

'Co-operative Research' on Alternative Agro-Food Networks: An Example of Bottom-Up Participation

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Abstract

Science and research is increasingly under scrutiny to produce knowledge that is more relevant to societal needs, including a broader variety of knowledge. This is a growing demand especially in the context of socially relevant topics like sustainability research. The integration of new forms of knowledge that are less abstract, less discipline bound and closer to those processes which characterise the diversity and distribution of knowledge production in society at large might serve this demand. This paper introduces a kind of 'experiment', which tries to meet that demand by carrying out co-operative research (CR), which is an innovative form of research process involving researchers and non-researchers in close cooperation, aiming at jointly producing knowledge and enforcing the social learning dimension. We will outline the rationale and theories behind, and will introduce the design for co-operation within the project 'Facilitating Alternative Agro-Food Networks: Stakeholder Perspectives on Research Needs',¹ which applies co-operative research on alternative agro-food networks. Rather than providing results of an analysis, the paper aims at presenting the implementation of CR as a trans-disciplinary process. It describes new approaches for knowledge production in research and explains the background of the research design for the FAAN project.

Introduction

Agriculture in general and Alternative Agro-Food Networks (AAFNs) are complex, multidimensional and inter-sectoral subjects, and they are characterised by an intense interaction of various actors (e.g. farmers, consumers, retailers, policy makers, public authorities, etc.). Against this background we consider it an excellent case for trying out trans-disciplinary co-operative research in practice. In this context we started the FAAN co-operative research project at the beginning of 2008, as a consortium of ten partners – five academic partners and five civil society organisations (CSOs) from Austria, Great Britain, Hungary, France and Poland. Each national team comprises one academic and one CSO partner dealing with alternative agriculture and rural development.

Box 1. Overview FAAN project

FAAN – ‘Facilitating Alternative Agro-Food Networks: Stakeholder Perspectives on Research Needs’



The main goals of the project are:

- to research specific questions related to Alternative Agro-Food Networks within a co-operative research process by carrying out participatory action research with civil society partners (CSOs) and to contribute to further research agenda setting by identifying further research needs, and
- to design, implement and evaluate a co-operative research activity.

Partners:

1. IFZ - Inter-University Research Centre for Technology, Work and Culture, Austria
2. Via Campesina, Austria
3. Open University Milton Keynes - Faculty of Technology, UK
4. GeneWatch, UK
5. Szent István University - Institute of Environmental and Landscape Management, Hungary
6. Vedegylet - Protect the Future, Hungary
7. Agrocampus Rennes - Rural Economy and Public Policy Department, France
8. FRCIVAM - Fédération Régionale de Bretagne des Centres d'Initiatives pour Valoriser l'Agriculture et le Milieu Rural, France
9. Nicolaus Copernicus University - Institute of Sociology, Poland
10. Polish Rural Foru, Poland

Research is carried out on two levels:

I) on the process level (CR)

Literature review on I) participatory methods and stakeholder engagement in general and on II) in particular in regard to agricultural research. The theoretical background on co-operative research is investigated to finally contextualise the experiences gained during the project.

Elaborating the design for the first meeting, where the partners discuss and negotiate the practical requirements for designing the CR process for FAAN, specific project arrangements, theoretical concepts and the design for the empirical studies. The outcome of the first phase will be a document on our research design to inform people interested in this field.

Elaboration of the overall project design based on the results from recursive reworking of the work plan.

Reflexive project steering/monitoring/evaluation: The co-operative research process and the relevance of this methodology in the AAFNs context is monitored during the whole project to be adopted and further elaborated. As a result, specific recommendations from our experience in regard to CR are developed.

II) on the content level (AAFNs)

Policy analysis: Through a literature review the political context of AAFNs is mapped to embed the empirical studies, which are carried out in all the partner countries.

Literature review on the socio-economic, cultural and organisational factors influencing AAFNs.

Empirical phase I (comparative analysis of the context of AAFNs at the local, national and European level): The empirical work starts with investigating stakeholders' views regarding the current state and development of AAFNs and factors influencing this – focussing on case studies the national teams have decided for. The empirical findings will be compared with results from the literature review, to see whether the results are coherent. Thereof resulting national state-of-the-art reports will be compared and analysed according to the main relevant factors identified. Moreover this first step of the empirical phase serves to identify relevant actors, institutions and networks of AAFNs, who are interested to further participate in the project within the empirical phase II.

Empirical phase II (scenario analysis workshops on the national/regional level): CSOs representatives, academic experts and authorities' representatives co-operatively elaborate future scenarios for AAFNs. These activities will help to better understand the forces or drivers of AAFNs, which have been identified within the empirical phase I and the literature review.

Empirical phase III (scenario analysis workshops on the EU level): The workshop is designed on the basis of the results of the two prior empirical phases. This part of research brings together Brussels based stakeholders, like European level Civil Society Organizations (farmers, consumers, retailers and environmental groups), relevant academic experts, policy makers (e.g. officers of DG Research and DG Agriculture) and participants of the project to discuss the preliminary findings of FAAN with an interdisciplinary group of relevant international actors in order to scientifically validate the project results. Similarities and differences between the national cases in view of further developing the project's framework on AAFNs are reflected upon, and the outcomes of policy analysis are discussed, emphasising the European level. Based on this, future research needs on AAFN are addressed, our empirical experiences on CR are reported, and the concept of CR is discussed. The findings resulting from the European workshop are analysed, reported and integrated in the final report on relevant policies and future research needs for AAFNs for Europe as a "knowledge-based bio-economy".

Inter- and trans-disciplinary research co-operations have been promoted for being innovative and effective models of sustainable knowledge production (cf. Bammé 2004; Gibbons et al. 1994; Nowotny et al. 2004). At the same time they have caused intense and still ongoing discussions as to their proportional empirical relevance for science as a whole and as to their practical relevance for real world implementation (Weingart 1997; Weingart 2001). Emphasis is put on organisational adaptation to the approach of trans-disciplinarity, while methodological challenges are widely neglected (Brunzel & Jetzkowitz 2004). The FAAN project tests methods and co-operative arrangements by engaging CSOs at different levels.

This paper cannot provide empirical results, since we are still in an early stage of the project, and the process is being modified or adjusted during the whole run of the project. Rather, it provides an insight into our approach of designing and organising the trans-disciplinary process from the very beginning of the project, and we will reflect on experiences gained so far.

Starting from an outline on the rationale behind setting up a co-operative research project, this paper introduces the concept of co-operative research and provides an overview on trans-disciplinarity as a methodological framework. Finally practical aspects of co-operative research within the FAAN project are described. The paper thereby reflects the authors' point of view, and it is based on their conceptualisation of co-operative research.

