



Transfer report
September 2023

**Discussions of Possible, Probable,
and Preferable Futures of Forests and
Forestry in (Central) Finland**

**Report on the transfer activities in Finland
in May 2023**

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The BMBF junior research group Mentalities in flux (flumen) combines sociological and historical research to explore how people’s mentalities change in post-fossil transformations and how this change is reflected in the employment structure of society.

Today, there is broad agreement that fossil fuels, due to their limited availability and damaging effects for the climate, will need to be phased out within the coming decades. One proposed alternative is the idea of a bioeconomy, in which raw materials and energy are gained from renewable sources of plant and animal origin.

But this implies more than just a shift to renewable resources. In fact, the whole way modern economies are organized will have to change: Fossil-fueled economies rely on a constantly accelerating linear throughput of materials, from extraction through production and distribution to consumption and waste disposal. In contrast, bio-based economies draw on materials and energy sources that regenerate cyclically. Their production cannot be increased at will, but is subject to the natural limitations of these circular flows of matter and energy.

The historical emergence of economies based on linear flows of fossil resources radically transformed human work and was closely linked to basic mindsets, attitudes and shared imaginations compatible with the logic of constant growth. These mentalities differ between social groups, and they will undergo far-reaching change once again in the transformation toward bio-based economies. In short, mentalities evolve in parallel with the transformations of societies’ material and energetic basis – they are: Mentalities in flux.

GEFÖRDERT VOM



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Short biography

Jana Holz is a researcher and PhD candidate in the BMBF junior research group “Mentalities in flux” (flumen) at the Institute of Sociology at Friedrich Schiller University Jena.

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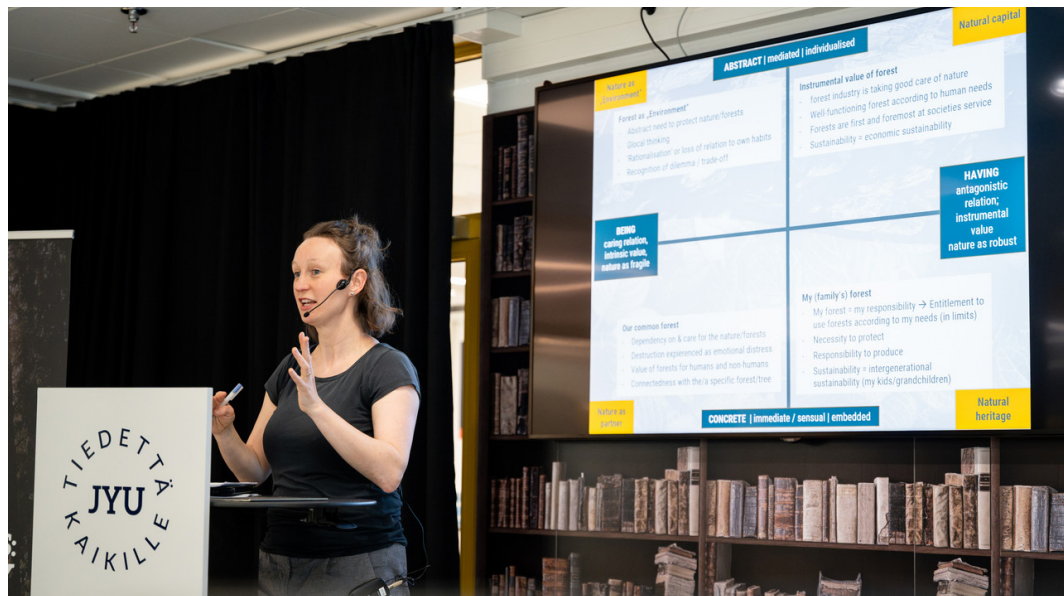
The transfer activities would not have been possible without the support and involvement of many other people. Special thanks to Tuulikki Halla, Reetta Karhunkorva, Jaana Laine, Viivi Kuusiahho, Asta Vaittinen, Annukka Näyhä, Venla Wallius, and Tapani Pentikäinen for their support in preparing and running various events in Finland. Many thanks also to Café Wille in Äänekoski and the University of Jyväskylä for sharing their premises. The Finnish Society of Forest Science has generously covered the travel and accommodation expenses of the participants for the workshop at the University of Jyväskylä. The German Federal Ministry for Education and Research supported the travel expenses of Jana Holz and the costs of the workshop in Äänekoski as part of their project funding for flumen (No. 031B0749). Judith Kiss, Maximilian Clemens and Clara Thompson commented on previous versions of the text. Masha Shchetinina proofread the English version of the report. Linda von Faber commented the final version and did the layout.

