


A common task

Getting involved
in socio-ecological
transformation

An illustration featuring four stylized human figures interacting with large, colorful speech bubbles. The bubbles are yellow, light blue, light green, and light pink. One yellow bubble contains the text 'Getting involved in socio-ecological transformation'. The figures are positioned around the bubbles, appearing to be in conversation or collaborative work. The background is a solid light grey.

Research has a lot to offer



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Transformation means far-reaching change. Not change that simply happens, but change that we shape. Likewise, changing our habits falls into this category. Consciously going without something is another way to promote change, although many people are loathe to go without. But the question is, would it really be so terrible? Anyone can simply try this out, and more besides, by taking part in a project for socio-ecological transformation. Replace the car with a cargo bike for a while. Try to manage with less living space. If someone actually feels the benefits of a more sustainable everyday life, maybe they will not even want to get back in their car – much like the countless people who still hanker after the 9-euro Germany-wide public transport ticket from the summer of 2022.

The formats of transdisciplinary sustainability research, such as living labs, are often a means for doing just that: trying out new approaches in demarcated experimentation spaces. But another major task is to bring the results into widespread use later on. The challenge of transferring successful pilot projects to other municipalities is one I know about from my time in development cooperation. One way to accomplish it is by network building, which is also pivotal to transdisciplinary sustainability research. For instance, a training and advisors' network was built up as part of a project for better waste management in Mexico. Initiatives of that kind require capacities and resources to be available, which means this has to be factored into the funding of transdisciplinary research.

Another important aspect of transdisciplinary sustainability research is to integrate the perspectives and practical expertise of societal actors and the population into the problem-solving process. Because transformation is not purely a technological process; it needs to be shaped together with society. This is why the current draft of the German education ministry's "Future Strategy for Research and Innovation" needs to take considerably more account of societal issues. To date, it has concentrated too heavily on technical innovations alone.

Incidentally, the Oeko-Institut was already engaged in application-oriented and participation-based research long before transdisciplinary research became an established concept. One example of this is the energy transition network involving 400 municipal initiatives, in which new approaches to the energy supply problem were developed and put into practice from the mid-1980s onwards. The experiences of the past few decades show that this type of research has a lot to offer. Even today its results are indispensable for the socio-ecological transformation. And for me this is not about going without or restricting anything, but about proactively shaping the future. For ourselves, but above all for our children.

Yours,
Jan Peter Schemmel

CONTENTS

IN FOCUS

- 3 **"We must try new approaches"**
Interview with Martin Hahn (Municipal building authority, Wittenberge)
- 4 **Common problems, common solutions**
Formats for socio-ecological transformation
- 6 **Futures tested**
Living labs for sustainable transformation



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“We must try new approaches”



One municipality between Hamburg and Berlin has long established citizen involvement as part of local politics: for many years, Wittenberge has been committed to integrating a range of perspectives into urban development. How can different actors be inspired to get involved? What are the challenges around participation? These questions are answered by Martin Hahn, head of the building authority in the small town of Wittenberge in north-west Brandenburg. He also reports on initial experiences from the living lab “ZUGG – Shaping futures together in rural areas” (see “Futures tested” on page 8). Under the heading “We make Prignitz”, this initiative aims to improve mobility and revitalise the town centres of Wittenberge and the neighbouring municipality of Perleberg.

Mr Hahn, why does Wittenberge attach such great importance to participation?

We have noticed that often, the classic participatory measures set out in legislation for planning and building proposals do not go far enough. Many residents of Wittenberge never even hear about them. At the same time, it is often difficult to get citizen buy-in for urban development projects. Acceptance of such plans is much higher if we organise some sort of participation beforehand. And at the same time, it makes Wittenberge more attractive as a location.

What do you see as the advantages of ZUGG?

We can find out which participation formats are best suited to our town and benefit from professional back-up. From our point of view, another crucial factor is that the participants are also integrated into the concrete implementation. Other projects often go no further than the brainstorming stage.

After a year or so of the living lab, what has been your experience?

That it never settles into a routine, and has lots of surprises in store. (Laughs) Time and time again, we see that third-party moderation of the process is very important. It is then clear that the municipality is just one stakeholder among many. In addition, it equips us with tools that make the process more effective.

