

Collaborative action research for science hotspot relations

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1 Description work package

1.1 Problem definition, aim and central research questions

The ambition of this governance programme is to develop practically relevant and scientifically sound knowledge. This ambition requires dedicated attention, mutual commitments and advanced methodology. Otherwise the programme risks becoming too theoretical (academic analysis and journal articles only) or too practical (useful advices and consultancy only). Each of the work packages will be tightly related to practical problems experienced by hotspot partners, and to the latest insights debated in the scientific community. The goal of this cross-cutting WP is to direct and support other work packages in realizing our twofold ambition and to manage the tensions between both.

The twofold ambition of developing practically relevant and scientifically sound knowledge corresponds with the extended body of literature that stresses the importance of bridging science and policy practice. A mutual relation between the two can be stimulated through establishing 'boundary arrangements'. In these arrangements, boundaries must be institutionalized in such a way that they stimulate mutual knowledge exchange and coproduction of new practical and theoretical expertise and yet keep sufficient tension and confrontation for productivity, novelty and creativity.

Organizing the co-production of knowledge requires a methodology of collaboration, consulting and researching, which takes into account the impulses and demands from both the policy practice and the science world. In this programme we will elaborate on the method of collaborative action research. Collaborative action research means that we take guidance from the hotspots as the primary source of questions, dilemmas and empirical data regarding the governance of adaptation, but also collaborate with them in testing insights and concepts and evaluating their usefulness. This method is not only a way of overcoming the cleavage between “science” and “practice” but is also an important tool to enhance the quality of empirical research. By engaging with complex governance systems, researchers are better able to understand their dynamics. In general, this method starts with identifying problems in governance practices and relevant research questions. What follows is an in-depth analysis of these problems. In dialogue stakeholders and researchers develop ideas on how to solve the problems and start experiments. Finally, we draw conclusions for both practice and theory development. Through this approach, new theoretical concepts can be tried out in governance practice and new practical insights can be compared and analyzed. Of course, not all problems and research topics require the same standard approach. Each collaborative action research programme requires tailor made arrangements, which take - amongst others - into account situational conditions regarding the content of the issues, relationships, and commitments. How should this best be organized and under what conditions can researchers and stakeholders meet the bilateral accountability structures?

This work package will be organized as a boundary arrangement between hotspot practices and the various work packages and will be based upon the principles of collaborative action research. The goal of this WP is to set the conditions for this boundary arrangement and to direct and support the method of collaborative action research of the other work packages. Next to supporting the other work packages, this work package aims to contribute to our knowledge on designing boundary arrangements and conducting collaborative action research in the field of the governance of climate adaptation.

The main research question is: *How can the development of practically relevant and scientifically sound knowledge be carried out best through setting up boundary arrangements and applying collaborative action research methods?*

This WP comprises of a practical and a methodological part:

The practical part (project 1.1) exists of setting up a knowledge-brokering centre. This boundary arrangement provides the organization conditions for facilitating the interaction between hotspots and researchers. It includes a governance helpdesk and activities to facilitate learning processes within and between hotspots. The methodological part (research project 1.2) functions as a methodological framework underlying many of the projects of the work packages. It develops and reflects upon the methods of collaborative action research. It aims to enhance the theoretical foundation of collaborative action research in governance, to translate the philosophy of collaborative action research into practically applicable methods and tools, to support its application in the projects, and to reflect upon the pitfalls and opportunities.

1.2 Interdisciplinarity and coherence between the projects

This crosscutting work package focuses on organizing methodological coherence between all work packages and projects through applying collaborative actions research methods. Interdisciplinarity belongs to the key assumptions underlying the philosophy of collaborative action research. The method departs from the hotspots as the primary source of questions.

1.3 Stakeholders

Beside the researchers, all stakeholders that participate in the research programme will be involved in this work package. We offer them two complementary options. The first option is the knowledge-brokering centre. All stakeholders that participate in the programme get the opportunity to make use of the governance helpdesk. It provides the entrance to a database of research and (a limited amount of) possibilities for direct consultancy by specific researchers in the programme. Quality can only be realized when consultation questions fit into the ongoing research projects. The second option is the engagement in collaborative action research programmes regarding concrete cases and issues. It challenges stakeholders to participate in an innovative learning and research trajectory. Obviously it requires mutual commitments for a longer time and the willingness to experiment and learn.

