Knowledge transfer for climate change adaptation: An introduction of the research project KNOW2ADAPT

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Research objective

To produce generalizable insights on the combination(s) of condition(s) that lead to the outcomes of European collaborative projects with a focus on climate change adaptation in the water sector by systemically comparing the process and impacts of these projects from a multi-level learning perspective.

European collaborative projects

Over the past decades, the European Commission has established various **programmes to stimulate collaboration and learning** across partners from various European member states. Most notably are INTERREG programmes for cross-border, transnational and inter-regional collaboration and the cooperation programme of the research Framework Programme. The programmes intend to bring together a **heterogeneous team of persons**, who jointly work on **reducing a joint or common problem** as well as **to develop new knowledge** or **to provide solutions to problems and policies**. While the resources for these programmes continue to increase, very little is known about the actual impacts and success factors of these European collaborative projects.

Climate adaptation

Throughout Europe, climate change is projected to have profound impacts on water management (Figure 1).With the increasing evidence of climate change occurring, attention for climate adaption is growing. The European Commission considers that **even when mitigation efforts prove to be successful adaptation measures are needed**. Also European member states feel the need to moderate, prevent and reduce harm and to exploit opportunities that are associated with climate change. However, their responses and levels of experience are diverse. These similarities and differences create a great potential to learn from each other, among others, on how to best adapt to the projected changes in water resources, such as an increase of floods and droughts.

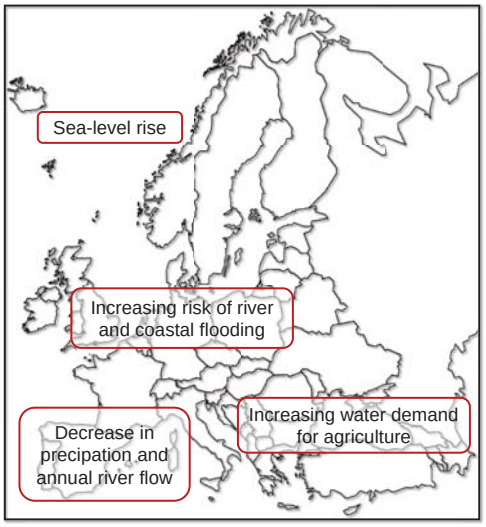

Figure 1 – Projected impacts of climate change on water resources throughout Europe (EEA, 2013; background map from Graphic Maps)

Theory: A multi-level perspective on learning

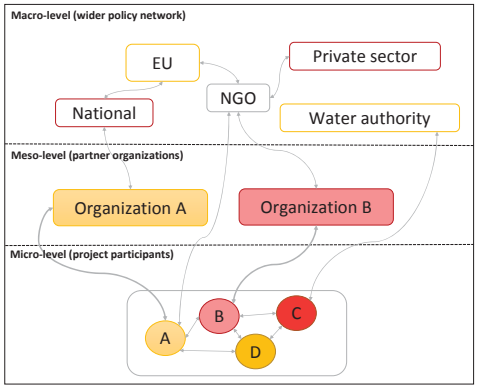

Figure 2: The multiple levels of learning in international collaborative projects

European collaborative projects bring together actors from diverse professional and institutional backgrounds. Through their interactions, these actors can exchange and transfer existing knowledge (learning *from* each other) as well as jointly develop or produce new knowledge (learning *with* each other). These learning processes may remain at the individual level (e.g. knowledge is being transferred from one actor to another) and may also extend to the collective level (e.g. project partners collectively develop new insights). We refer to the learning that occurs among project participants as learning at the **micro-level**.

The actual success of inter-organizational projects largely depends on the degree to which lessons learned are transferred to the home organizations of the actors involved. It is at the **meso-level** of organizations that learning may lead to actual changes in culture, policies and practices.

In addition, the lessons learned in transnational projects may be transferred to the **macro-level**, which we associate with the wider policy network, i.e. the 'outside world'. This is the case when knowledge is being transferred from the project to citizens, academics, practitioners or policymakers who were not involved in the project.

On the basis of the literature on transnational, organizational and social learning, we assume that knowledge transfer and the associated learning processes in collaborative projects can be as conceptualized as a **multi-level learning process** (see Figure 2). Particularly in the context a of climate adaptation, structural changes in the governance regime as a whole are of crucial importance. Therefore, the success of a project largely depends on the degree to which learning at the level of actor-interactions leads to structural changes, i.e. societal learning.

Methods: Qualitative Comparative Analysis (QCA)

Studies focusing on policy transfer and learning often rely on in-depth case study research. This is understandable given the complexity and context-specificity of such processes. However, the lack of systemic comparison tends to lead to fragmented knowledge that lacks the potential to derive general insights. Qualitative Comparative Analysis (QCA) is a research approach and technique that **helps to capture the complexity of individual cases** and also **allows for systematic comparison of an intermediate number of cases**[1].

For this research project, we are currently in the **preparatory phase of a QCA**. The first step in this phase is to explore and select potential cases and to define – on the basis of relevant literature and case knowledge – the outcome(s) of interest and the conditions that may influence this outcome. Before deciding upon the research framework and case studies, we seek advice from an advisory panel that will be established for this research project. The second step concerns the **collection of qualitative and quantitative data about the cases and their contexts**, which will be integrated into case study templates. The last step in this phase is to transform the case study data into values between 0 and 1 for the selected conditions and outcome(s).

The preparatory phase will be followed by an **analysis and interpretation phase.** Using QCA software, we will seek to understand what combinations of conditions lead to an outcome of interest. This phase is likely to include an in-depth analysis and comparison of a few selected cases. The challenge is eventually to identify not only the shortest, but also the most meaningful solution. This may involve removing or adding conditions or cases.

[1] Rihoux, B., & Ragin, C. C. (2009). *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques* (Vol. 51). Los Angeles - London - New Delhi - Singapore: Sage.

Results and outlook

- **Preparation (2014)** – Inception report synthesizing insights from various literature streams into a conceptual framework and describing the comparative research design. Plan concerning the communication and dissemination of research results and the engagement of potential users is developed, including the establishment of an advisory committee.
- **Implementation (2015- mid 2016)** – Research report describing the case studies and how data were analysed and interpreted with the use of methods and software for QCA.

Expected results:

1. New knowledge and an improved understanding of learning in international collaborative projects;
2. New insights in the applicability of Qualitative Comparative Analysis to complex and context-specific processes;
3. Practical knowledge concerning how international collaborative projects can assist countries to adapt to climate change.

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