Discussions of Possible, Probable, and Preferable Futures of Forests and Forestry in (Central) Finland

Report on the transfer activities in Finland in May 2023

In the flumen project we aim to make the group's research results accessible to a broader public beyond the specialist academic audience. Hence, we pursue transfer activities via various channels and an active involvement into the societal and public debate on the bioeconomic transformation. In addition to presenting the group's results to the public, we give the actors of the transformation a chance to reflect on our research process and results. This feedback is taken into consideration for further publications and activities. The transfer, knowledge gain, and experience, thus, go both ways. The transfer activities in the qualitative module focus on the regions of the case studies of the project. In May 2023, Jana Holz traveled to Finland – within the framework of her case study on forestry and forest management in Central Finland – with the aim to present preliminary results of her research and to discuss these with local actors, various stakeholders, and scientists from different disciplines.

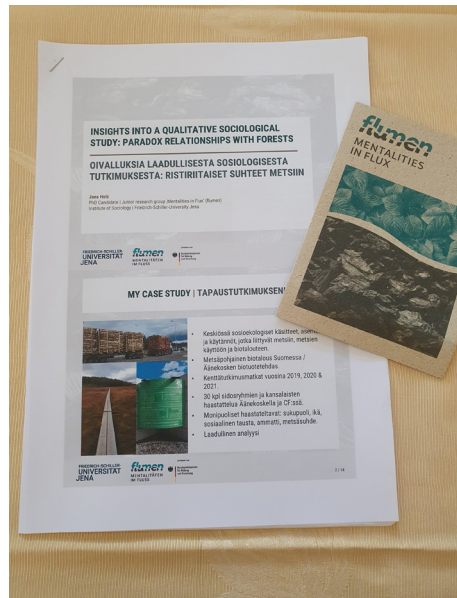
In the Central Finnish municipality of Äänekoski, which has been the focus area of the qualitative case study in the past three years, Jana Holz organized a public workshop on the future of forests and designed a lesson for high school students. In addition to these two core transfer events, a two-day workshop at the University



Jana Holz giving the JYU.Wisdom Lunch Colloquium at the University of Jyväskylä, 17th May 2023

of Jyväskylä and the moderation of an event during the Sustainability Science Days (SSD) in Helsinki offered the opportunity for an intensive exchange with scientists and practitioners.

This report (1) briefly presents the transfer activities and cooperation partners. In the main part (2), findings of the transfer activities and reflection on their success as well as resulting open questions are presented. Finally, the report ends with a take-away summary for science transfer activities (3) and for decision-makers (4).



Left: Jana Holz in an old-growth forest near Äänekoski;

Right: flumen material at the workshop in Äänekoski

Info box on Finland and forestry

More than 70 percent of Finland's land area is covered by forest, Finland is the country with the second biggest forest area in the EU after Sweden. Forestry today makes up an important economic and export sector. The forest-based bioeconomy is considered a driver for modernization of the traditional sector and for economic development of rural Finland. Similarly, the wood and pulp and paper industries played a central role in the country's industrialization and economic boom from the 1950s onward. To this day, both the political landscape and public debate are strongly influenced by forestry industry actors. The Central Association of Agricultural Producers and Forest Owners (MTK) works hard in Helsinki as well as in Brussels to promote the interests of its members and the productive use of Finnish forests. There is a lot of heated discussion in public and especially in social media about the future of Finnish forests and the forest industry.