2 Project 1.1 Knowledge brokering between scientists and hotspot partners

Project leaders: Prof.dr. C.J.A.M. Termeer and dr. M.W. van Buuren

2.1 Problem definition, aim and central research questions

The aim of this project is to organize and enable the interactions between the researchers and the hotspot actors.

For his purpose we will set up a knowledge brokering centre. The key question is: *How can the development of practically relevant and scientifically sound knowledge be carried out best through setting up boundary arrangements?*

The reason to do so has its theoretical roots. A growing body of literature stresses the importance of bridging science and policy practice (e.g Pielke, 2007; Dow & Carbone 2007; Keller 20097). A mutual relation between the two can be stimulated through establishing so termed boundary arrangements (e.g. Hoppe 2008). In these arrangements boundaries must be institutionalized in such a way that they stimulate mutual knowledge exchange and co-production of new practical and theoretical expertise and yet keep sufficient tension and confrontation for productivity, novelty and creativity. All actors involved will need to be aware of the impulses and demands from each side of the policy-science interface. Only then, an effective and efficient interaction can take place in which salient, credible and legitimate knowledge is realized (Cash et al., 2002).

The knowledge-brokering centre will act as boundary arrangement. It provides the organizational conditions for the interactions between researchers and hotspot actors in all projects. From a practical point of view the centre will facilitate:

- ▽ a governance helpdesk;
- ▽ links between researchers and hotspot actors;
- ▽ learning processes within and between hotspots;
- ▽ information for the general public.

By doing so it fulfils the essential functions of a knowledge system for sustainable development (Cash et al., 2003): i.e. communication, translation, and mediation. Every year the centre will be evaluated and reflected upon (Schön, 1983).

All stakeholders that participate in the programme get the opportunity to make use of the governance helpdesk. It provides the entrance to a database of research and limited possibilities for direct consultancy by one of the researchers in the programme. In order to guarantee quality, consultancy questions will and must be embedded in the ongoing research projects of the programme. The governance helpdesk will collaborate with the knowledge transfer unit of the Knowledge for Climate Programme.

The centre can help to link researchers with hotspot partners and to facilitate the starting up of action research projects. Additionally, the centre can facilitate learning processes within and between hotspots by bringing relevant knowledge on the appropriate scale and place (Cash et al., 2006).

Finally, the centre will organize the communication of the result of the programme to the broader public and to stakeholders, who have not participated in the research programme themselves.

2.2 Approach and methodology

The approach comprises:

1. setting up and maintaining a system to facilitate and support interactions between researchers and stakeholders
2. setting up and maintaining a database of research questions, methods and outcomes
3. participation in communities of practice, workshops, expert meetings and learning environments and actively disseminating scientific knowledge towards specific governance practices
4. advanced forms of communication through which we will inform the broader public
5. a regular newsletter through which we will inform all actors involved

2.3 Scientific deliverables and results

Month 12:

Deliverable 1A: Collaborative action research: foundations, conditions and pitfalls. A position paper that discusses the foundations of the collaborative action research method, the conditions for its application, some general pitfalls and guidelines (a toolbox).

Month 48:

Deliverable 1B: An edited book volume, possibly entitled “Coproducting adaptation. A portfolio of collaborative action experiments in Dutch climate adaptation policy”, in which we systematically reflect upon the various experiments in the hotspots and the factors that explain their success or failure.

2.4 Integration of general research questions with hotspot-specific questions

This project will facilitate the interactions between researchers and hotspot actors. Where necessary it will bring together researchers from different projects to be able to answer practical governance questions.

2.5 Societal deliverables and results

This project helps the other projects to realize their societal deliverables through:

Starting month 4:

Deliverable 1.1.1: an accessible database of governance of climate adaptation research

When necessary, starting month 1:

Deliverable 1.1.2: Specific advice products through successfully linking hotspot actors with researchers

Month 12, 24, 36 & 48:

Deliverables 1.1.3, 1.1.4, 1.1.5 & 1.1.6: 4 popular publications to communicate the results to a broader public

Month 6, 12, 18, 24, 30, 36, 42 and 48

Deliverable 1.1.7: a regular newsletter

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3 Project 1.2 Enhancing, supporting and reflecting upon collaborative action research approach methodology