How can citizens be motivated to engage in this kind of process?

Originally we wanted to set up a citizens’ assembly. Unfortunately that has failed for the time being due to data protection. We hope we will be able to realise it at a later date, because then citizens can be consulted in a targeted way. In the end, we used postal mailshots to inform Wittenberge’s residents. In my view, it is also important to offer different formats – like online surveys or workshops, in our case. Furthermore, we should always be clear that the results are the main thing, and not be disappointed if fewer people take part than we thought. But we do also notice the response from citizens is increasing.

What social effects are you seeing?

There is a distinct improvement in the interaction between different stakeholders. In another participation project, for example, we brought together groups that included the housing industry, the retail sector and residents. This results in greater mutual acceptance because people encounter the different points of view at first hand.

What do you regard as the biggest challenges?

At times we do operate under significant constraints – see the problem with data protection. If the plan is to invest in cargo bikes and install temporary furniture in the city centre, then traffic safety and regulatory law also come into the equation. Also, it was not that easy to persuade people to get involved in ZUGG. The fact is, other participation formats were running in parallel; and right now, there are inevitably other problems in society that citizens are more concerned about.

Do you exchange experience with other municipalities?

Yes. And it is built in to many projects as well. This form of exchange is very important, in my view. Because I might be able to learn from another municipality in Brandenburg how it succeeded in establishing a citizens’ assembly. Or I might find out about new formats.

Can you give an example?

Recently I heard of a format that uses a computer game to inspire young people to shape their town themselves. Children and young people can be very difficult to motivate to get involved. This is where we must try new approaches.

Many thanks for the interview.

Interview conducted by Christiane Weihe.



Interviewed by *eco@work*: Martin Hahn, head of the municipal building authority in Wittenberge (Brandenburg).

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Common problems, common solutions

Formats for
socio-ecological
transformation



Whether to get involved in socio-ecological transformation is not a question but a given in the field of transdisciplinary sustainability research. It is an indispensable part of the research process, because from the very outset, the approach incorporates different perspectives: the municipal administration, the business community, experts from various disciplines, citizens and civil society organisations. And to do so, it employs a variety of formats – which are also used at the Oeko-Institut.

“Transdisciplinary research is appropriate for numerous challenges,” says Dr Melanie Mbah, research coordinator for transdisciplinary sustainability research at the Oeko-Institut. “It can be used to pursue myriad objectives, apply numerous methods and examine a variety of outcomes.” The research process is flexible within the framework provided by a series of steps, but also has clear aspirations: “Transdisciplinary research is generally trying to develop a solution to a societal problem. Central to this is a collaborative process of knowledge production which involves the actors throughout the entire project duration and not just on a one-off basis. This breaks up old structures in which scientists confined themselves to their own work and their own disciplines.” It is receptive to both practical experience and other different forms of knowledge, and generates a mutual learning process that is equally beneficial for science and applied practice.



A CLEAR PROCEDURE

Transdisciplinary research is still rather a new field, having only become established since the early 2000s. It follows a well-defined, ideal procedure, within which there is plenty of latitude. “The process is begun by jointly defining the problem, setting objectives and agreeing on a course of action. This is called co-design,” says the expert. “That is followed by co-production, which means working cooperatively. Ideally, the measures to be tested are designed in collaboration and shared knowledge is developed in a step-by-step process to solve the problem.” A third key element of transdisciplinary work is co-evaluation. “With reference to milestones and in reflection rooms, participants jointly review the status of the research process, whether it is working well or whether adjustments must be made – for instance with regard to the forms of cooperation or by involving other actors,” the researcher says. “It is important to be integrating knowledge throughout the entire research process so that collaborative research with practitioners can produce the desired effects.” Moreover, she emphasises that the aim is always to gain new knowledge and transferable findings and to communicate them more widely – a phase known as co-dissemination.

