

## **Crisis in Social and Ecological Practices? Sustainable Transition grounded on situated knowledge and social practices<sup>1</sup>**

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The thesis of the integrated project “Blocked Transition? Spaces of Thinking and Action in Sustainable Regional Development” is, that dichotomised, hierarchical patterns of reception, thinking and action of societal actors create blockades in spatial relationships within the process of sustainable development. These stabilise the crisis of the societal relations to nature. The overall objective of the project is to identify these blockades in order to initiate and enhance processes of socio-ecological transformation.

Within six work packages we follow an interdisciplinary approach for the projects internal communication as well as a transdisciplinary approach for the co-operation with partners of the region.

### **Political transition processes as challenges for sustainable development**

The project’s region of investigation (the mouth of the river Mulde into the Elbe between the cities of Dessau, Bitterfeld and Wittenberg) is part of the Unesco Biosphere Reservation “Mittlere Elbe” and a site of the World Cultural Heritage in Saxony-Anhalt. Already since the 1990s various political bodies of this region committed themselves to the paradigm of sustainability. With the help of federal and regional funding a lot of projects were carried out to elaborate and organise activities for sustainable regional development. However, a lot of financial, scientific, political and ideal support did not fulfil the expectations. The process of sustainable development with regard to the implementation of this political aim seems to be inhibited on the level of regional societal practice. But, because of the variety of scientific efforts, which had been made through the last decade to examine key objectives for future innovative potentials for sustainable development, the region already offers a well reported history of the nature-culture-relationships. Yet, the region did not progress towards sustainability despite the scientific support and still shows strong symptoms of the present crisis despite all the practical efforts.

In the light of intense political transition processes in a region which was part of the German Democratic Republic, the main conflict fields can be summarised under three general topics:

- Crisis in economic and demographic development (decrease of the industry and population)
- Uncertainty about security (ecological because of periodical floods of the rivers Elbe and Mulde, socially because of the implosion of communities as a consequence of segregating migration, existentially because of a high degree of unemployment and a lack of other forms of subsistence and income)
- Big-scale versus small-scale solutions for industry and infrastructure networks (the strong believe in global market solutions, the absolute disbelief in an embedded economy reconnected to social life and natural resources)

What are chances and potentials for sustainable regional development under these actual societal and political conditions and how are they recognised and constructively treated?

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These were questions that arose from the disappointing development during the last years. They build the starting point for this research project.

The project is based upon a feminist approach which enables us to perceive and analyse control and power in dichotomised societal circumstances. Any of the dichotomies between nature and culture: using nature and protecting nature, production and reproduction, learning and acting, distributing and participating, everyday knowledge and scientific knowledge are understood to be generated by hierarchy and power. Therefore, the overall thesis of the project is that sustainable development is blocked through dichotomised patterns of e.g. nature – culture, use – protection, public – private, central – decentralised and so on. “Hidden” potentials for sustainability are supposed to exist but to remain invisible and excluded because of hierarchic structures. This understanding is based upon the concept of “societal relations to nature” (Becker/Jahn 2005) which leads the scientific approach of the programme “socio-ecologic research” within the research support activities of the German Federal Ministry of Education and Research.

Being aware of the variety of scientific and methodological comprehensions and debates about the anthropogenic relationships to the surroundings of human beings – nature, environment, space – the elaboration of a new definition of nature is not the subject of this project. To describe the basic approach for the concept of “societal relations to nature”, this project builds upon the thesis, that human relations to “nature” as well as to our own individual “nature”, are results of our social practices (Reckwitz 2003), the societal and individual patterns of interpretation and activity (Haraway 1991, Kropp 2002).

A relational concept of space, offering all participating disciplines in the work packages of this project a ground for a common methodological approach, gives the opportunity to map human-nature-relationships in their interdependencies of space and time (Sturm 1999)

In an integrative approach of the two work packages *Spaces for Learning and Action* and *Environmental Spaces* these circumstances will be the subject of the following considerations: We focus on the topic of embedded daily-life knowledge with regard to the factors learning and participation for the actual environmental issue of Integrated Water Resource Management (IWRM). This procedure aims at offering an example for a) an interdisciplinary communication and collaboration between social, natural and environmental sciences’ concepts and b) a transdisciplinary approach to develop strategies for social learning and public participation.

### **The border between scientific and popular knowledge in sustainable development**

Sustainable development requires changes in thinking and political practices on economic, societal and environmental level to maintain democratic patterns of policy-making. The normative demand of inter- and intragenerative justice needs the participation of all citizens in order to cope with crisis, to insure the supply with existentially needed goods (such as nutrition, water, housing) and to maintain the fulfilment of peoples vital needs on the solid basis of the protection of the livelihood for future generations and give them as well as all of today’s generation the conditions for a “good life” (Biesecker et al. 2000).