Project leaders: Prof.dr. C.J.A.M. Termeer and dr. M.W. van Buuren

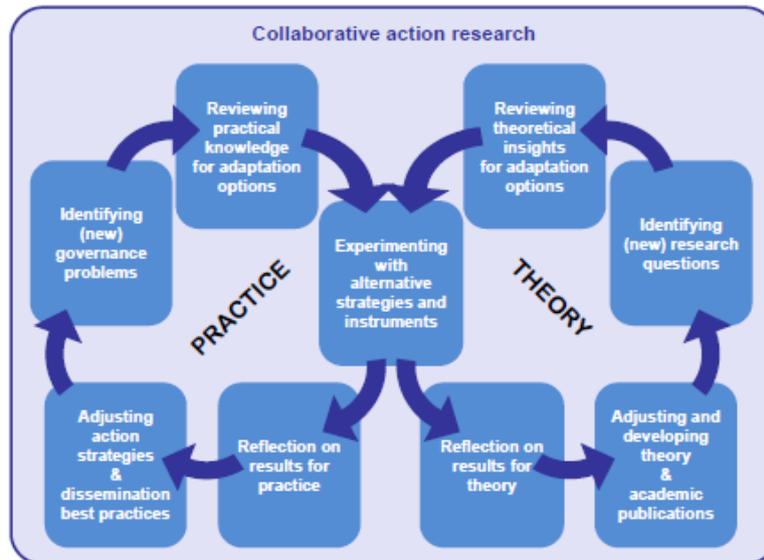
3.1 Problem definition, aim and central research questions

The ambition of this programme is to develop practically relevant and scientifically sound knowledge about the governance of adaptation (Phelps & Hase, 2002; Schwandt, 1984). An important instrument to realize this ambition is the method of collaborative action research, which we apply throughout the various projects.

Action research has a long tradition and provides a variety of approaches. For our programme four interwoven characteristics were guiding, namely acting, learning, researching and collaborating (Termeer & Kessener, 2007). First off all action research is engaged in action on real life issues with those who experience these issues directly (Coghlan & Jacobs, 2005). It demands an integral involvement by the researchers in an intent to improve the governance of climate adaptation and an intent by the hotspot actors to take action. However, this intent may not succeed – no change will take place as a result of the intervention – and the change may not be as intended (Eden & Huxham, 1996: 530). New knowledge is created through an interactive process in which actors reflect on their actions and pay attention to the way they are learning (Argyris, 1995; Boonstra, 2004). Outcomes have to do with new thinking, new values and new behaviour (Coghlan & Jacobs, 2005). Moreover, this learning must not remain restricted to the people concerned, but is also aimed at making the experiences meaningful to others through publications in journals and conference presentations, and by means of communities of practice, expert meetings and round tables (Eden & Huxham, 1996). Finally, we mention the characteristic of intensive collaboration between researchers and hotspot actors. In collaborative action research the people who take action, also actively participate in the research (Whyte, 1991). We use the term collaborative action research to emphasize the key feature of collaborating between scientists and practitioners.

From a practical point of view, our collaborative action research approach (see figure, based on Eden & Huxham, 1996) starts with identifying the governance aspects of climate adaptation issues in the hotspot regions and the relevant research questions with respect to these aspects. An in-depth analysis of these problems follows, and in dialogue, hotspot actors and researchers develop ideas on how to solve problems and start experiments. Finally, we draw conclusions for both hotspot practice and theory

development. Through this approach, new theoretical concepts can be tried out in hotspots and new practical insights can be compared and analyzed. Of course, not all problems and research topics require the same standard approach, but a pragmatic combination of research and action will be sought for each project.



Collaborative action research is not a way of overcoming the cleavage between “science” and “practice” only, but is also an important tool to enhance the quality of our empirical research. By engaging in the complex governance systems we study, we are better able to understand their dynamics (Byrne, 1998; Flood, 1998; Checkland & Holwell, 1998; Coghlan, 2002). By translating research findings into experiments we are able to test the validity of our conclusions. By analyzing the effects of experiments in terms of the dynamics they generate we are better able to understand the working of the complex systems we analyze.

This project thus can be seen as the methodological conscience of the research programme in which we systematically elaborate the toolbox of collaborative action research and in which we support and facilitate the application of these tools in the various projects which are unfolding in complex governance contexts. This project both aims to support other projects and to enhance methodological knowledge. The twofold interrelated aims are:

1. To translate the philosophy of collaborative action research into practically methods and to facilitate and support the application of this approach within the various projects as formulated in the research programme.
2. To enhance the theoretical foundation of collaborative action research and the development of applicable knowledge on conducting collaborative action research in the specific context of governance of climate adaptation.

