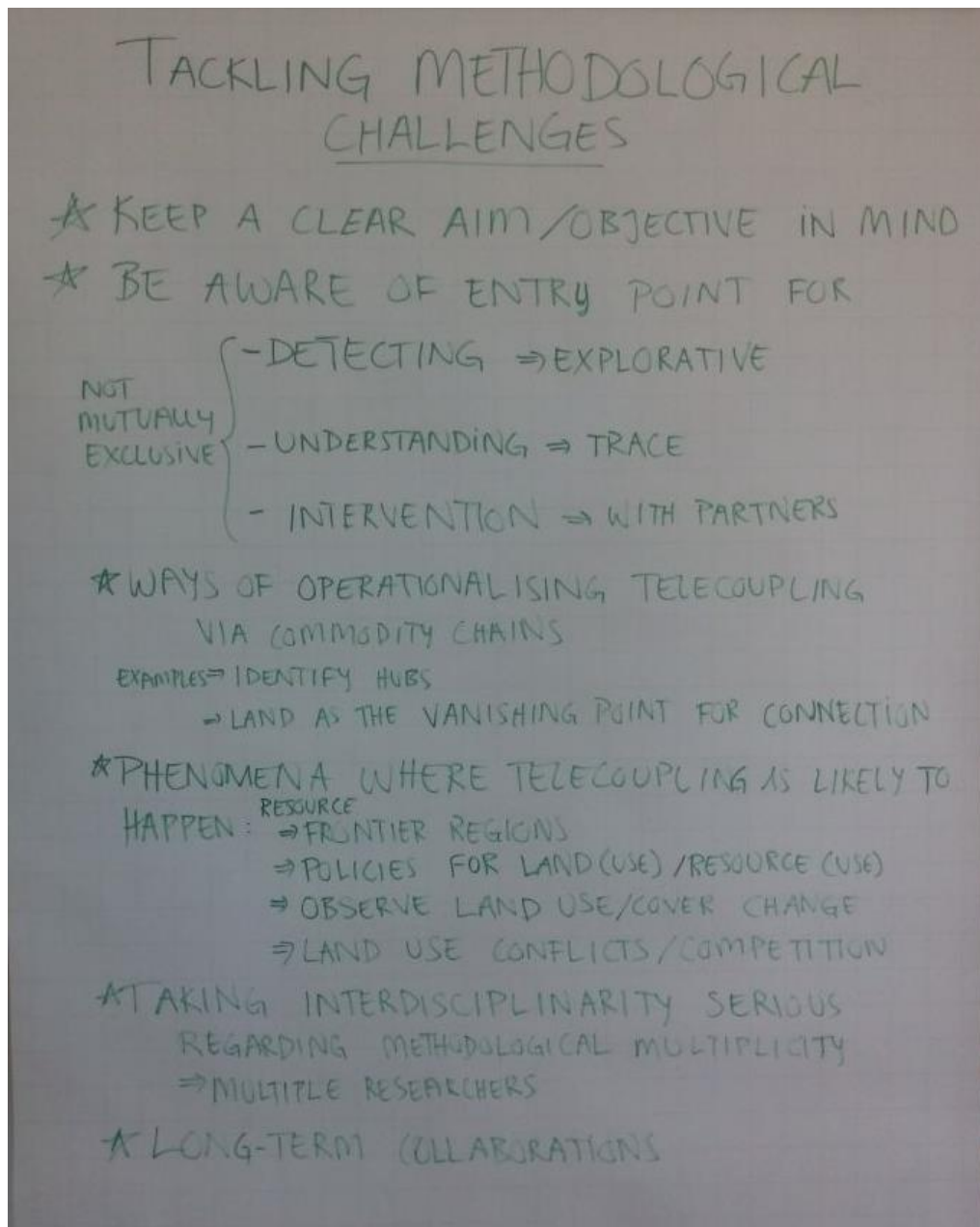
Fifth proposition

- Land should be the vanishing point of telecoupling. So there is a place-based component which is a key feature. We are dealing with socio-ecological systems at both ends of the interactions so there has to be some sort of land component. (climate change or reduced emission of greenhous would therefore, not be considered as sending or receiving system) This is were telecoupling has a unique potential as a concept.