Which can be sciences’ contribution to the implementation of the paradigm of sustainability, which has not already been elaborated? In Germany – as anywhere else – expertise of various disciplines exists to make the idea of sustainable development concrete, but the important question is how this scientific knowledge does find its access into public awareness and political potential (Brand 2001). How can these results be made fruitful for societal practice and where do blockades exist in the transfer of knowledge into action?

Several studies reveal that, in general, information about environmental issues increased due to the efforts in environmental education. But, as a kind of “enabling” knowledge, which is

available and at one's disposal for active public and individual participation, it remains inert and not used (Mandl et al 2000, Brämer 2004). Obviously there are two sorts of knowledge: an objective, 'well done' scientific knowledge and a subjective knowledge incorporating daily-life and social practices. They are in a hierarchic and dichotomised position and their interrelationship is blocked. The question is, by which circumstances?

### *Spaces for Learning and Action*

The interest within the work package *Spaces of Learning and Action* lays in the examination of the preconditions and proceedings, the obstacles and judgements for learning and action to overcome the crisis of societal relations to nature. Main questions are: Why do we continuously find a high discrepancy between environmental knowledge and behaviour and what is the role of body experience, its social patterns and cognitive development in this? Is there a hierarchy of knowledge? Why does the information about reasons of the ecological crisis not lead to a different behaviour? How does individual activity turn into political practice? How can abilities from a caring economy be transferred to market economy? How do we overcome the dichotomised patterns that coin our perception and learning processes?

Doubtlessly, sustainable development not only needs knowledge about societal and environmental facts. But, it needs a knowledge aiming at supporting changes in individual behaviour, which can contribute to sustainable development. Educationalists, especially pedagogues in practical processes of intermediation know about the difficulties but also the 'craft' to achieve this. Knowledge as explicable, always reproducible knowing, recitable at demand is not necessarily a knowledge relevant, useful and meaningful to the acting person. This is why many approaches in education start from the necessity of an interconnection between everyday knowledge and other sources of recognition. Especially in environmental education pedagogues created 'fields of experience' for a successful interconnection of this kind. Any chance to gather insight and perception from the relationship of acting and learning, learning and acting leads to knowledge useful for social practices and social practices useful for learning.

But of which kind are our social practices regarding the treatment of the natural basis of life?

The difficulty seems to be: If 'nature' is not anymore connected to the people who are supposed to learn, environmental knowledge can not be imparted to them. The fact, that nature is not anymore connected to the bodies, hearts and minds of the people who are supposed to learn, leads to the point that environmental knowledge does not fall on fertile soil. On the other hand, theoretical knowledge can be reproduced in various forms without any matter in daily-life practice. If values are produced and reproduced in social practices they must be changed in social practices as well.

Social actors by all means have a relation to their natural environment and knowledge about it and about this relation. But from the point of view of scientific knowledge about the socio-ecological transformation and its requirements the actors' knowledge seems to be full of deficits. Quite often this judgement determines the educational practice giving it the aura of enlightenment and making participation in sustainable development an action full of prerequisites. This point of view determines the research practice as well making scientists believe that only their theoretically lead abstractions from everyday life, brought into the shape of models, scenarios, formulas etc. create useful, scientific, objective knowledge.

Could it be that the question „How do I impart knowledge on sustainability?“ stands upside down because of its hierarchical structure? Could it be that the approaches to sustainability in everyday life can not be seen because of the structure of scientific knowledge and hence important competences for sustainability lie fallow? May be it needs rethinking in science and not overcoming deficits of practitioners?

The question is, how to comprehend individuals not as “objects” of knowledge like a passive and inert “thing”, but as active competent subjects in the performance of social life. So, in contrary to perceive dissemination of knowledge in a sense of “coming up to deficits”, we search for strategies to take daily-life knowledge and competency as solid bases for negotiation processes. Then education does no longer have to solve the difficult task to impart scientific knowledge to acting persons, to transform objective knowledge – the abstract answer to questions never asked by practice – into the daily life of learning people.

An alternative path, which follows the thesis of this project is to look for a way how questions of transformation processes evolve and to discover the circumstances, which block the development and the scientific awareness of relevant questions of daily-life conditions. Important, thus, in this perception is to ask, which aspects lead people to recognise their activities simultaneously as process of decision-making. Which aspects bring people to decide for alternative “un-conventional” solutions?