Alternative agro-food networks

AAFNs have emerged in Europe as a reaction to multiple challenges to conventional productivist agriculture. These challenges range from consumer distrust in food safety resulting from food scandals (e.g. Salmonella, BSE, dioxin or pesticide residues etc.) to problems of peripheral, less favoured rural regions, whose survival is threatened by market liberalisation and globalisation. Moreover public sensitivity to environment and health related issues, to social sustainability, animal welfare and to the political and economic implications of a productivist and globalised food

system is continuously growing. This sensitivity is also reflected in AAFN initiatives, which build up alliances and networks between the farming sector and other interest groups. AAFNs are characterised by active involvement of a range of actors from these groups, e.g. farmers, food processors, local distributors, local CSOs, restaurants, consumers, local and regional authorities who mainly interact via informal contracts (Roep 2002). Thereby AAFNs create new linkages between agriculture and society which are based on two dimensions: the organisational structure and specific mechanisms entailed in these to extend relations in time and space, and second, the different quality definitions. AAFNs employ diverse organisational structures, different social constructions and equations with ecology, locality, quality, and consumer cultures. Renting et al. (2003) underline the social dimension, arguing that quality conventions involve more than simply the language of production regulation. They most of all refer to the perceptions and discourses of the involved actors, and they are influenced by their personal (lay) knowledge, interests and cultural backgrounds.

AAFNs involve several types of innovation, but they still remain marginal under the EU policy and research priorities. The EU promotes a 'knowledge-based bio-economy' (derived from concepts of the 'bio-society' in the 1980s, and the 'knowledge based economy' in the 1990s), focussing on capital-intensive technological innovation for more efficient production methods to achieve greater productivity in global commodity production (Levidow 2008). By contrast, AAFNs involve different relationships between organisational, cultural, economic and technological innovation. If AAFNs could actually contribute to a more sustainable development of European agriculture, such a vision of sustainable agricultural production for the future should be defined not only by including different knowledge dimensions (the environment, the economy, technology, society, policy and values) but also by including viewpoints of different actors from society. Against this backdrop we regard AAFNs to be a perfect issue for applying participatory research.

Involvement of civil society organisations

Public engagement usually aims at specific ‘representatives’ of publics, e.g. average citizens, stakeholder groups, experts and policy makers. The importance of CSOs is thereby growing. Over the last 20 years, an increasing number of CSOs have diversified from service provision into policy advocacy (Kanji et al. 2002). They are being credited with having considerable impacts on global processes ranging from economic development to democracy. CSOs play an increasingly important role in science-society interaction by actively addressing issues of public interest. Moreover they mediate between the research community and normal citizens. This mediator role might be particularly important in democratising science governance. CSOs often have the inside knowledge of societal needs, and they have the capacity to generate questions for agenda setting. Still, until recently CSOs have rarely been involved in research policy issues and research activities. The involvement of CSOs mainly aims to facilitate the implementation of results from research or political agendas. Despite the fact that the growing role of these organisations is widely recognised in the literature (Börzel 1997; Greenwood 1997; Levidow 2007), there are very few research activities taking a bottom-up approach² by involving CSOs at a very early stage in research, e.g. in agenda setting.

Innovative research concepts

Innovative research mechanisms which integrate perspectives from various points of view can build bridges between different fields of knowledge and different groups of people while developing practical solutions to sustainability problems in agriculture. A broad perspective may help to integrate traditional agricultural disciplines with social sciences and the humanities, ecology and environmental sciences. Research in the context of sustainable agriculture needs collaboration among disciplines, it needs inter-disciplinarity. Such research represents a challenge not only for science but also for policy since it relates to a broad range of societal challenges. Thus, research on sustainable agriculture should ultimately address these various challenges and therefore needs both an inter-disciplinary and a strong trans-

disciplinary approach, which considers alternative forms of knowledge from non-academic actors. In the course of the FAAN project trans-disciplinarity is applied as a conceptual framework for cooperative research.

What is co-operative research?

As defined in a Report of a European Commission Workshop in 2005 (Stirling 2006), a more democratic governance of science could be realised through 'co-operative research'. CR involves both researchers and non-researchers in close co-operative engagement, aiming at jointly producing knowledge. In contrast to multi-disciplinary and inter-disciplinary research, CR is characterised by participatory engagement with civil society for exploring the driving aims and purposes, the alternative orientations, and the wider social and environmental implications of research and innovation. Galiay (2006) states that CR represents a 'new paradigm' which emphasises social learning as an important output. It is a process where various procedures, situated at different levels, are proposed for engaging divergent social values and interests in participatory processes of science governance.

The integration of different kinds of knowledge in a symmetrical way requires dealing with a diversity of backgrounds and perspectives, and a multilevel understanding of complex issues. Thus, the production of such knowledge becomes more a relational, action-oriented procedure based on symmetrical dialogue across the whole process. This should be done from the beginning of the process to the effective integration of the research design, including implementation and dissemination. As already stated above, the bottom-up engagement at the earliest stage of research represents one of the strengths of the CR concept.

In assessing the purpose of public engagement and participatory exercises in the context of CR, Stirling (2005, 2006) identifies three dimensions: (1) normative – enforcing democracy and underlining values like equity, inclusion, openness, legitimacy and representativeness; (2) substantive – aiming at building diverse knowledge by eliciting salient ones, illuminating uncertainties, and thus informing more robust decisions; and (3) instrumental – enhancing public trust and credibility of existing

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policies. An analytical distinction between these three types of perspectives may help when discussing the role of participation and CR engagement in the FAAN project, more precisely when it comes to identifying the imperatives, rationales, motivations and incentives in relation with the engagement in a co-operative research project. The normative, democratic dimension of participation enforces science as a process aiming at an empowerment of citizens and not necessarily referring to the ends to which this process may lead. By contrast, the substantive dimension refers to participation as a way of improving outcomes, not focusing on the process but on the different ways of knowing, being and meaning, and thus aiming at building socially robust knowledge. The instrumental dimension aims at the effectiveness of participation in realising particular ends, i.e. those outcomes particularly favoured and desired. All these three approaches may be useful when shaping the participatory settings of the CR process in the FAAN project.

We believe that CR could advance research and policy agenda setting by identifying new challenges and needs in the field of AAFNs. CR encompasses a full spectrum of approaches, frameworks, and methods, ranging from inter-disciplinary collaboration through stakeholder negotiation to trans-disciplinary deliberation and citizen participation.

Trans-disciplinary research

Our notion of the concept of trans-disciplinarity corresponds to Gibbons et al.'s 'Mode 2' in knowledge production (Gibbons et al. 1994), which proposes that the older hierarchical and homogeneous mode is being replaced by another mode characterised by complexity, hybridity, non-linearity, reflexivity, and heterogeneity. New configurations of research are being generated continuously, and as expertise is drawn from a wider range of organisations, a new social distribution of knowledge is occurring. Trans-disciplinarity goes beyond inter-disciplinary combinations of academic disciplines to achieve a new understanding of the relationship of science and society. Multiple stakeholders with various skills and expertise are involved from the beginning in formulating a problem.