4.2.2. Tackling the methodological challenges

Major methodological challenges identified in the preparatory survey, including:

- Methodological options to **operationalize** the analysis of telecoupling, governance and networks.

- Determining the appropriate **boundaries and scales of the system of concern**; system boundaries have immediate implications what is considered as '**distant'** in telecouplings. How do we construct a telecoupled field? Where do we turn our focus when multiple telecouplings are present, and what implications does this have for our research?

- How to identify and govern a **spill-over**?

- How can we keep up with **highly dynamic** situations of land use changes (sometimes annual) vis-à-vis longer time horizons of research projects (often 3 years plus)?

- How to grasp a telecoupling relationship not "only" case-specific, but being able to use the methods for **generalization and prediction**.

- **Communicating** telecoupling research.

- Doing mu**lti-sited rese**arch within the constraints of a research project.

- **Traceability.**

- Challenges of **interdisciplinarity**: Bringing different ontologies into dialogue.

- Other challenges: see handout.

Group work on good practices: methods and practices that are addressing key methodological challenges:

TACKLING METHODOLOGICAL CHALLENGES

* KEEP A CLEAR AIM/OBJECTIVE IN MIND
* BE AWARE OF ENTRY POINT FOR

NOT MUTUALLY EXCLUSIVE {
  - DETECTING ⇒ EXPLORATIVE
  - UNDERSTANDING ⇒ TRACE
  - INTERVENTION ⇒ WITH PARTNERS
}

* WAYS OF OPERATIONALISING TELECOUPLING VIA COMMODITY CHAINS

EXAMPLES⇒ IDENTIFY HUBS
  → LAND AS THE VANISHING POINT FOR CONNECTION

* PHENOMENA WHERE TELECOUPLING IS LIKELY TO HAPPEN:
  ⇒ RESOURCE FRONTIER REGIONS
  ⇒ POLICIES FOR LAND (USE)/RESOURCE (USE)
  ⇒ OBSERVE LAND USE/COVER CHANGE
  ⇒ LAND USE CONFLICTS/COMPETITION

* TAKING INTERDISCIPLINARITY SERIOUS REGARDING METHODOLOGICAL MULTIPLICITY
  ⇒ MULTITLE RESEARCHERS

* LONG-TERM COLLABORATIONS

4.2.3. Discussing the networks of action situations (NAS) approach

System boundaries: How does the NAS approach address the problem of system boundaries?

- Boundaries are drawn in relation to the *outcome of interest*: Boundaries are drawn around the *social interactions* (which take place in action situations), which explain the outcome. Hence, at the moment, the NAS approach supports research that traces the explanatory processes and factors for an outcome of interest.

Governance: What is the take on governance when applying the NAS approach?

- One consistent definition of governance: "Governance is the process by which actors form, apply, interpret, and reform the repertoire of rules, norms, and strategies that guide decision making." (McGinnis 2011)

Complexity: To what extent does analysing networks of action situations help to reduce the complexity of analysing telecoupling? Do NAS really reduce complexity? On which side?

- Compared to a full Social-Ecological Systems analysis, it does reduce complexity on the ecological side. Ecological systems are only considered to the extent needed to understand patterns of social interactions. On the other hand, it investigates complexity on the social side. Whether it reduces anything on complexity on this side is questionable.

Refining the seven step procedure for conducting a NAS analysis:

1. Step: The starting point is the outcome/problem – in our cause environmental sustainability.

2. – 4. Step: Describe the social ecological system in the area which you are most interested in. Actors, institutions, resources, and ecosystems are described.

5. Step: Analyse flow-based governance arrangements, e.g. voluntary sustainability standards such as Roundtable for Sustainable Palm Oil, which are distinct from territorial governance arrangements.