The following example of the participation of consumers in the performance of water services management in the Elbe-Mulde region reveals the complicated fact that a linkage between knowledge and action in complex circumstances of life is extremely difficult to realise. The discussion of this example aims at combining information and knowledge relevant aspects with the participation of citizens in the organisation of an existentially necessary network infrastructure. Following the projects philosophy, we start the discussion with a gender sensitive evaluation of the core conflict in this field.

### **Problem-orientation as key concept for participation**

Conflicts between demands on environmental protection and water supply requirements on regional level are the initial points for the research in the work package “*Environmental Spaces: Distribution or Participation?*”. Water management infrastructure, normally, is hidden for the eyes of consumers. It is organisational and economical fragmented according to its respective natural and anthropogenic formed life cycle. We forget that our waste water is our fresh water resource of tomorrow. The existing distinction between water supply and waste water treatment still widely maintains the dilemma of separated perceptions of the resource water in daily life. Referring to Donna Haraway’s scientific item of “situated knowledge” (Haraway 1991) in socio-technical constructions, the focus of the empirical validation of the project assumptions lays on the interrelationship between systems of structural regulation and cultural expression with regard to the water management in the region of investigation. On the basis of “gender” as analytical category the research design follows two general assumptions:

- Infrastructure systems are not gender neutral. In contrary, they represent a socio-technical shape with a direct connection between the status of the actors and the issue of gender.
- The application of the gender perspective for the analysis of networks and infrastructure systems not only reveals the diversity of information within communication processes but also its metaphorical content and societal contextuation.

In this sense, the basic dichotomy leading the research in this project is, that water services infrastructures on a material level as well as on the level of legislation, planning, financing etc. are separated into a sphere of water supply – the productive, attractive side – and waste water removal – the reproductive and regarding its societal image unattractive and hidden side of the service. From the spatial point of view this dichotomy is accompanied by another one, separating the infrastructure of the services into centralised and decentralised forms of organisation.

The research approach aims at constructively contributing to the actual transition process in water services management between the old request orientated paradigm with supply-side

orientation, single use of the resource, standard models, a passive-participating role of consumers on the one side. On the other side and in the light of sustainability a new paradigm evolves, which refers to dynamic precaution and require-orientated concepts with demand-side orientation, multiple-use solutions, circle systems, differentiated problem-orientated plant concepts and the perception of private households as active clients and consumers.

#### *Water services management or integrated water resource management?*

With the EU Water Framework Directive (WFD) Europe received a general guideline for an integrated water management for all European countries on the level of river basins. The guiding principle of the Directive – the management of river basins – became an important overall concept for the transformation of European water legislation.

According to the organisation of supply services the WFD creates a new societal “place-making concept” based on the ecological item “river basin”. The new concept of river basin management faces ambivalent demands. Important for this argumentation is the fact, that the EU member states have to guarantee and organise negotiation processes with a large number of different actors, a high demand on communication, new roles and various new learning processes.

On the basis of a secondary data analysis in the Mulde-Region several structural and organisational blockades in water services management have been identified and interpreted in the light of the above mentioned dichotomy:

- Problems of incompatibility of infrastructure and environmental conditions especially in rural areas,
- Problems of incomprehension in the interaction between professional actors in water services, administration and consumers,
- Loss of the awareness of water as a regional embedded resource as a consequence of the break up of local and regional hydrological cycles through supraregional withdrawal and deliverance of fresh water sources.

#### *Regional fields of conflict*

A first evaluation of these blockades was carried out on the basis of initial expert interviews. They revealed the following regional fields of conflicts out of the professional practice:

- The handling of the specific role of the regional environmental and hydrological conditions (periodical floods of the rivers Elbe and Mulde, periodical close to the surface located groundwater level) for planning and construction of water services infrastructure in the urban and rural areas,
- Incompatibility of the regional decline of population density and business with the design of infrastructure planning from the 1990s (based on the wrong assumption of a modernization process “catching up” with the West),
- Long-term perspective of infrastructure planning and, therefore, few flexibility as regards to regional transition processes,
- Few options for decision-making and participation of private persons in the performance of water services infrastructure in the own house or backyard in urban and rural areas,
- Ambivalences of individual participation in water services management within the tension of personal and municipal interests.

The research approach builds upon Haraway’s criteria of the evolvement of situated knowledge, which is partial, locatable, including critical knowledges, sustaining the possibility of webs of connections and shared conversations (Haraway 1991). This is why it regards private households as the starting point for organising the existential demand for

water. They are also the starting point because of their potential as stakeholders to actively participate in river basin management. Furthermore they are the destination for the deliverance of the respective service to fulfil the existential need.