THE TDACADEMY

Dr Melanie Mbah is extensively involved in transdisciplinary research within the tdAcademy, a research and community platform founded by the Oeko-Institut together with the ISOE – Institute for Social-Ecological Research, Frankfurt am Main, and the Zentrum Technik und Gesellschaft (ZTG) at Berlin Technical University. It is funded by the German Federal Ministry of Education and Research and the Robert Bosch Stiftung. “Its goals include developing the knowledge base as well as building competence in this field.” Under the auspices of the tdAcademy, the experts

have clarified central aspects of transdisciplinary research. “Such research strives to achieve both societal and scientific effects,” says Dr Mbah, who also stresses the importance of considering the context in which a project will take place and using formats adapted to it.

Living labs, also termed real-world labs, are one of the best-known formats of transdisciplinary sustainability research, but by no means the only one (see “Futures tested” on page 8). “Ideally, such formats constitute the framework for the full duration of a project,” says the researcher. Here, too, she points out that the openness of the process matters: just like the objectives and the actors, the formats also need the freedom to develop and change.

The Oeko-Institut uses the tdAcademy platform to analyse different formats, their origins and objectives, their participation concepts and actors. These can involve artistic approaches. “Usually these include activities or installations which appeal to people on the haptic or visual level as well as the cognitive level. This can lead to new perspectives, stimulate learning and contribute to a stronger sense of identity.” Artistic formats are action- and discourse-oriented. Often they create experimental situations in which visions can emerge – for the design of public spaces, for example.

Other transdisciplinary research formats include transments. These experimental spaces are designed to break up the established routines of different actors and, via joint learning processes, to initiate sustainable behavioural changes in the form of system innovations; taking the example of leather production, this might entail disclosure and substitution of chemicals along the supply chain. “The ‘theory of change’, on the other hand, is a different format that can be useful for evaluating a research programme or for systematically examining effects while research is in progress and initiating them.” The ‘ten steps’ format focuses more on the launch of a transdisciplinary process and helps to structure it from the very

start. “It employs a variety of methods to discover the participating actors’ different perspectives on a social problem and their expectations of the project. This enables everyone to reflect on issues of cooperation at a very early stage and to ensure strong linkage between research and practice.

CONCRETE APPLICATION

The Oeko-Institut is not only involved in theoretical work on transdisciplinary sustainability research; its researchers are continuously applying its formats and methods in projects. A case in point is “Transens,” the first transdisciplinary research on highly radioactive waste management in Germany. This is a joint project involving researchers from 16 institutions, coordinated by Clausthal



University of Technology and funded by the German Federal Ministry for the Environment, the Volkswagen Foundation and the Lower Saxony Ministry of Science and Culture. “One of project’s goals is to improve the links between science and society in the field of nuclear waste management and to understand the reciprocal effects between them. We are analysing various questions, such as how to design a waste management system that will be effective and flexible over the very long periods of time involved,” says the research coordinator. “Many of the participating disci-

plines and actors have had little or no contact with transdisciplinary research until now." Transens uses different formats to involve citizens in the research process. "In addition to two permanent support groups, one format is to carry out workshops with diverse actors and objectives - for example, with students and citizens from different regions on the importance of identity and their perception of the surface facilities of a final repository site."

FUTURE OF RESEARCH

How can successful socio-ecological transformation be accomplished? And what can science contribute to it? These questions are also addressed by the German Federal Ministry of Education and Research's "Future Strategy for Research and Innovation". In the view of Dr Melanie Mbah and the tdAcademy, the strategy in its present form does not place a strong enough focus on the involvement of different stakeholders, nor on diversity of perspectives and experiences. "As yet, the Ministry's strategy is very much tailored to the technical and economic side of the transformation. But without the social and wider societal side, it will not work. Only by involving groups such as citizens' initiatives or the administration the proposed solutions will really be relevant enough to be implemented. Particularly for civil society actors, settings must be optimised so that stakeholders are better able to contribute their input. The research coordinator also sees a need for some corrective work on the scientific side. "It is vital to continue to institutionalise transdisciplinary scientific work at the universities."

OTHER FORMATS SUPPORTING TRANSFORMATION

Transdisciplinary research is not the only way of integrating people's experiences, knowledge and interests into socio-ecological transformation processes. Other approaches exist in

parallel, originating from participation research and from formal and informal public participation. For example, state authorities commonly initiate targeted participation procedures on projects such as the expansion of renewable energies and the respective electricity grids. Some of these are stipulated by law while others go beyond the statutory requirements and are carried out more thoroughly as well as earlier in the process. In part, this practice is rooted in the experience that acceptance of projects increases when people are involved in good time and given a say in the more fundamental decisions.