6. Step: Identify the causal mechanisms and causal effects that explain how the outcomes of interest are shaped by the factors investigated in steps 2-5.

7. Step: Deepen understanding of these causal mechanisms by analysing them as action situations.

What is specific about the NAS approach compared to others?

- In relations to social network analysis it is currently less structed, less quantitative; it puts more emphasis on understanding how actors are interacting with each other (deep understanding of the links between the actors).

- This is also a key challenge in applying the NAS approach. How do you delineate the action situation? At the moment it is quite subjective, based on in-depth understanding of social interactions in particular cases.
- In economic theory there are types of games that actors play (e.g. coordination games, prisoners' dilemma). It may be useful to link them more explicitly.
- But which are the crucial patterns of social interactions that occur in TC systems?

**How do causal mechanisms link to networks action situation?**

- Causal mechanisms point to the important patterns of social interaction, which are depicted in action situations.

What is the relation between NAS and polycentric governance?

- Polycentric governance typically means that there are multiple arenas of decision-making. They are functioning in an autonomous or semi-autonomous way. The NAS approach is a tool to analyse polycentric governance systems.

4.2.4. Key variables for cumulating knowledge in frameworks

- Telecoupling frameworks have proposed a few large classes of variables (e.g. "sending system", "actors", etc.) to analyse telecouplings. A more detailed set of key variables which could emerge over the next years could help to build a broader sense in this community about what particular variables make a difference to reach sustainability in telecoupled systems.

- **Group work: Based on your research and the frameworks of telecoupling, what are the 12-15 key variables for analysing governance in telecoupled systems (dependent variables, independent variables, causal mechanisms)?**
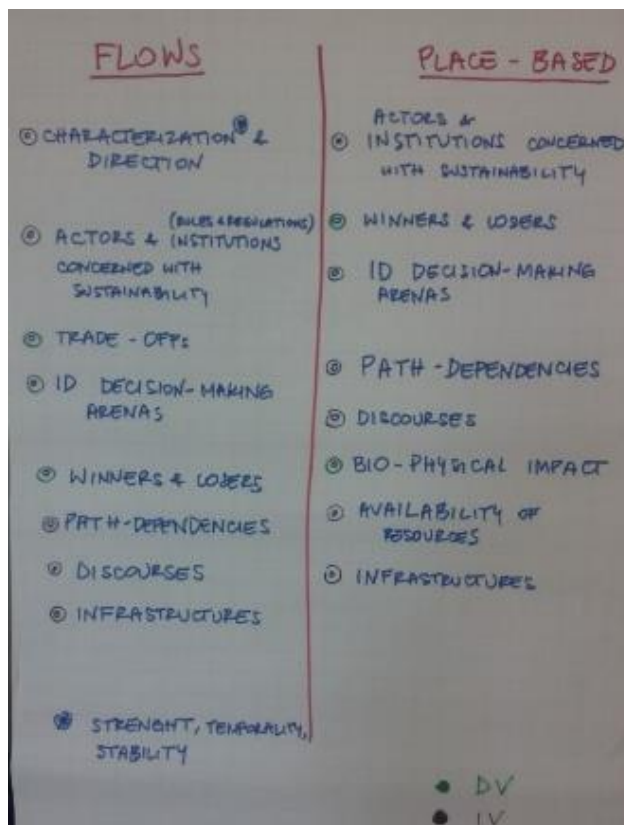
Note: Black: independent variable; Green: dependent variable

- These are baskets of variables because it depends very much on the cases and research question how you would break down the variables. That is why we stay at a high level.

- If we are concerned about sustainability we nedd to be concerned about who are the winners and who are the losers? Where do we need to govern? Where are the trade-offs? Question we need to ask in all researches!

- This list can be used like a check list: When asking all this questions regarding a case one will get a good understanding of the governance issues in the case. And one can also start identifying what could potentialy be done about it.

- What do we do with the first telecoupling framework which taks abouts agents, cause-effects, systems and flows, but does not integrate power and governance? Should we redo a new framework are develop others further?