*Private households as analytical category*

Qualitative interviews had been conducted with female and male members of private households in 2004 regarding the awareness of and potential will to participate in water management services.

In the context of this presentation a first summary related to the potential for public participation in water services is offered along the following three questions:

- a. *What do the interviews indicate regarding the issue of “embedded knowledge” in the environmental and technical field of water management?*

All interviewees show a high awareness of the value of the resource, the importance of the service and its positive changes in efficiency, quality and reliability in general. The biographical questions referring to the perception of water services strengthen this observation because of the experience of the transformation in the East German societal conditions. Moreover, in the awareness of the interviewees, due to the specific character of the Elbe and Mulde basins, water services are closely linked with environmental issues. The interview results represent an openness and partly already engagement of the interviewees for an active participation in the performance of the water management. On the other hand the distinction between the services for water supply and waste water treatment maintain the dichotomy of a spatially contextuated good and the societal shaped existential resource water in the public experience.

- b. *What do the interviews show concerning the potential will of citizens to participate in the organisation of this kind of network infrastructure?*

There is a differentiated comprehension and proactive handling of water issues from the side of some interviewees due to the various regional fields of conflicts. Own activities on water infrastructure in the private household are driven by various factors, e.g. prices, own experiences of water scarcity and bad quality in former times in foreign countries, personal interest and environmental concern. Some interview partners signalled their interest to be better integrated into the conceptualisation of water management at an early stage. Several partners wish to have the organisation of water services at least in the hand of the municipality.

- c. *Which dichotomies in the awareness of consumers’ attitudes exist on the side of the water professionals?*

„What obviously functions well professionally, receives no awareness publicly”.

This comprehension of public participation often expressed from water professionals (Knothe 2003) documents the “coagulated” dichotomy of “public” and “private” on societal level. Having the opinion that consumers *only (re)act* under conditions of accidents and damage or to high prices, maintains the pressure on the organisation and efficiency of the service providers. On the other side, this position limits an open attitude towards public participation and excludes potential private stakeholders from water activities.

Active and passive, engaged and affected – under these ambivalent conditions communication and relationship, mutual engagement and co-operation of private and professional actors cannot meet on a common ground. Partial relation in the sense of Haraway (1991), does not find its equivalent in the field of water management although it has the potential to follow the aim of participation according to the European legislation.

Security in the supply of fresh water and professional competency in the performance of infrastructure were basics of the old request-orientated paradigm of water services since the

19<sup>th</sup> century. Water issues, technically, became a duty of the professionals in natural and technical sciences. The professional ethos of guaranteeing water supply, waste water removal and hygienic security at any time helped to overcome diseases for the population and increased industrial development. But, slowly, spreading infrastructure networks through societal life in general and in water management in special led to the situation, that a lot of public awareness, competence and cultural knowledge of committed and interested citizens, actually, do not have the chance to actively access the professional activities

### **The place of knowledge within decision making**

The project focuses on spaces for action for sustainable regional development. The region is understood as an entity of different spaces (nature, society, economy), which have to be transformed towards sustainability. That demands far more than the bare addition of social, ecological, economic, cultural and political goals. A truly integrative perspective would rather entail, first of all, re-thinking the goals in a new way and to question which conceptions of a 'good life' are promoted by the inhabitants of a specific region. Secondly, the point is to abandon apparently natural habits of thinking as the example of the changing paradigms in water management show. This is to challenge political and scientific processes that supposedly create 'facts' and to deconstruct their presumptions and their ideas of wo/man and society. Giving transparency to the ways of how, why and for whom science and political decision makers create facts is one of the fundamental tasks that critical sustainability research has to deliver.

*How does knowledge get (re-)generated in daily-life and how does knowledge influence daily-life practices?*

Regarding the introduction and empowerment of public participation in the performance of water services management a gap exists between the institutional and the private household-orientated demand on the organisation of water services issues. Little transparency of information and awareness of the potentials of public engagement regenerate the tension between the official "visible" system and the "invisible" intuitive, symbolic and cultural influences involved in the performance of the infrastructure. Cultural interpretations of nature perception are reproduced in sciences, technology and infrastructure. They struggle in the dichotomised patterns of active and passive, public and private, central and decentralised. The individual knowledge of citizens and consumers is disqualified as private – meaning private interest, private bias and private advantage. The knowledge of the professionals working in communal or state services is "objective", scientifically based, in public interest. The feeling "How can just anybody speak about such a difficult scientific question as water basin management?" emerges on the general dichotomised pattern that science knows better than experience. - Which, by the way does not improve, if it is just turned over to the belief, that experience knows better than science.