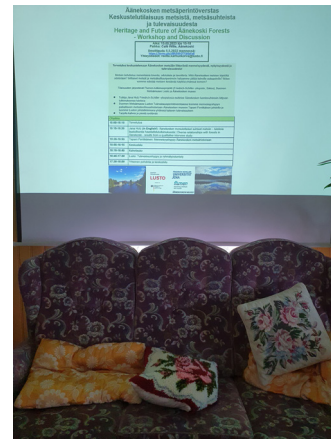
The dominant tree species in Finland are pine, spruce, and birch. Much of the forest land is managed by clear-cutting, which can have negative consequences for biodiversity and condition of the soil. Overall, biodiversity in Finland's forests is an important issue for its future. So is the CO₂ sink function of forests, on which the country's climate neutrality goals are based.

More than 620,000 private forest owners own a large part of Finland's industrial forests. With a population of just over 5.5 million people, it can therefore be assumed that someone in almost every family owns a forest. A large part of the private forest ownership consists of rather small plots of less than 30 hectares. Currently, many forest owners are still male and rather older, but a generational change is imminent, as more and more younger, female, and well-educated people inherit and own forest land. The Finnish 'Every Man's Right' gives every person the right to enter and hike in a forest plot, pick berries or mushrooms, regardless of who owns the forest.

1) Transfer activities in Äänekoski, Jyväskylä, and Helsinki

Coffee, cake, and discussions in Äänekoski

On May 15th 2023 the popular Café Wille in the center of Äänekoski was the site for interesting discussions and speculations about the future. A bilingual workshop with the title “Äänekosken metsäperintöverstas Keskustelutilaisuus metsistä, metsäsuhteista ja tulevaisuudesta | Heritage and Future of Äänekoski Forests - Workshop and Discussion” invited forest owners, local politicians, business and administration representatives to meet with citizens of Äänekoski. The afternoon workshop was organized in cooperation with the Finnish Forest Museum Lusto and the Äänekoski Art Museum. The majority of participants were from the group of people interviewed during the case study research visits in 2019, 2020, and 2021. The aim of the three-hour workshop was to discuss possible, probable, and preferable future paths (Bell 1997) for the local forest industry as well as for the local forest and society in general. A presentation on the past of regional forestry and a presentation on the sociological perspective today complemented the discussion. First, Jana Holz presented her study and preliminary research results. As part of her qualitative case study on forestry and forest management in Finland, she had interviewed actors in the timber industry in Central Finland about their work as well as people from retail, politics, and NGOs about their relations with nature and forest. Second, Tapani Pentikäinen from the Äänekoski Art Museum gave an insight into the past of forest management and forest industry focusing on old pictures and maps, some of which dated back to the 19th century. The core of the workshop was moderated by Asta Vaittinen and Reetta Karhunkorva from the Lusto Forest Museum. They had prepared newspaper reports



Left: Workshop participants listen to the presentations; Middle: Workshop material for the working groups; Right: The workshop program in Äänekoski

from the early 20th century and the 2010s, each praising the establishment of the most modern forestry industry in the area. Reflecting on these two reports and their meaning, the participants were asked to come up with and discuss headlines for a fictional daily newspaper from 15th May 2073. The look into the future revealed diverse possible, probable, and preferable future visions ranging from a diversified forest industry to a renewal of the village center with wooden houses.

Exchange on forest relations with pupils

On May 22nd 2023, Jana Holz also gave a lesson to upper secondary school students in Äänekoski. She introduced the concept of the social relationships with nature developed by flumen, as well as the different forest relationships associated with it. The pupils were asked to place themselves in a simulated space of social relationships with nature in their classroom.