Trans-disciplinarity is not a new discipline or a super-discipline, but it is – as Nicolescu calls it – ‘the science and art of discovering bridges between different areas of knowledge and different beings’ (Nicolescu 1996 transl. Voss 2001 in Thompson Klein 2004, 516). Over the past few years in particular, trans-disciplinary research co-operations have been promoted as being innovative and effective models of sustainable knowledge production (Bammé 2004; Gibbons et al. 1994; Häberli et al. 1998; Nowotny et al. 2004). It has proven especially effective for researching complex, multidimensional and inter-sectoral subjects in fields where social, technical, and economic developments interact with elements of value and culture, for instance in sustainable development, landscape planning, waste management, nutrition, health care, housing etc. (Thompson Klein 2001). Problems transcending disciplines can be taken up by trans-disciplinary research approaches and worked on by developing appropriate methods to integrate knowledge that is segmented into different scientific fields and fields of practice.

Integrated knowledge production

Within trans-disciplinary projects experts from various disciplines and practitioners engage in multiple forms of collaboration, differentiation and integration. This implies a broad diversity of methods and theoretical concepts, which poses challenges to each actor involved: How can different strands of research be brought together? How can communication and understanding be facilitated between members of a very heterogeneous team? How can the exchange of views and results and agreement on conclusions be organised so that they contribute to a good overall result? How can results meet the project participants’ different expectations? How can results from such processes be evaluated from outside? How can results be acknowledged by the scientific community as well as be taken up into the practical field if they do not meet the quality of disciplinary research?

The basis for a trans-disciplinary project is a context-specific negotiation, which is linked with the concept of ‘communicative action’ (Klein 1996 after Thompson Klein 2004, 521). Science alone cannot solve complex problems with strong elements of uncertainty and contextuality, other forms of knowledge are needed as well. Stakeholders enter into a process of

negotiation that allows their individual interests and views to be expressed and discussed resulting in integrated knowledge production, a kind of hybrid product of knowledge, which is the result of 'making sense together' (Klein 2004, 521). This requires ongoing efforts towards mutual understanding. In practice this communicative action is linked to challenges resulting from differences in the research methods, work styles, epistemologies and languages used. Such challenges have to be overcome in order to achieve mutual understanding of a problem and to arrive at a common solution. Successful knowledge co-production by scientists and non-scientists is linked to the systematic transformation of societal expertise and tacit knowledge into explicit insight and positions. In order to produce coherent project results and not just a sample of multi-disciplinary problem views and solution approaches, teams need to integrate working steps and preliminary findings throughout the entire research project (Pohl & Hirsch Hadorn 2006).

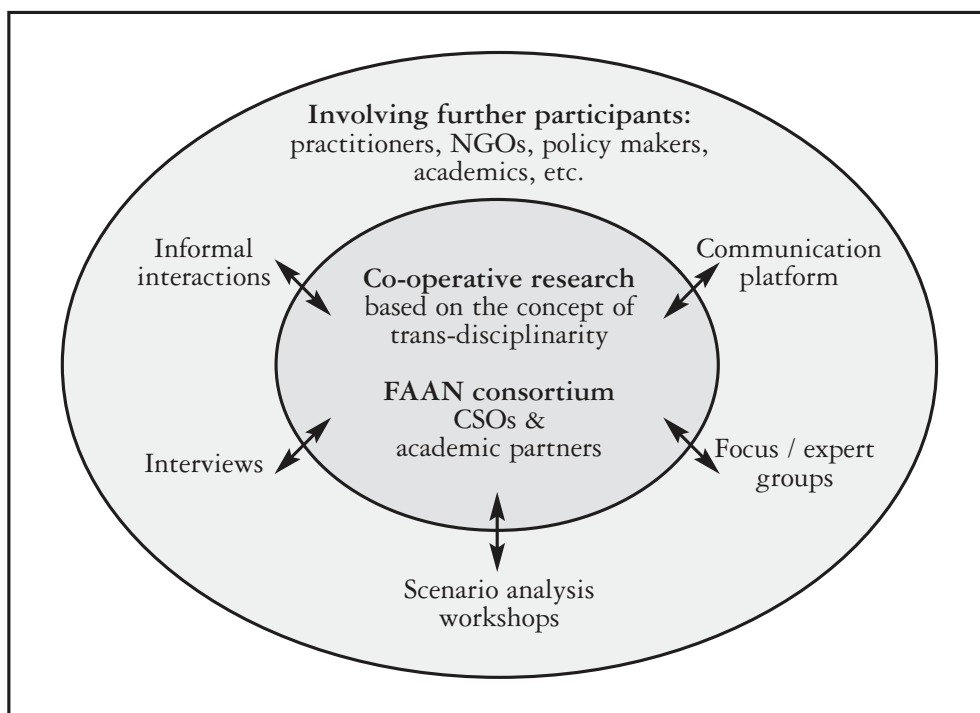
Scientific and practical relevance of trans-disciplinarity

Traditional research is still carried out primarily within disciplinary boundaries and problems are characterised by disciplinary interests with real world problems not being the primary goal. Quality criteria of research work are mostly discipline related, but the core of trans-disciplinary research lies in crossing disciplinary boundaries. Disciplinary patterns cannot be directly applied to it, and – if applied – this could raise doubts on the appropriate standard of science. The combination of different disciplines does not automatically raise the probability of producing outstanding results and establishing a scientific reputation for the team members. Similarly, publishing results from such research in the academic field is more difficult, because there are not many peer-reviewed and high-impact publishing research papers located at 'disciplinary interfaces'. On the other hand the integration of findings into real-world practice is more likely by involving non-scientific partners throughout the whole project. Practitioners make sure that the most urgent problem areas are covered and help to communicate the findings in the most appropriate way, and to connect findings with the specific priorities of the target groups addressed. Moreover, it helps to produce practicable and effective implementation concepts.

Implementing CR in practice

Against the backdrop of issues raised above, the overall co-operative research design of the FAAN project was elaborated in the line of the concept of trans-disciplinary research (TDR). The involvement of further participants in the scope of the project's empirical phases is based on various more 'traditional' methods of participation in research.