The central research question is: *What is collaborative action research within the context of complex governance systems and how can it successfully be applied in practice?*

To answer this question the project addresses four questions:

1. What are the theoretical foundations and assumptions underlying collaborative action research?
2. What are the specific conditions for successfully applying collaborative action research within complex governance systems and with regard to climate adaptation?
3. What are the specific pitfalls applying collaborative action research in complex governance practices and how can these pitfalls be dealt with?
4. What are the criteria to assess the effectiveness and legitimacy of collaborative action research?

3.2 Approach and methodology

This project will be subdivided in three categories of activities.

First, we will conduct an extensive literature survey to answer our research questions theoretically. By analyzing earlier applications of collaborative action research within the context of complex governance systems we are able to learn the conditions and pitfalls in applying this method. In addition we develop a toolbox in which we systematically present the various methods for collaborative action research within governance processes.

Secondly, we will support and accompany the development of a couple of collaborative action experiments with regard to governance issues in the various hotspots. The researchers within this project thus operate as a “mobile knowledge and competence brigade” to support the researchers in WP’s 2, 3, 4 and 5 to apply collaborative action methods and execute action interventions within the various hotspots. By doing so, we develop and disseminate methodological knowledge throughout the research consortium. Within specific contexts of application we support the application of collaborative action methods by:

1. clarifying the question from a specific hotspot and matching this question to a specific research project;
2. assisting by thinking about an appropriate intervention, its accomplishment and implementation;
3. observing the process of implementing the coproduced intervention;
4. guaranteeing the validity and credibility of the results of these experiments.

Third, we will execute a thorough evaluation of these various experiments in interaction with the researchers and the practitioners. Such a learning evaluation (Elden & Levin, 1991; Edelenbos & Van Buuren 2005; Patton, 1997) is based upon close interaction between evaluator and the evaluated group of people and invests in iterative cycles of observation, evaluation, reflection, learning and so on.

3.3 Scientific deliverables and results

Month 12:

Deliverable 1A: Collaborative action research: foundations, conditions and pitfalls. A position paper that discusses the foundations of the collaborative action research method, the conditions for its application, some general pitfalls and guidelines (a toolbox).

Month 24:

Deliverable 1.2.1 & 1.2.2: at least 2 scientific papers written together with the scientists of the various projects about the content of governance experiments we conducted with special reference to the collaborative method we used.

Month 36:

Deliverable 1.2.3: Reflective paper on collaborative action research for adaptation to climate change.

Month 48:

Deliverable 1B: An edited book volume, possibly entitled “Coproducting adaptation. A portfolio of collaborative action experiments in Dutch climate adaptation policy”, in which we systematically reflect upon the various experiments in the hotspots and the factors that explain their success or failure.

3.4 Integration of general research questions with hotspot-specific questions

The hotspots emphasize the urgency of the governance issues they raise for our research consortium. For them it is very important that our researchers overcome the natural boundaries between science and policy. The researchers at the other hand want to go one step further in realizing practical relevant insights. They are eager to invest in the possibilities to test their knowledge and to entwine their researches with experiments. As said, this project is the methodological conscience of the whole governance research programme. It delivers knowledge and support to the various projects about the methods which can be used to coproduce experiments and interventions.

The hotspots have various questions which can be answered by applying collaborative action research. We can mention various examples which are addressed in the projects, for example:

- ▽ the Programme Office South Western Delta is willing to engage in a joint process in which we codesign a new regional governance structure to manage the climate adaptation challenge (WP 2.3);
- ▽ the hotspot Wadden Sea is willing to engage in a joint process of developing and realizing a so-called multifunctional Delta Dike (WP 2.2);
- ▽ the hotspot Haaglanden is willing to participate in a process of thinking about a system of price measures to influence water use and water storage in the Westland area (WP 3.1 & 3.2).

3.5 Societal deliverables and results

Our main societal deliverables are:

Month 42:

Deliverable 1.2.4, 1.2.5, 1.2.6 & 1.2.7: Insightful evaluation studies of these collaborative experiments which enable learning processes with regard to successes and failures of governance experiments.

Month 48:

Deliverable 1.2.8: A toolbox for collaborative action research methods within the context of climate adaptation and governance.

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