The Oeko-Institut analyses such forms of participation. "Participatory and transdisciplinary research are closely interlinked and use similar methods," says Franziska Wolff, head of the Environmental Law & Governance division at the Oeko-Institut. This applies to the ENGAGE project: the Oeko-Institut collaborated with the University of Münster, the Institute for Ecological Economy Research (IÖW) and ISOE to investigate the conditions in which civil society engagement and participation can contribute to public welfare and sustainability. "A trend analysis undertaken as part of the project shows that 'traditional' forms of participation such as elections or formal participation are declining while dialogue-oriented, informal participation procedures are gaining in significance," says Wolff. "At the same time, not all sections of society participate equally. Older, educated, affluent people and German native speakers are overrepresented." The project, funded by the Federal Ministry of Education and Research, consisted of interviews, participant observation, real-world experiments and workshops. "Furthermore, we developed recommendations with stakeholders on the design of participatory processes to ensure that participation really contributes to sustainability and public welfare." Processes should be inclusive and fair, and foster people's democratic and civic competence. "It is also important to integrate them well into political processes and make them open-ended, transparent, dialogue-intensive and

cooperative." In a further project, the Oeko-Institut carried out an evaluation on behalf of the Federal Environment Agency on public consultation and its environmental benefits in formal authorisation procedures.

WIDER NETWORKS, ASSURED QUALITY

Through projects like these, community involvement in socio-ecological transformation is constantly evolving – as is research on the subject. "There are many different ways of understanding transdisciplinary and participatory research, and unfortunately some myths as well," says Mbah. "For example, a transdisciplinary project does not require all project partners to engage in transdisciplinary research. And not everyone who holds a stakeholder workshop is fully versed in transdisciplinary working practices." The research coordinator is actively involved in assuring the quality standards of transdisciplinary research, further developing its methods and concepts and strengthening exchange on the subject within the Oeko-Institut. She does the same within the tdAcademy, from which the initiative proceeded to found the Society for Transdisciplinary and Participatory Research in May 2023. "This is another important step towards the consolidation of this work," says Dr Melanie Mbah.

Christiane Weihe



The geographer Dr Melanie Mbah has worked in the Oeko-Institut's Nuclear Engineering & Facility Safety Division since 2018. She is particularly interested in transdisciplinary and participatory research in the fields of energy transition and the management of radioactive waste. In spring 2022, she also took over as research coordinator for transdisciplinary sustainability research.
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Futures tested

Living labs for sustainable transformation

Sharing a car with the neighbours – sounds perfect in theory. Not so many vehicles have to be purchased. It frees up a lot of space. And it brings us into closer contact with many people in our neighbourhood. In practice, however, how can people be persuaded to forego a car of their own or to share it with their neighbour? And what effects would that actually have on the environment, the climate and society? To answer these questions, living labs combine theory with practice: they are a space in which different actors come together under the guidance of scientists to develop solutions for the socio-ecological transformation. What comes out of this are workable ideas for sustainable mobility, for making city centres liveable or for using living space efficiently.

“Living labs are still rather a young format, but one with a great deal of potential,” says Dr Manuela Weber of the Oeko-Institut. But what exactly is a living lab? “Essentially, the idea behind this research method is always to bring about changes in society – in the direction of sustainability and public welfare, for instance – and to bring together scientists and practitioners for that purpose. Other actors from the business world, citizens’ initiatives or municipalities can also be involved. What is important is that throughout the process, everyone works together on an equal footing.”

A COLLECTIVE PROCESS

Living labs are a format from transdisciplinary sustainability research (see also “Common problems, common solutions” on page 4). They are used for testing approaches to socio-ecological

transformation by experimenting with services and technologies under real conditions. The participating actors engage in a collective process to develop very specific products or services, and subsequently collaborate on putting them into practice. “It is more challenging than it might sound because it is a collision of different lifeworlds and work backgrounds,” according to the researcher. “That is why a common goal and course of action should be defined right from the start. Working in the living lab is a continuous process of negotiation, so willingness to compromise is called for. But it also helps people to question their own perspective and to broaden their horizons.”