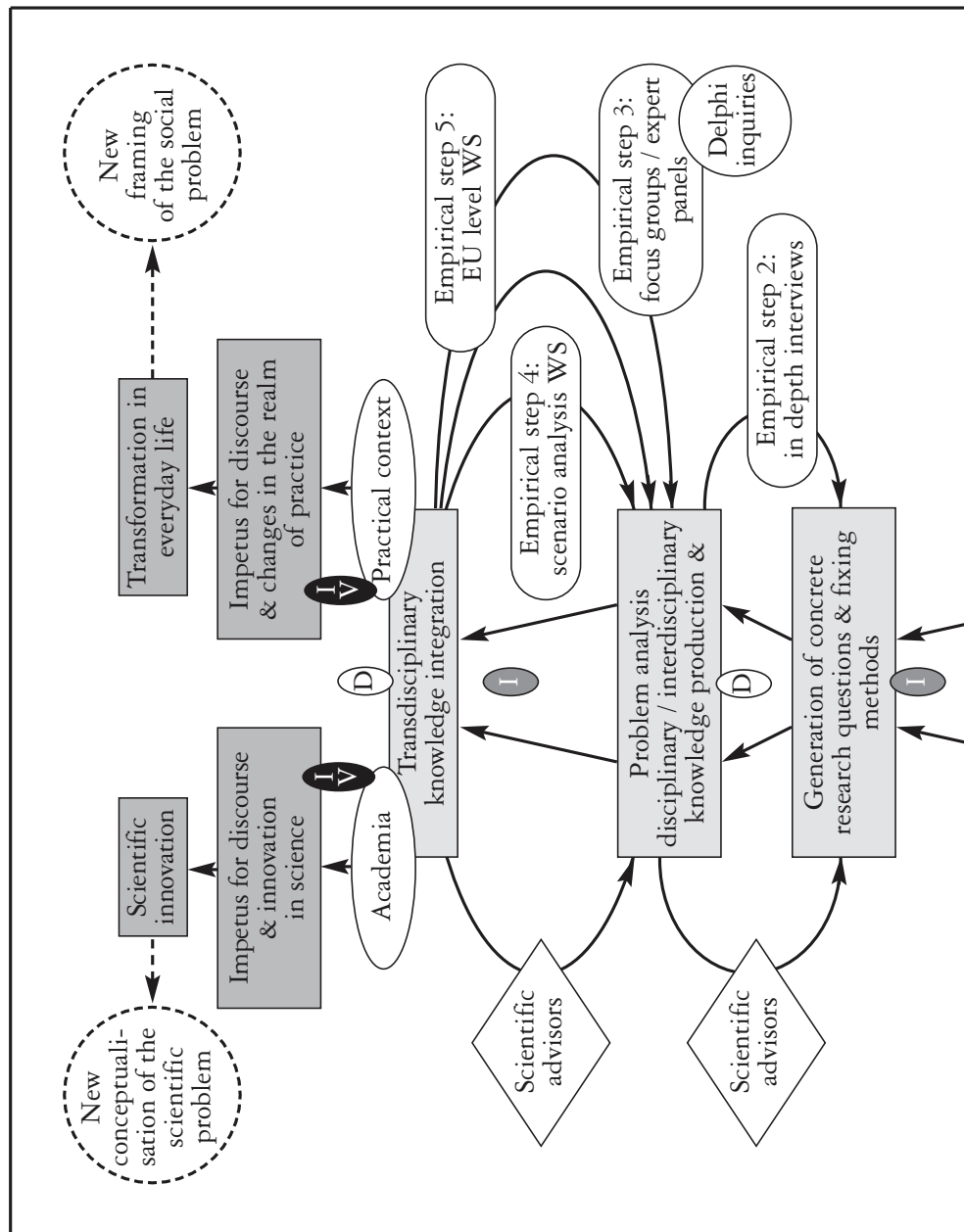
Figure 1. The two different levels of involvement in the FAAN project:
Co-operative research and participatory framework

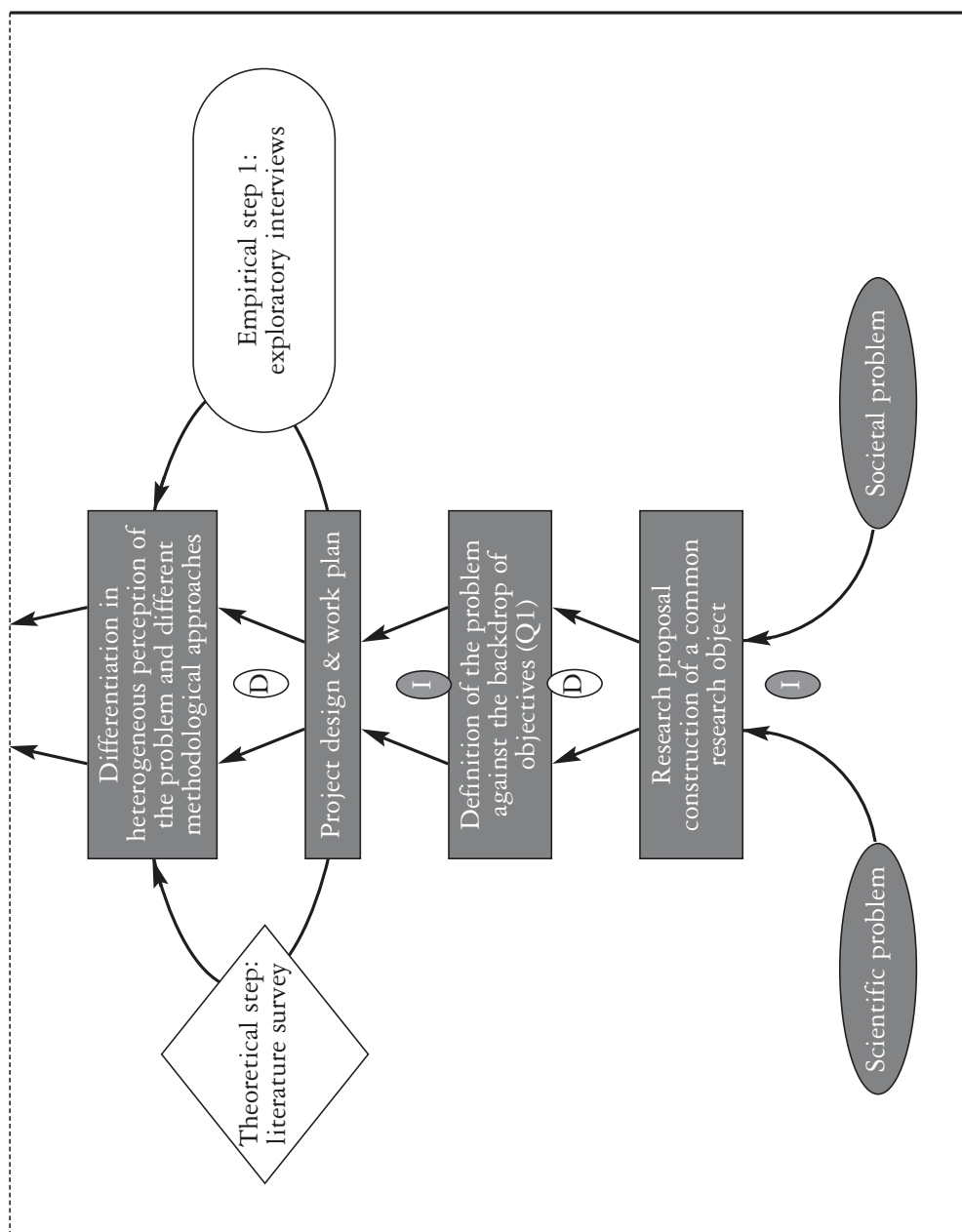


Integration versus differentiation

As shown in the general scheme for the co-operative research design (see Figure 2), the FAAN project is proceeding in alternating phases of 'integration' (I) and 'differentiation' (D). Both phases are characterised by a process of interaction between participants that allows individual interests, viewpoints and knowledge to be expressed and discussed.