- Are you taking into account property rights? Property rights are essential elements in the governance of ressources. Property rights is not just another instruments because in the end the actor who buys the land, are often in a much stronger position than any public publicy. The logic of property rights is to defend private interest in front of the state. The logic of public policies is to defend the general interest and try to influence the position of title holders. These are very different logics. There are two ways to guarantee access to ressources: through property rights and through public policies. Often only economists but not political scientist do focus on property rights. Often the two disciplines do not work together.

4.3. Governance issues and governance mechanisms in telecoupled systems

4.3.1. Plenary debate: How to approach governance in your empirical field work?

- **Institutional resource regime perspective:** Governance is approached through the use of the natural resource. The resource land is used by different actors. The uses are often competing each other and the governance question is about regulation of these competing uses. Telecouping is a special setting where the uses are not only local but somewhere else. So governance looks at how local and distant uses are regulated across distance. This use of the resource is at the centre of analysis.

- **Problem-solving perspective:** In a first step we tried to understand how resources are governed and in a second step we tried to come up with ideas how to improve it. The point of departure is the identification of unsustainabilites and the consensus that sustainability governance could eliminate them. There is always the implicit assumption that through governance we are doing it for the public good. There is a common understanding of the problem and that through whatever means (privat / public) this can be tackled.

- **Reflection:** It is useful to think about what is governed: A resource? Competing claims over the resource? Flows? The international relations between two countries? There are many governance arrangements, which govern different objects, for instance: national territorial rules, community based rules, international round tables, EU laws on imports, etc.

- **Institutional diversity:** It is important to look at all the governance mechanisms in place to fully understand the situation. Such regimes are often made up of dozens of governance arrangements.

- **Transdisciplinary perspective:** We first try to understand the situation through a transdisciplinary approach. During this process we try to create multi-stakeholder platforms, to have the important stakeholders on board and then based on the new systems understanding und the different perspectives of the stakeholders what could be new goods interventions which we could test? Hypothesis: when we know the network of people and we see that the existing governance arrangements might not be sustainable, could we maybe create better linkages and bring certain actors together who currently do not work together and change the situation.

- **Network of action situations:** see section 4.2.3 above.

4.3.2. Power relations

- A critical challenge with telecouping is that **existing governance mechanisms are not able to govern some flows due to unequal power relations.** (For example the government in Laos is not able to govern flows of external exporters and traders with their governance mechanisms due to the huge power differential between the Lao government and the Chinese government).

- Most projects look at telecoupled systems with unequal power relation (north-south / east-west) and not at telecoupled systems with more or less equal power relations. There are some exceptions that look at south-south telecouplings.

- The framework of TC is open for any systems and there is no inherent power hierarchy. However it is important to capture these power relations and to deal with the mismatches between sending, receiving and spill-over systems. It should be strived for some variety in cases analysed along gradients of power (a)symmetry.

4.3.3. Normative frameworks

- In order to assess governance a **set of evaluative criteria** is needed because governance itself is not good or bad. Two popular framework in the telecoupling context is sustainability and environmental justice.
- In understanding telecoupled systems we can understand where the **leverage points** are for shifting flows towards what we search to be more sustainable or more juste.
- We have to look at the different positions of the users of the resource. Some are benefiting and some are losing. We then can introduce a **normative perspective** and ask how should it look like from a sustainability perspective.
- **Sustainabiliy:** By doing an assessment of the sustainability, telecoupling could be a way to name the goods and the bads of telecoupling and what to do about it.
- **Environmental justice** too anthropocentric? It might be useful to look at the work of Rutgerd Boelens & Margreet Zwaantje Zwarteveen Margrit Swaltimen. They add environmental Integrity as a fourth dimension to the framework.
- Is sustainability a **telecoupled ideology** exported from the North/Western world?

  Perspective: Sustainability is not Western. It depends on what you call it. Different people in different places call it differently. In the end it is about values, how I value others, how I value the environment, or how I value the way how you say what you say. These values are place- and culture-specific. In the end it comes again to values and power. Who has the power to bring in his/her values? Those who define the indicators are mostly from the west so it is a western prespective of the SDG.