There are different approaches to living labs. “We place a strong focus on the question of how citizens can be involved in socio-ecological transformation,” says senior researcher Dr Weber. Other elements include finding a common language, involving all actors in the idea-generation process and being open to different ideas, attitudes and experiences.

THE RURAL FUTURE

One living lab that Dr Manuela Weber is currently supporting is the “Shaping futures together in rural areas (ZUGG)” project. With the motto “We make Prignitz,” it focuses on the small towns of Perleberg and Wittenberge in Brandenburg’s Prignitz district. The intention is to develop them into places with a future, and to increase quality of life through community engagement (for more about this, see the interview with Martin Hahn on page 3). In collaboration with the Technologie- und Gewer-

bezentrums Prignitz (TGZ, Prignitz technology and business centre) and funded by the Federal Ministry of Education and Research, by June 2024 the project aims to develop and implement ideas for revitalising the town centres as well as proposals for local mobility. “One of the focal points is the question of how one can be sustainably mobile even in rural areas.” Participants include citizens as well as the municipal administration. “In spring 2022, for example, citizens were given a say in which pilot projects might be realised. It turned out that cycling plays a very significant role in Wittenberge, and that the respondents in both towns wish to have community meeting places.” Newly formed citizen teams took up these results and are now developing them further. “During the process we have taken great care to ensure that the population is actually represented.”

After holding initial workshops, there are already concrete ideas in both towns. “In Perleberg, for example, self-organised flea markets bring people together and create a sustainable shopping opportunity. And by the way, well-known initiatives of this kind offer as much potential for shaping change as new and innovative approaches.” The Wittenberge citizens’ team is working on a pilot project to hire out cargo bikes and handcarts. Citizens then plan to enhance Bismarckplatz, a town-centre square, with self-designed seating. “There was an open-ended survey beforehand to find out if people had ideas for revitalising the town centre or concrete requests for support,” says Dr Weber. “After the living lab comes to an end, there are plans to hold trans-municipal workshops so that people can pass on their experience.”



NEIGHBOURHOOD MOBILITY

Another multi-year living lab is currently under way in Stuttgart-Rot, Geislingen and Waldburg. Again, the Oeko-Institut is participating. In collaboration with the sustainability-focused Nürtingen-Geislingen University and the Stuttgart University of Applied Sciences, the scientists on the project “MobiQ – Sustainable mobility through sharing in the neighbourhood” are exploring the question of how citizens can organise their mobility collectively and perhaps share means of transport. In preparation, success factors and

barriers were analysed by conducting a review of literature and interviewing experts in neighbourhood-organised mobility. “And this is a key point in providing scientific back-up for living labs. It is not just our own experience from such projects that we bring to the table. Right at the start of the project, we look at the data and best practice examples that already exist, which is a better basis for assessing the local situation and success factors.” Among other things, the analysis indicated that such projects need support from politics and the local administration to be successful, and that financial support is important for the implementation of mobility options. But also that it is a challenge to identify suitable funding opportunities

and take advantage of them. “Furthermore, our preliminary work highlights how important voluntary work is for this kind of project.”

MobiQ has already consulted on alternative mobility options at events known as workshops, and the pilot phase began at the end of 2022. It includes establishing a scheme for sharing cargo bikes in Waldburg and trialling a community bus in Geislingen. “In Stuttgart, on the other hand, the focus is on how to reclaim the public space that is dominated by cars at the moment; how to create places where people can meet and interact.” A first step towards this end was a street festival with activities promoting sustainable mobility.

FROM MICRO TO MACRO SCALE

Often the work in living labs seems very small-scale. It is about car-sharing among several neighbours or establishing a volunteer-run community bus in a rural location. “But if what we learn here makes it easier to get such projects off the ground in other places, it can evolve into something much larger,” says Dr Manuela Weber. “From a social as well as an ecological standpoint.”

Christiane Weihe



How can mobility become more sustainable? This question is central to Dr Manuela Weber's research. The sociologist is interested in alternative mobility concepts like car sharing, and in the digitalisation of transport. Another major focus in this area is on the evaluation of projects and the sharing of findings.
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