Figure 2. General scheme for the co-operative research design for the FAAN project





Differentiation steps make explicit different interests, forms of knowledge, perspectives, rationalities and aims. As described in the literature (e.g. Loibl 2005), team performance is not necessarily linked to a high degree of accord amongst members, but it is dependent on the conscious handling of existing heterogeneity and divergences. Differentiation is important for being able to carry out work in a way that meets the partners' different interests, their expectations towards the project outputs and their role in the project. As a consequence of making differences explicit, tasks can be allocated so that partners can contribute with their specific knowledge and expertise. As a basis for identifying differences or overlaps in understandings and aims, including their underlying rationales, FAAN partners were asked to reflect on these issues at the very beginning of the project by answering several questions. As it is not possible to anticipate discussion dynamics and how power relations will play out in a meeting – especially in the consortium's first meeting, this was done by means of a questionnaire before the first consortium meeting (see Figure 2: Q1). Thus, all participants were given the same 'space' to articulate their motivation, expectations, and points of view (differentiation step in Figure 2 'definition of the problem against the backdrop of objectives (Q1)'). The questionnaire in the run-up to the first meeting was designed in order to:

- identify individual interests, common or different rationalities,
- clarify what kind of outputs we are aiming at (e.g. academic versus practical, content and/or process level), and on which issues we should focus in regard to the content,
- inform about participants' prior experiences and concerns of participatory processes.

It was also used to identify specific knowledge and expertise partners intend to contribute to the project.

The *integration* steps are aimed at identifying common interests and implementing differences in a way which enables agreement to be reached on the next work step. Integration processes are important, because different aspects of a problem field might be of different relevance for each actor and each discipline. Aspects that are of high relevance for certain participants

are perceived in a differentiated manner by those participants. To ensure the best use of this potential, a very open kind of encounter is necessary. Participants have to reflect on the relevance of other perspectives, other forms of knowledge and other ways of knowledge production in relation to their own. For this purpose one's own perspective has to be relativised, and other viewpoints have to be accepted as potentially relevant. This leads to a kind of 'interspectivity' (Giri 2002, 106), which is crucial for a trans-disciplinary approach. Different perspectives may be complementary, which makes the process of collaboration easier. On the other hand they may also overlap and compete, and sometimes they may even seem to be incompatible.³ Integration processes serve to transgress such boundaries, and the first step is to grasp the multiplicity of perspectives conceptually. Only the explicit presentation of the different perspectives allows using a pluralistic concept in a productive way, which is the first step to integration. Pohl and Hirsch Hadorn (2006) describe several methodological modes for integration, which can be applied to many different forms of collaboration. Integration can be achieved through '*boundary objects*' (introduced by Star & Griesemer 1989) to which all those involved refer according to their interest. This approach does not require explicit communication between the perspectives or a debate about contents. A *glossary* of key concepts leads to integration through clarification of the different concepts and definitions of what common concepts should be used, at least for the project. Both methods are used within FAAN.

Integration can also be achieved through the use of *everyday language*, which belongs to everyone, the *metaphorical transfer of concepts* from one discipline to another (e.g. using the medical term of 'syndrome' for environmental problems), and '*bridge concepts*'. These are new concepts which establish links between different perspectives. In the scope of *mutual adaptation of concepts* specific methods and key concepts from different disciplines are shared, and then adapted and further developed.

The researchers participating in the FAAN project have various backgrounds.⁴ Some of them have been involved over many years in interdisciplinary fields and are used to working with hybrid theories and concepts, while others are used to sticking closely to disciplinary boundaries. Thus the choice of methods and theoretical concepts is linked to an on-

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going discussion process within the academic partners group about whether application of a method is scientifically justified, or if the outputs achieved might be scientifically sound when not sticking to a single discipline in specific parts of the work. CSO partners take a rather pragmatic approach in the process of choosing methods: methods and concepts are mainly seen to be an instrument serving for a specific purpose, to reach a certain practical and/or policy oriented aim.

Recursiveness of the process

The FAAN research process and its individual phases are characterised by recursiveness, so that methods and underlying assumptions can be modified or adjusted in the event that they turn out to be inadequate. Such a recursive design is a meaningful pragmatic way of working with intermediate results and further developing them on the basis of critical assessment.

To guarantee flexibility in adjusting the process of co-operative research, detailed plans for research and other activities had not been included in the FAAN research proposal. This was to be jointly elaborated as part of the project in order to adjust the different levels of contribution to the proposed project design by different partners. The first step ('first loop' c.f. Argyris 1976 after Pohl & Hirsch Hadorn 2006, 80) was a recursive process for reworking and adjusting the proposed work plan based on a review of the problem definition. Some authors emphasise the involvement of social actors in the process of problem definition (e.g. Loibl 2001), others doubt that practitioners 'automatically' have a better understanding than academics of 'real world' problems, which therefore could compromise the quality of research and could even lead into unproductive directions (Bruce et al. 2004). However, within the FAAN project a strong bottom-up approach will be tested, thus each step of the project – including problem definition – is designed as a participatory recursive process including expertise from academic partners, CSO partners, and the practical field.

Problem definition was based both on the project partners' interests and expectations (see Figure 2 'definition of the problem against the backdrop of objectives (Q1)') and the problem description in scientific literature

(see Figure 2 'theoretical step: literature survey'), as also the perception of the problem by case study participants (see Figure 2 'empirical step 1: exploratory interviews'). In regard to the process level, the partners' understanding of the concept of co-operative research and their views on the practical requirements of co-operative research are reflected from the very beginning of the FAAN project, which includes making transparent individual aims, interests and rationales.

Furthermore, partners were asked to answer specific questions related to those work packages which needed to be planned in more detail in the scope of the first meeting. The answers resulted in a 'map of interests' on the content level, which should facilitate the identification of common ground for the selection of case studies, the definition of concrete research questions, and the choice of methods. Thereby partners were given the opportunity to make inputs to work packages led and conceptualised by other partners. Based on these inputs, proposals were formulated by the work package leaders and presented at the meeting.

The discussions during this first meeting were aimed at detailing the work plan. This communication and negotiation process can be considered as the 'second loop' of reworking the work plan (c.f. Argyris 1976 after Pohl & Hirsch Hadorn 2006, 80). In a 'third loop', partners were asked to reflect on whether their inputs had been adequately considered in the detailed work plan: before fixing the work plan for the activities to be carried out, the work package leaders sent their final suggestions to the partners, who thus had the opportunity to comment on it, and check if their inputs had been taken into account. The same procedure is more or less carried out for all the team meetings, in each case linked to the next work steps.