4.3.4. What kinds of governance issues are specific to telecoupled systems?
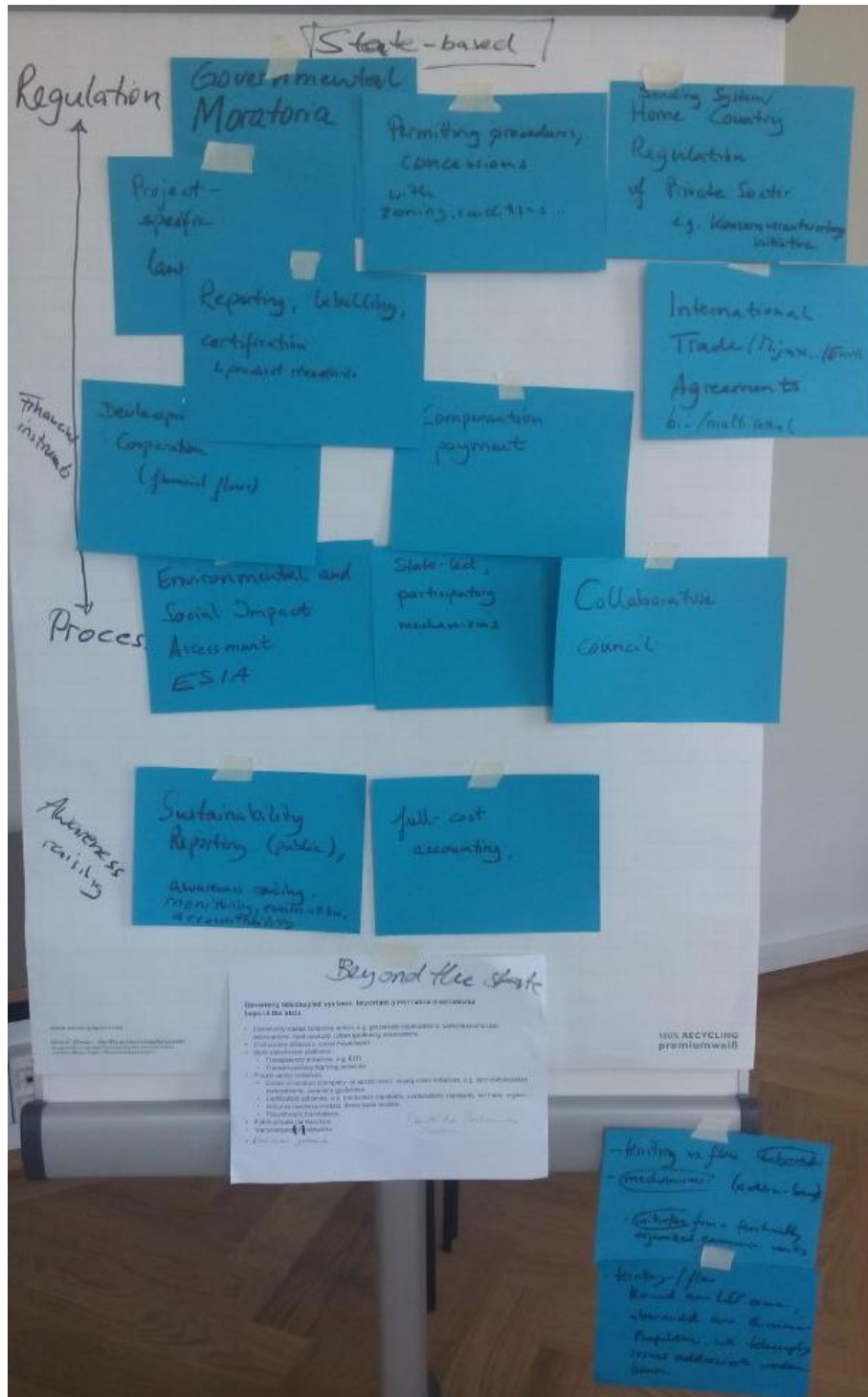
- There are **flows** which have to be governed. That involves a **coexistence of flow-based and place-based governance arrangements**. Which makes the situation very complex with **different overlapping regimes** present. Which has the effect that there are **different leverage points at different levels** and related to different actors and networks.