Above left: High school students position themselves in the class room;



Above right: View from the public library in Äänekoski city center;



Bottom right: Central square and bus station in Äänekoski center

Multidisciplinary exchange at the University of Jyväskylä

Finally, on May 16th and 17th 2023, Jana Holz organized a [workshop](#) at the University of Jyväskylä in cooperation with the Human-Forest Relationship Research Club of the Finnish Society of Forest Science, the JYU.Wisdom - School of Resource Wisdom and the SOBIO network at the University of Eastern Finland. The multidisciplinary workshop was aimed at scientists from the social sciences, humanities, and natural sciences and was entitled: “(bio)diversity in forest - contested forests, human practices and future challenges”. Among the participants were also practitioners from public administration and an interest group as well as a concept artist. Eight presentations covered a wide range of topics, which facilitated discussion, exchange, and mutual inspiration. The presentations focused, among other topics, on the social metabolism of the energy transition in Finland, challenges caused by the combination of forestry and tourism in Eastern Finland and power relations in the Finnish forest



Above left: Forest walk as a part of workshop at JYU;

Bottom left: Reflection round at the end of the forest walk;

Above right: Jana Holz presenting at JYU.Wisdom Lunch Colloquium;

Bottom right: Workshop participants at JYU

discourse, as well as on the problems faced by reindeer herders in Lapland caused by the valorization of forests by modern forestry. The workshop participants also enjoyed a guided walk in the forest, which opened their eyes to the positive effects of experiencing nature on mental health. The workshop ended with a public lecture by Jana Holz as part of the public hybrid colloquium series of the JYU.Wisdom - School of Resource Wisdom. Her topic was “Paradox relationships with forests in Central Finland - a critical discussion from a qualitative, sociological perspective”. The presentation gave insights into her current research, the theoretical concept of the space of social relationships with nature, and preliminary results of her case study.

Multidisciplinary discussions on forest relations in the context of sustainability

The [Sustainability Science Days](#) (SSD) at the University of Helsinki from 24 to 26 May 2023 were aimed at a Finnish and international audience. The conference attracted interested audience from science and practice. Under the title “Human-Forest Relationships as part of future sustainability solutions”, Jana Holz moderated a session with five presentations by scientists from Finland and Belgium on current research projects in the context of human-forest-relationships (HFR) (Halla et al. 2023). The presentations focused on topics such as digitalized human-forest and urban tree relationships, the role of small and medium-sized enterprises in the forest bioeconomy, and basic epistemological questions about what a forest is, how we perceive and label it, and how we can relate to it. All presentations were followed by discussion about to what extent forest management and a sustainable future for forests are influenced by diverse HFR. With this session flumen gained attention in the context of sustainability science in Finland and beyond.

2) Aims and future approaches

Transfer activities: goals, target groups, and challenges along the way

The transfer activities in Finland in May 2023 had various **goals**: They were aimed at presenting and discussing preliminary results of the case study (Holz 2023) and novel conceptual work of flumen on social relationships with nature (Eversberg et al. 2022a) as well as by Halla et al. on HFR (2023). The activities contributed to the spread of the approaches of flumen and Jana Holz to a broader audience in Finland as well as helped collect insights, new ideas and connections for further research.

The activities in the municipality of Äänekoski were aimed at local actors. The goal was to stimulate reflection on forest use and possible alternatives to current structures, use practices, and ideals. In rural Finland, forestry and the forest industry mostly are an unquestioned elements of everyday life for a large part of the population: trucks loaded with logs pass through the center of Äänekoski every few minutes every day of the year, often there is a sweet smell wafting from the pulp production, people in work clothes from the factories come into town for lunch... The interaction with visitors (Jana Holz as a scientist from Germany and two museum employees from the Lusto Forest Museum, who had traveled from Punkaharju, 400 km away) in a familiar and well-known local location (Café Wille) was something out of the ordinary: an opportunity for exchange in an unusual manner, for getting to know new people and for a moment of pause from the daily routine of using wood or being exposed to the utilization structures and habits. It was also one of the rare opportunities to present and discuss critical social science research on Äänekoski and the forestry industry with local actors.¹

Due to the Covid-19 travel restrictions in recent years, the previous research stays in Finland (2020, 2021) had to be shortened. Hence, the transfer activities in 2023 also provided a good networking opportunity within the academic and professional community in Finland. In particular, the workshop at the University of Jyväskylä and the SSD in Helsinki helped to get to know other researchers and to exchange ideas on research approaches and projects. Many participants had so far only been in contact with each other online and the events on site deepened the collaborations.