Recursiveness has to be considered in planning the different phases of the research process: the intermediate results from different work steps of the project are evaluated through the next step, and if necessary, this leads to a recursive adaptation of research questions and methods. In the FAAN project this is mainly done by the inclusion of further participants in the project. By starting from the academic context with assumptions based on a literature review, including tacit knowledge from the CSO partners, we go 'into the field' and try to figure out the relevance of our assumptions step by step. For the first empirical step this is done by exploratory interviews

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with relevant actors from practice. Not only results from the literature review, but also the interview partners' perception of the problem and their definition of relevant aspects serve as a basis for the next step, the in-depth interviews. The analysis phase of the FAAN project involves bringing together relevant stakeholders to discuss the intermediate results from the previous work step. By following this step-by-step design, the relevance of problem definition, analysis and outcomes for different fields – depending on the actors involved (e.g. practitioners, representatives of interest groups, civil servants, policy makers, researchers etc.) – can be continuously monitored and adapted according to the participants' inputs (see also 'reflexive project steering'). Besides these 'formal' inputs from the realm of practice, the CSO partners continuously contribute their specific knowledge to the project, which is not least the result of their embeddedness in the practical field, just as the academic partners contribute their academic knowledge.

As co-operative research not only aims to benefit the CSOs but also academic partners, the FAAN project is embedded into the current academic discourse. This means that the project refers to the state of the art of the relevant disciplines involved. A survey of scientific literature on AAFNs (see Figure 2 'theoretical step: literature survey'), the integration of 'scientific advisors' from related disciplines, and the presentation of preliminary results at scientific conferences guarantee the link to the academic discourse. As shown in the general scheme of the co-operative research design for the FAAN project (see Figure 2), expected outputs can be differentiated as being oriented towards the scientific domain or towards the realm of practice. Academic results aim at contributing to scientific innovations like better research methods, a stronger integration of different disciplines, the set up of new models, or the identification of new research requirements. Outputs in the practical realm aim at strengthening society's capacity to act, and to achieve an impact in the life-world. In order to bring the results to fruition the results must first be specifically processed for the target group, which requires a translation into products meeting the target group's agenda.

Pohl and Hirsch Hadorn (2006) recommend the development of an impact model that clearly reveals the existing ideas about the impact to be achieved by TDR. This has to be done already in the stage of problem identification and structuring and requires distinguishing between the

results of TDR, the use of results and the effects of TDR (Defila & Di Giulio 1999). The differentiation between the results and their use underlines the fact that different actors interpret the same results in different ways and use them for different purposes.

Involvement of further participants in FAAN

As mentioned above, a second level of participation in the FAAN project involves further stakeholders in the project, going beyond the collaboration of academics and CSOs (see Figure 1 and 'empirical steps' in Figure 2). Exploratory interviews carried out with key actors from the national case studies served for integrating further perspectives from the practical field already in the stage of problem definition. The questions posed to those participants aimed at ensuring that the definition of the problem is actually of relevance for the chosen case studies. Later in the project, all other empirical steps will serve for a similar purpose.

The practical methods of public and stakeholders' involvement in new governance are seen as tools for creating 'spaces of shared meaning and understanding' (Pereira & Funtowicz 2003, 57) and moreover, scientific support and research can help to establish, develop and improve shared spaces and practical tools for such participatory exercises. Our project aims at creating such 'spaces' for interaction by proposing a communication platform available on the FAAN website for the various categories of stakeholders.

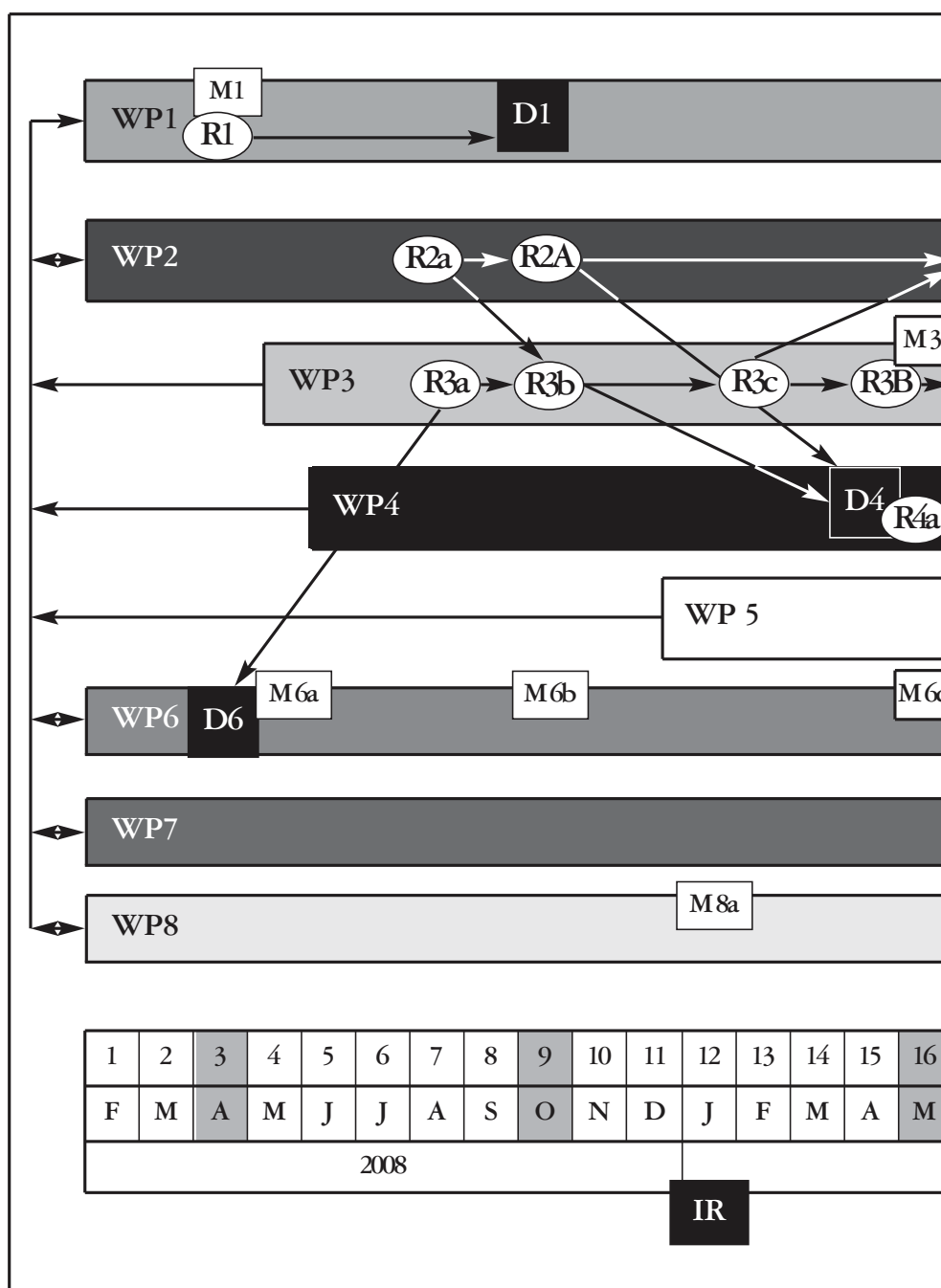
Involvement takes place in a formalised manner through semi-structured interviews, focus groups or expert panels and scenario analysis workshops as well as through informal interactions.