The incompatibility of different kinds of knowledge leads to the assumption that public interest must be defended versus private interest. Yet the private interests of economically strong groups get expressed as public interests (water supply for industry, waste water treatment as a good business, planning engineers getting paid according to the costs of a water plant...). At the same time the chances of participation in public affairs and of co-determination decline to the private act of buying water services because of this disqualification of knowledge and because of the surrender of water management as a common public task.

The water from the tap, the flood water in gardens and cellars, the lovely river and the water in the lakes for swimming and fishing are not anymore connected in people's awareness.

“Dis-located” water can not be an item of public dispute and common learning for sustainable management.

*From which point must participation start to leave its structural “islands” (like round-tables, seminars, virtual conferences etc.) and become part of daily-life practice?*

Related to water services management, the interviews show that consumers choose individual, household-economy related topics in order to find the entrance to the performance of water services. This, on the first sight obvious limitation for access can be a chance at the same time: The attempt for communication between the agents of the technical infrastructure and the households, for a contact between professional and daily-life knowledge finds its transition path on a problem-orientated level. In the performance of the concrete arrangement of infrastructure, professional and private activities meet on the stage of the private household. The specific demands of rural and urban households can be the material and the starting point to negotiate differentiated infrastructure models.

Following this reasoning from an educational point of view, spaces have to be opened to acknowledge people’s knowledge and wish for engagement in a policy-relevant manner of public expression. Scientific knowledge under this perspective is promotion for and output from societal practices at the same time. Arguing with Haraway, this is the “*alternative to relativism [...] [This knowledge, B.K.] is partial, locatable, critical knowledge sustaining the possibility of webs of connections called solidarity in politics and shared conversations in epistemology.*” (Haraway 1991:191)

*How will a change of democratic institutions become possible, when old structures and circumstances become obsolete and do not offer the necessary support any more?*

The interviews clearly reveal that citizens regenerate and differentiate knowledge and competency for societal issues out of their activities in reproductive interdependencies of their daily-life experiences. This knowledge is highly relevant and useful for participation in supply infrastructure because it contributes embedded, cultural “situated” knowledge and expertise in societal services. In reality, and explicitly shown for the field of water management, consumers build up a relationship of knowledge and competency to a reproductive system, which, unfortunately, they often cannot link to the professional performance.

Additionally, the physical dimension of space is often unconsciously being produced by socio-economic development, and ecological standards. Defined politically, it remains invisible for citizens who are not involved in the political process. It is important for all stakeholders to ask for the purpose of the negotiation and for the diverse boundaries of the system of interest. This is closely linked with the difficult aspect how to handle the unknown and unpredictable in a constructive target-orientated negotiation process (Jiggins, 2002).

Coming back to the methodological ground of this project, the gender sensitive category of “situated knowledge” has the potential to enrich the concept of “societal relations to nature” by an inter- and transdisciplinary component of mutual multi-level communication. “*Situated knowledges require that the object of knowledge be pictured as an actor and agent, not a screen or a ground or a resource, never finally as slave to a master that closes off the dialectic in his unique agency and authorship of ‘objective’ knowledge.*” (Haraway 1991:198)

## Conclusion

Sustainable Development and the formation of societal relationships to nature need deconstruction of hierarchies and equality of the different types of knowledge and action as

well as of the structures that hamper knowledge so far dormant in the social practices to become visible. This opens up new spaces of comprehension and negotiation but also of responsibility of all actors in the creation of social realities. Responsibility strengthens the positions of all actors in democratic negotiation. Not “knowing that” but “knowing how” (Reckwitz 2002) offers the basis of mutual acknowledgement and appreciation. Negotiation orientated on mutual understanding – as it usually exist unconsciously and routinised – gathers importance for the reflection and formation of sustainable development. The task of science, as we see it, is to analytically contribute with its means to discover potentials and blockades to be useful and meaningful for practical creative processes. In this way “knowledge” does not become a “higher” institution, in front of or foregoing to action, but a proceeding emerging in action or meaningful used (this is true for scientific practice too). It contains all components of situated knowledge: knowledge as interpretative understanding, knowledge as methodological competence and knowledge in which the motivational-emotional “What is my purpose of doing this” stays visible. In this mode of science contexts, time structures and the coupling of different practices can be kept as the complexity of heterogeneous forms and interpretative equivocation. They stay visible as intersections and layers of different types of knowledge and can be used in processes of negotiation (Reckwitz 2002). This is an experience we gathered in our transdisciplinary work.

To impart knowledge in this context does not mean teaching from the top (instructing) anymore, but reciprocate learning with all its implications of responsibility for what one says and does as well as the acknowledgement of each others competences and contexts.

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