The biggest **challenge** of the transfer activities was the language barrier English/Finnish and the advertising and recruitment of participants in a small municipality like Äänekoski. Thanks to the cooperation with partners (Lusto and Äänekoski Museum),

1 To my knowledge, there are some social science studies on Äänekoski (including Albrecht 2019, Albrecht & Kortelainen 2020), but discussions of these with local actors on the ground have not yet taken place.

the workshop at Café Wille in Äänekoski was held in Finnish. If the workshop had been held in English, there would probably have been fewer participants and less active participation. Unfortunately, the translation from English into Finnish and vice versa failed at short notice, so Jana Holz only got short English summaries of the Finnish contributions. Direct questions to her were addressed in English, the rest of the discussion took place in Finnish. The language barriers became particularly apparent in the lesson designed for the upper secondary school pupils. The arrangements and planning could easily be made with the teacher in English. During the lesson, however, it quickly became clear that the students had difficulty dealing with a rather complex concept presented in English, even though most of the slides of the presentation were translated into Finnish. After an English questionnaire had been filled out by all (albeit in Finnish), the students lined up in the room according to their nature relationships and shared their reasons for choosing their spot, as well as their nature and forest relationships. For the shared reflection on their positioning in the room, however, many switched to Finnish, which is understandable, but compromised comprehensibility and made possible follow-up questions by Jana Holz more difficult.

By **cooperating** with two cultural institutions (local/national) and hosting the workshop in a popular local café, it was possible to connect with the local community and population. The cooperation partners also promoted the workshop in Finnish on local media and social media channels. Despite the intensive promotion of the event, the number of participants remained at under 20 people. The presentation of research results is a non-everyday event in Äänekoski, the format of the three-hour workshop and the bilingualism are also rather unusual. Overall, it was a challenge to attract more people to the transfer workshop and to convey to potential participants the idea that they are really the target group of the workshop and that they could certainly contribute greatly to the topic. The communication to the local community was in Finnish, so Jana Holz had to rely on the cooperation partners in that matter. In addition, the museum staff of Lusto designed and moderated the workshop which meant that the focus was not exclusively on the results and approaches of flumen concerning socio-ecological mentalities, but was combined with questions on the future of forests and forest industry so that it would fit the workshop concept.

To let go and rely on others in the preparation and design of the transfer activities was a difficult task. In this aspect in particular, the transfer activities also represented a learning opportunity for Jana Holz: Indeed, it was not a perfectly prepared and rehearsed, one-sided transfer of knowledge, but rather a trial and error approach that depends on the local conditions and that involves a certain risk of failure (cancelled translation, low turnout, blurry focus of the discussion).

During the workshop in Äänekoski, another challenge became apparent: even in a relatively small group, the statements of dominant persons (in this case an older forest

owner and former farmer) may shape the discussion and shift it in a certain direction. As a result, a relationship with forests that is dominated by an economic-instrumental understanding valuing forest mainly as a resource made an open discussion about alternatives and an envisioning of a completely different future difficult. However, the working groups with the concrete tasks of coming up with newspaper headlines for 2073 opened up alternative visions of the future. The methodological expertise of the colleagues from the Lusto Museum provided a good guidance in that regard.

Future questions I

The workshop in Äänekoski produced a finding that is in line with previous assessments of Jana Holz based on the interviews and field visits in Äänekoski in recent years: **The future of the forests depends on the future of the forest industry in Äänekoski.** Nature and forests are thought of by the local population primarily from the perspective of (economic) usability. Alternative uses and considerations are given little space, both in subjective assessments and in public statements.