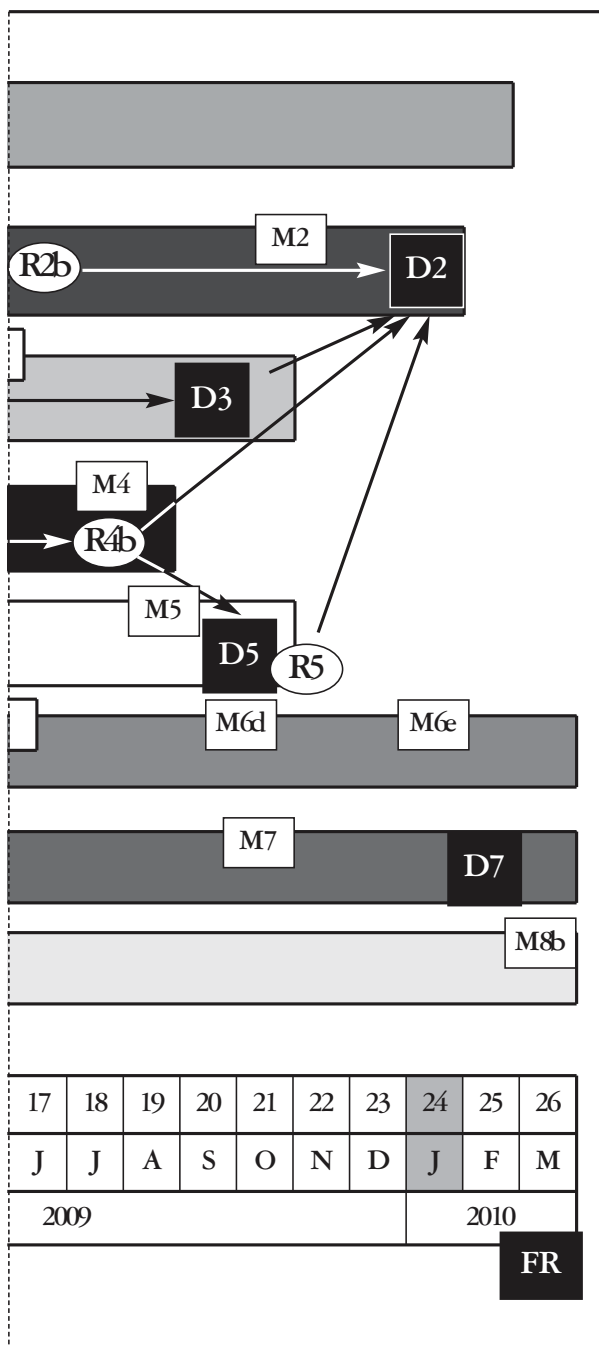
Reflexive project steering

A step-by-step design allows adjusting the research process according to the inputs from the stakeholders involved. The project design includes manifold inter-linkages between the different work packages (see Box 2), which allows work packages to be adapted according to the results from other work packages.

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**Box 2. Inter-linkages between the different work packages:
Project deliverables (D), internal reports (R), milestones (M)**





Legend:

R1: answers to questions

D1: design of the CR within FAAN

R2a: brief reports on national & local policies

R3a: database with national initiatives

R2A: synthesis of brief national reports on relevant national policies

R3b: exploration of national cases based on the empirical work within WP (interviews, discussions)

R2b: synthesis report on policies and factors influencing AAFNs, including policy recommendations

R3B: comparative analysis of the national cases

D3: analysis of the relevance of the empirical study

D4: national / regional workshop

D2: relevant policies and future research needs for AAFNs

R4a: report on national scenario analysis – workshop

R4b: comparative analysis of the nar. scenario analysis – workshop

D5: European level workshop

R5: report on the European level workshop

D6: FAAN-project website

D7: evaluation report: experiences with co-operative research on AAFNs

WP1–WP8: work packages

IR: intermediary report

FR: final report

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Trans-disciplinary projects seem to systematically undergo recursive processes and radical relaunches concerning research objectives, methodological strategies, time planning and product development. In consequence, the projects are often confronted with reproaches concerning insufficient quality management and reduced scientific consistency of results due to the multitude of adaptations to research plans. Reflexive project steering should facilitate necessary adaptations without a loss of efficiency: all the participants are in charge of monitoring whether the research path, the instruments and products still correspond with the increased and integrated level of knowledge the project has reached at that time. Reflexive project steering should be based on general success criteria for the whole project: In addition contextualised success criteria for the progress of the project are continuously discussed and agreed on by using participatory assessment, monitoring and evaluation.

Conclusions and outlook

Challenges and questions arising during implementation of CR

Although the project is still at an early stage, some challenges of CR implementation have become apparent, which are briefly described in the following and will need to be accommodated as the project develops further. The final evaluation of the CR process within FAAN will only be available at the end of the project in 2010.

One of the main challenges we have experienced is that carrying out CR is extremely *time consuming*. The planning of the process takes a lot of time and the negotiation process itself is also time consuming.

To link the process of negotiation to action, *decisions* have to be taken. All decisions we have taken up to the current stage were based on consensus. Reaching consensus takes time and a great deal of discussion and facilitation. It requires a broad understanding of the issue at stake and the willingness of team members to share their opinions openly. Nevertheless, not all decisions might be taken by a collective agreement for different reasons, like time restrictions, incompatible interests etc. For such cases we shall lay down separate rules for other forms of decision-making.

It turned out that a *complex project design* makes it difficult to get an overview of the whole project, in particular for participants who have been less involved in developing the design. Inter-linkages between different work packages do not make sense, unless the logics behind are clear. Thus much discussion and reflection on these inter-linkages is necessary to come up with the 'right quality' of results to assure further steps according to the work plan.

In regard to handling the *heterogeneity* within the members from academia and from practice we experienced a good balance between interests in practical and academic issues, which we consider to be a good basis for integrated knowledge production. Nevertheless, permanent monitoring of this balance will be necessary to assure successful integrated knowledge production. Heterogeneity also turns out to be a challenge in terms of inter-disciplinarity. Academics are used to following strict disciplinary roles in carrying out research, which may vary between different disciplines. This is of specific relevance in regard to methodology and underlying theoretical discourses.

In theory it is obvious that we need to find a *balance* between meeting the demand of research for a high degree of 'objectivity' against the background of *values* and *preconceptions* driving research, and the instrumental *interests* of CSOs.

Reflexive project steering requires intensive monitoring, which requests a much higher commitment to permanent reflection than within a 'conventional' project. It is thus crucial for this process to be carried out in a way which guarantees high efficiency and a reasonable investment of resources.

Social learning might be seen as a possible analytical approach for the CR process, nevertheless partners might be interested in effective debate on the content rather than spending much time with process oriented discussions. One of the main challenges for implementing CR is to find the best way, agreed by all partners, for facilitating the interactive processes that lead to concerted action within our project.

Taking the concept of CR seriously means to keep the *research determining parameters* very open. This stands in contradiction to setting up a research proposal by following the general demands for being accepted for funding, e.g. predefining project goals, elaborating very detailed descriptions of work, etc.