- There are **different discourses and narratives** at stake because there are different actors involved. So when you want to govern this problems, this can become a problem

- There are very **specific governance issues related to spill-overs**, it is very hard to **anticipate** and govern these spill-over effects. Another problem is the **tracibility** of spill-overs and the acces to information.

- **Masqued and disregarded impacts**: impacts that are difficulte to trace and about which we do not have enough knowledge. Some of the impacts are invisible.

- In some cases we have **powerful actors** that are imposing their governing mechanisms on others.

- Are there specific challenges to **collaboration across spatial distance**?

    o Spatial distance matters because it limits the possibility of participation.

    o Institutionalised power inequalities.

    o Visibility of responsibility over distance. The possibility to feedback something into the process.

    o Problem of missing empathy, so we know things but it does not changes practices, how to tackle this issue? It is often specific to telecoupling because of the distances.

- How to govern telecouplings?

    o More pragmatic solution: which may also legitimize telecoupling and market-based solution which help to remain the status quo, but makes some changes within the same system, but this can be critizied like greening capitalism and green washing.

    o One proposal to govern TC might be to internalize costs.

    o More radical approaches, it might sometimes be better to reduce TC in the sense of a degrowth and systemic change.
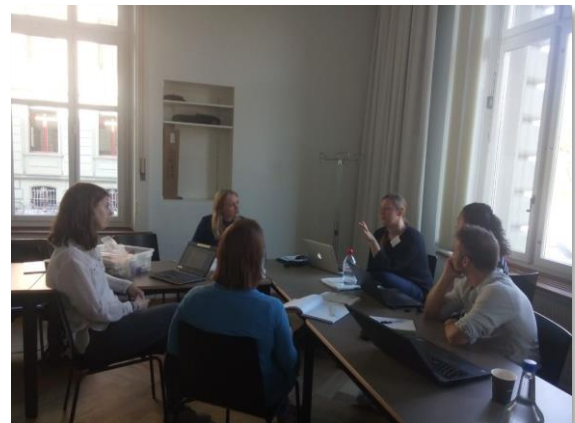
4.3.5. Governance arrangements

Group work: What is the range of governance arrangements available? What of them are suited to address what governance issues in telecoupled systems? Is the distinction of territorital vs. flow-based governance arrangements the most suitable one to understand governance?

Classification of governance arrangements according to state-based and non-state based governance arrangements and the main causal mechanisms through which they generate effects:

Governance arrangements beyond the state

Governing telecoupled systems: Important governance mechanisms beyond the state

- Community-based collective action, e.g. grassroots organizations, water/resource user associations, food councils, urban gardening associations
- Civil society alliances, social movements
- Multi-stakeholder platforms
    - Transparency initiatives, e.g. EITI
    - Transdisciplinary learning networks
- Private sector initiatives
    - Codes of conduct (company- or sector-level), supply-chain initiatives, e.g. zero-deforestation commitments, voluntary guidelines
    - Certification schemes, e.g. production standards, sustainability standards, fair trade, organic
    - Inclusive business models, direct trade models
    - Philanthropic foundations
- Public-private partnerships
- Transnational city networks

- ▪ The group considered it useful to approach governance along the actors and the causal mechanisms instead of along flow- or territory-based issues.

- ▪ The group did not discuss how well these governance mechanisms work or how they could be implemented. Rather, the group aimed to map the range of governance mechanisms that we identified in the project's work.

- ▪ This can be used as a diagnostic lens for our research in governance in TC systems. It could help in knowing what kind of governance arrangements could be looked for.