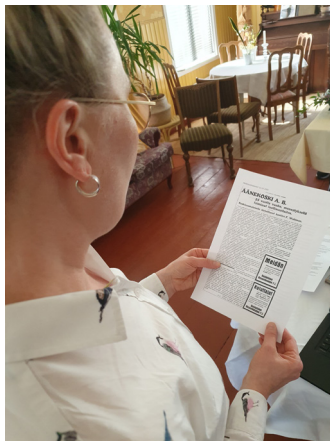
During the workshop, the participants were asked in small groups to come up with fictional newspaper headlines for a daily newspaper from May 15th 2073 (exactly 50 years after the workshop day, 15th May 2023!). Most of the future headlines stuck quite closely to the past that was shaped by the forest industry, or the present that is shaped by the recent bioeconomic modernization of the forest industry renewing its promise to secure local jobs, generate added value, and open up future prospects.

Nevertheless, one working group envisioned a town center of Äänekoski in 2073 consisting of wooden houses. The participants on that table combined this vision with the hope that in the future the local community would take pride in the place and its characteristics and that the attempt to be something bigger than they are would stay in the past. The old village centers in many rural Finnish places largely gave way to functional town centers of administrative and commercial buildings in the 1950s and 60s. Local identity and positive associations with the place often fall by the wayside. Another working group came up with the idea of a cultural center in Äänekoski that would be financed by the forest industry, would combine art and industry, and would make the place a more attractive place for tourists to visit. A third working group envisioned Äänekoski in 2073 as a continuation of the present: the forest industry would be increasingly diverse, it would have been able to stay in the area, and it would produce higher-value products (not mainly pulp). The composition of the working groups was random; they were thus for the most part very heterogeneous. It was not easy for the participants to agree on common headlines for the future newspaper. There were great differences in the imagined and desired futures: a ‘radical’ thinking in the sense of futurology, i.e. an open and improbable approach to the future, of a few participants (e.g. with a background in culture or science) collide with

an approach to the future of other participants (e.g. from agriculture, forestry, and local politics), which mainly relied upon and hoped for a continuation and improvement of the status quo.

Thinking and exchanging ideas about possible, probable, and preferable futures requires practice and a good moderation. This simple insight of futurology was confirmed at the workshop in Äänekoski. Because Äänekoski and other rural, middle-scale municipalities are the places where the forests grow, the forest industry has an enormous economic, social, and symbolic relevance, and the positive or negative consequences of economic investment decisions, political programs or innovative administrative reforms are felt concretely, it is exactly the right places for this kind of 'practice'. In so-called 'forest industry towns', such as Äänekoski, the future is currently streamlined on continuing a modern, high-tech, and possibly extractivist version of what has been done for a long time: industrial and intensive forest management and the production of volume for export. This goes along with the risk of further dependencies being created and perpetuated.

The workshop aimed at thinking and discussion about possible, probable, and preferable futures by using a familiar medium of the past: newspaper headlines for a printed daily newspaper (though these most probably will not exist anymore in 2073). The question of how sustainable this model was at least raised at the workshop; the question of how long the forest as an ecosystem will continue to put up with the current usage and extraction practices will need to be in the focus of further events. Maybe these could take place in different kinds of forests (national park, protected area, industrial forest, freshly clear-cut area etc.) in order to encourage diverse and critical thinking.



Left: Reetta Karhunkorva reading out of a newspaper article from 1931; Middle: Fictional newspaper frontpage from the year 2073; Right: Jana Holz presenting at workshop in Äänekoski

Future questions II

The workshop at the University of Jyväskylä and the session at the SSD in Helsinki facilitated a multi- and transdisciplinary exchange on issues related to forest policy, future forest use, diverse human-forest-relationships (HFR) (Halla et al. 2023) and raised the question how quantitative, qualitative, and conceptual approaches to these aspects can complement each other.