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Finally, it demands a great deal to carry out CR within a *system* following *logics* which are oriented towards a very classical way of carrying out research, with a hierarchically designed legal context (e.g. FP7 consortium).

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Notes

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- ² As Felt and Fochler (2008) state, the meaning of participation is in general mostly defined top-down, by (social) scientists and policy makers alike
- ³ This could be the case for differences not only between the academic and the CSO partners, but even within academic partners from the same discipline, or between different disciplines (see e.g. Loibl 2005). Academic disciplines provide not only cultural frames, but also social identity and locations in the institutions of knowledge (Giri 2002).
- ⁴ Environmental / Agricultural / Rural / Development Economics, Rural / Environmental Sociology, Political Science, Science and Technology Studies, Manage-

ment and Organization Science, Environmental History, Science of Education, International Studies, Physics, Mathematics, Agricultural Engineering, Landscape Planning, Biology, Linguistics.

References

- Argyris, Chris (1976), 'Single-loop and double-loop models in research on decision making', *Administrative Science Quarterly* 21: 363–375.
- Bamme, Arno (2004), *Science Wars. Von der akademischen zur postakademischen Wissenschaft*, Frankfurt / New York: Campus.
- Börzel, Tanja (1997), 'What's so special about policy networks? An exploration of the concept and its usefulness in studying European governance', *European Integration online Papers (EIoP)*, Vol. 1 No. 16 1997–08–25.
- Bruce, Ann, Lyall, Catherine, Tait, Joice, and Williams, Robin (2004), 'Interdisciplinary integration in Europe: The case of the Fifth Framework Programme', *Futures* 36: 457–470.
- Brunzel, Stefan and Jetzkowitz, Jens (2004), 'Transdisziplinäre Umweltforschung als methodologische Aufgabe', *Technikfolgenabschätzung – Theorie und Praxis* 1 (13): 61–70.
- Defila, Rico, Di Giulio, Antonietta A. (1999), 'Transdisziplinarität evaluieren – aber wie? Evaluationskriterien für inter- und transdisziplinäre Forschung', *Panorama*, Sondernummer 1999.
- Felt, Ulrike and Fochler, Maximilian (2008), 'The bottom-up meanings of the concept of public participation in science and technology', *Science and Public Policy* 35 (6): 489–499.
- Galiay, Philippe (2006), 'Introduction to EC research: FP6 and FP7', PATH Conference, Participatory Approaches in Science & Technology, available at http://www.macaulay.ac.uk/PATHconference/outputs/Galiay_presentation_PATH.pdf.
- Gibbons, Michael, Limoges, Camille, and Nowotny, Helga (1994), *The New Production of Knowledge. The Dynamics of Science and Research in Contemporary Societies*, London: Sage.
- Giri, Ananta Kumar (2002), 'The calling of a creative trans-disciplinarity', *Futures* 34: 103–115.
- Greenwood, Justin (1997), *Representing Business Interests in the European Union*, New York: St. Martin's Press.

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- Kanji, Nazneen, Braga, Carly, and Mitullah, Winnie (2002), *Promoting Land Rights in Africa: How Do NGOs Make a Difference?*, London: International Institute for Environment and Development (IIED).
- Klein, Julie (1996), *Crossing Boundaries: Knowledge Disciplinarity and Interdisciplinarity*, Charlottesville: University Press of Virginia.
- Levidow, Les (2007), 'European public participation as risk governance: Enhancing democratic accountability for agbiotech policy?', *East Asian Science, Technology and Society (EASTS): An International Journal* 1 (1): 19–51, online available at: <http://www.springerlink.com/content/7wv9764lw42r7867/fulltext.pdf>.
- Levidow, Les (2008), 'European quality agriculture as an alternative bio-economy', in Shuji Hisano and Joost Jongerden (Eds.), *Reconstructing Biotechnologies: Critical Social Analysis*, 185–205.
- Loibl, Marie Celine (2001), 'Empfehlungen zu Praxiseinbezug, Produktentwicklung und Ressourcenplanung', Wien, Begleitforschungsprojekt SU11 zur Österreichischen Kulturlandschaftsforschung und Internationale D-A-CH Kooperation: 28.
- Loibl, Marie Celine (2005), *Spannungen in Forschungsteams – Hintergründe, Methoden zum konstruktiven Abbau von Konflikten in inter- und transdisziplinären Projekten*, Heidelberg: Verlag für Systemische Forschung (VSF) / Carl-Auer Verlag.
- Nowotny, Helga, Scott, Peter, and Gibbons, Michael (2004), *Re-Thinking Science. Knowledge and the Public in an Age of Uncertainty*, Cambridge, UK: Polity Press.
- Pereira, Ângela Guimarães, and Funtowicz, Silvio (2003), 'Methods for citizen involvement in new governance. Reflections based on three empirical cases', *Technikfolgenabschätzung – Theorie und Praxis* 2 (12): 57–62, <http://www.itas.fzk.de/tatup/032/pefu03a.htm>.
- Pohl, Christian and Hirsch Hadorn, Gertrude (2006), *Gestaltungsprinzipien für die transdisziplinäre Forschung*. München: oekom Verlag.
- Renting, Henk, Marsden, Terry, and Banks, Jo (2003), 'Understanding alternative food networks: Exploring the role of short food supply chains in rural development', *Environment and Planning* 35: 393–411.
- Roep, Dirk (2002), 'The added value of quality and region: The Waddengroup Foundation', in D. van der Ploeg, J. Banks, and A. Long (Eds.), *Living Countryside. Rural Development Process in Europe: The State of the Art*, Doetinchem: Elsevier, 88–98.
- Star, Susan L. and Griesemer, James R. (1989), 'Institutional ecology, "translations" and boundary objects: Animators and professionals in Berkeley's Museum of Vertebrate Zoology 1907–39', *Social Studies of Science* 19: 387–420.

- Stirling, Andrew (2005), 'Opening up or closing down: Analysis, participation and power in the social appraisal of technology', *Japan Journal for Science, Technology and Society* 14: 63–83.
- Stirling, Andrew (2006), *From Science and Society to Science in Society: Towards a Framework for 'Co-Operative Research'*, SPRU University of Sussex.
- Thompson Klein, Julie et al. (2001), *Transdisciplinarity: Joint Problem Solving among Science, Technology, and Society*, Basel: Birkhauser.
- Thompson Klein, J. (2004), 'Prospects for transdisciplinarity', *Futures* (36): 515–526.
- Voss, Karen Claire (2001), *Manifesto of Transdisciplinarity*, State University of New York Press, Translation of: Nicolescu, Basarab (1996), *La transdisciplinarité: manifeste*, Paris: Editions du Rocher.
- Weingart, Peter (1997), 'Neue Formen der Wissensproduktion: Fakt, Fiktion und Mode', Institut für Wissenschafts- und Technologieforschung, IWT Paper 15, Bielefeld.
- Weingart, Peter (2001), *Die Stunde der Wahrheit? Zum Verhältnis der Wissenschaft zu Politik, Wirtschaft und Medien in der Wissensgesellschaft*, Verbrücken Wissen.