4.3.6. What governance instruments are promising for adressing particular issues

- ▪ **Tracability problem**: flows are difficult to follow due to knowledge problems → Reporting of labelling, home country regulations of private sector

- ▪ **Institutional complexity**: different governance systems are overlapping, it is an issue of complexity and fragementation of different governance systems → discussion about policy coherence for sustainable development takes up the problem and could be a guiding principle, concret implimentation is context and problem specific. Example international problem scale → international agreements. Example local problems within the same jurisdiction → coordination bodies at the national or subnational level or process-based instruments.

- ▪ **Networked leverage points**: Telecouplings = multiple systems operating, they are meeting in one particular region and generate certain land use patterns. Because there are multiple systems there are also multiple leverage points. → Example: community-based action in local area linked with home-country regulation for investing/sourcing companies. In such a polycentric system there needs to be a focal point which holds the entire system together. The SDG's were considered promising as a normative compass which guides many debates recently.

- **Power asymmetries**: powerful actors may impose their governance ideas on local actors → Building on "bummerang effects": community-based collective action is not always the best method, e.g. forceful strategies to maintain land access by investors. Using different leverage points is more effective: outscaling a conflict to gain leverage over 'veto players'.

- **Novel forms of governance:** Block-chain technology is an emerging theme for governance in the form of user driven platforms where everyone in place can validate something. There are methods in information technologies that are very bottom up. That is something that is really worthwhile to think about this technology. This is a research field which we really need to look into when we talk about tracability, transparency, documentation, engaging with people, regulations, feedbacks, boomerang. It is user driven and it is really really protected you can not break in to the system. It would be interesting to couple with some blockchain people. What could this tool do? How could it be used?

4.4. Added value of telecoupling in view of related approaches

Plenary Debate: What are the strengths and added values of the concept of telecoupling in your view?

- In research on globalization, it helps us to **break down gloablisation in managable units** of analysis which we can deal with. We deal with enourmous complexity, we do not want to end up stating complexity, we want to do something about it. --> it helps us to get to governance and to break it down to something we can deal with. Compared to other gloablisation theories it is more concrete.

- Land science research became aware that they cannot understand the land use changes by only looking at local actors who convert the land. That is where the telecoupling concept is useful, trying to **understand deeper what is driving the land use changes**.

- It helps us to **point to issues which have not been addressed so far through existing concepts**. Ex: Globalisation refers to things which are universal which concern the globe (ex. Climate change). Telecoupling points to the specific distance between phenenoma which happen and which have implications for envirnomantal issues and sustainability.

- It can be used a s **boundary object to integrate different strands of research**.

- It helps us to empirically analyse und **understand the decoupling of production and consumption** (in the context of land use change).

- The framework **focuses explicity on spill-overs, leakage, displacements**, which are very important in the context of land-use change and **the governance of it**. This is something which cannot be found in many other frameworks dealing with globalisation.

- It **fits nicely with other concepts** (e.g. social-ecological systems, local /regional/ globalization problems / governance).

- Telecoupling could help to **identify different leverage points in the systems** (consumer markets / international arenas, voluntary guidelines) by following the flows of drivers of land-use change.

- It is **interesting in terms of the transdisciplinary aspects**. Firms can control their value chain very well. They cannot control so well the spill-over effects of their actions but they would like

to control it in order to prevent any reputational damages. The telecoupling framework can **identify the spill-over effects** and by doings so also help find leverage points to govern them.

- The telecoupling framework can **bring the actor network thinking into the analyis of socio-ecological systems** and land systems.

- Telecoupling **brings different people together** and helps to **integrate different streams of research.**

- The value of telecoupling is its **ties with the socio-ecological approach.**

- Using it as a tool for helping to **explain an empirical phenomenon** seems more productive than specifically looking for telecoupeld telecoupled systems a priori.

- Telecoupling is about **transactions** where you can clearly connect the actors. (not like other flows where you cannot directly link actors, ex. CO2 emission).

- Telecoupling is a lens and a way how to look at a phenomen (a **heuristic tool**) and not a framework.