A particularly successful feature of the workshop in Jyväskylä was the composition of the presentation-commentary pairs. Each presentation was commented on by an invited expert with a different academic and institutional background than the person presenting. The comments should be critical, but complementary and constructive towards the topic of the presentation. This set-up allowed for a good basis for an open discussion between all workshop participants and strengthened the interdisciplinary



Above left: Metsä Groups pulp mill in Äänekoski; Above right: Lake side close to Äänekoski center;

Bottom left: Factory area in Äänekoski; Bottom right: Diesel-powered trucks on their way to Äänekoski factory

character of the workshop. The debates were fruitful and intense, and they enabled new perspectives and reflection on one's approaches and assumptions. In particular, the perspectives from practice (Ministry of the Environment, interest organization, art) were an inspiring contribution.

Thus, the workshop resulted in a successful interplay of quantitative, qualitative, and conceptual perspectives from the humanities, social, and natural sciences. In particular, the discussion of possible, probable, and preferable futures relating to diverse and equitable forest use and sustainable forestry benefited from the trans- and multidisciplinary set-up. The linking of conceptual perspectives on HFR and futurology with concrete impressions gathered during field trips helped formulate many questions such as: How can actors in forest and forestry policy integrate experience and knowledge of local groups of people and take them seriously? Do concepts like eco-system services help or hinder this? How can we deal locally and concretely with the dilemma that one and the same forest is needed and planned for reindeer conservation, biodiversity conservation, timber production, as a 'cultural landscape' and a place of loneliness, and as a development area for the energy transition (wind farms)? What is the role of the EU and politics in general? How is creative and 'radical' (in the sense of futurology) thinking and experimentation possible in this mixed situation? The extensive discussion time reserved in the program might seem needless to point out, one might think, but unfortunately it is still a rarity in almost all scientific workshops and conferences.

In the context of the various presentations and comments on HFR, both in Jyväskylä and at the SSD in Helsinki, the question of the connection between **nature relations and forest relations** came up time and again. How are they related? How do they differ? Can conclusions be extended from one to the other and if so, in what way and how can this be conceptually captured and mapped methodically? The novel attempt of the HFR concept to narrow down the relationships between humans, society and nature to the relation between humans and forests (Halla et al. 2023) will have to prove itself in scientific, political, public, or cultural contexts. For the transfer activities in Finland with their focus on subjective forest relations, HFR already provided a good complement to the sociological concept of social relationships with nature and social-ecological mentalities (Eversberg et al. 2021, 2022a),

In the discussions, the role of nature and the forest was also present again and again. Throughout all activities, people mostly talked about forests and nature: nature was treated as an object. The (own) relationship to it was reflected, taken apart, or criticized and compared with the relationship of others to nature. The second side of this relationship - the forest or nature - was only given a passive role. The workshops took place indoors, mostly talking about the forest in front of laptops and with Power-Point presentations. Three exceptions have remained in memory thought: A forest walk as part of the workshop at the University in Jyväskylä, where participants could

touch trees and immerse themselves into the forest, and two presentations at the SSD event in Helsinki, where animals and their perspectives were presented – and caused irritation among the audience. These exceptions could be the rule in the next transfer activities in the context of forest and nature relations. The organization and implementation might be unusual and therefore rather challenging, but such formats would offer the possibility for new insights and perspectives. The OpenForest concept by Markéta Dolejšová and others, which was presented at the SSD, may offer some initial ideas². In their project, so-called ‘forest walks’ are led by a dog, among others, which ‘shows’ the participants its perspective on moss, trees, streams, and other animals they encounter in the forest.



Left: Reflection round as part of the forest walk at JYU workshop;



Right: Two participants exchange on their forest walk experience

² This project represents a new and innovative approach: <https://research.aalto.fi/en/publications/open-forest>

3) Lessons learned for science transfer

The following ideas that were derived from the transfer activities in Finland in May 2023 and the knowledge gained from them concerning science transfer in the context of forest research and forest policy, may also be relevant to the German context:

- Talking about and reflecting on forest relations, the forest industry, and related aspects of the economy and society requires **practice**. The relation to the forest or the forest industry seems natural and immediate to people who have to do with it daily, for example, because they live in a forest-rich region or work in the forest industry. Nevertheless, it requires a lot of time, protected spaces, methodical guidance, and moderation to reflect and exchange on current relationships with nature and the state of the forest as well as on possible, probable, and preferable futures.
- Looking at the **past** can help us think about possible, probable, and preferable futures. Since the present and the future are to a large extent already predetermined by the past and present decisions as well as the mental, social, economic, political, and physical path dependencies they have created, it is worth talking about what has been the case and why. Talking about the past is also much more commonplace than talking about the future.
- On the other hand, the focus on the past can also hinder a creative and radical thinking towards **the future**. The constant reference to past events and decisions might block an open view of what could - and should - be different.
- Social science approaches and **concepts** appear complex and abstract but support a change of perspective and might open up a reflection on one's own and other positions in the society. In this way, they enable discussions and reflection on a deeper level. Explaining them in a generally understandable way is not trivial - and requires practice and experience from the scientists.
- Science transfer requires **openness** and a way of working from the scientists that might be unfamiliar: handing over responsibility, bearing uncertainty about the number and type of participants, being open to discussions that go in unusual directions etc. The usual scientific exchange at conferences or in colloquia is something entirely different from exchange with locals or pupils. It seems vital to get on board support from communication experts that bring in methods and material to facilitate a fruitful exchange.
- In particular, the active involvement of **nature as a subject** of the study of nature-human relations offers a lot of room for experimentation and new levels of reflection, especially for transfer activities in research areas such as (transdisciplinary) environmental and sustainability sociology. This also highlights the

necessity of further research. Questions that might be raised by such an approach and procedure would be: How specifically do I engage with a tree or the forest? How can an experience of being in the forest be reflected sociologically and linked to social structures or power relations? What would a forest relationship that constructs and integrates nature as an active counterpart with the help of apps or VR glasses be like? Can this be done without romanticizing nature and the human perspective on it? But in general: How do I conceptualize, organize and finance transfer activities or scientific events that involve nature as a subject? And how could communication or a scientific publication about this kind of activities look like?

- The example of Äänekoski shows that in forest-industrial regions, i.e. regions that are strongly biased towards intensive forestry, the local population (and to scientists as well) can be made even more aware of the importance of the region for research. Especially since research into certain questions concerning regional forestry is strongly related to the future viability of these regions. There is already some cooperation between stakeholders from Äänekoski and other municipalities in Central Finland with application-oriented research projects (e.g. JAMK in Jyväskylä³). However, as far as it is known, research on social science issues with a sociological or futurologist background has not been carried out very often in the region so far. Above all, the transfer aspect has often been missing in those projects. Science transfer and science communication in rural regions should therefore be given a greater priority, especially in the social sciences.
- The transfer activities gave something back to the interviewees of the qualitative case study by Jana Holz on a very concrete level: The relevance of their answers and views could be underlined again during the workshop. In addition, some of the interviewees used the opportunity for exchange to highlight and clarify their views once more.
- The discrepancy between local beliefs, worldviews and habits, on the one side, and scientific work and public statements on the ecological sustainability of forestry in Finland (e.g. by BIOS 2017) should be addressed in further research and transfer activities. It seems vital that the different perspectives are given significance, relevance and space. The actors in Äänekoski neither envisage nor strive for a change in the system. The conviction that they are already on the right track prevails. Thus, no need is seen to change anything. This perspective needs to be respectfully challenged and reflected on together with the actors who pursue it.

3 The University of Applied Sciences in Jyväskylä has a bioeconomy campus in a neighboring municipality of Äänekoski where they focus on projects: <https://biotalouskampus.fi/en/>

- **Further transdisciplinary and disciplinary research** on the ‘business as usual’ path of industrial forestry could investigate what developments are suspected or already happening today that could prevent or complicate this path: for instance, soil erosion, biodiversity loss, extreme weather events, as well as changing consumption preferences or political framework conditions. Especially the local consequences and possible, probable, and preferable ways to deal with them should be studied to a greater extent. In regions dominated by forestry or pulp and paper production, this could enable an open exploration of possible, probable, and preferable perspectives. The range of local economic activities could thus be expanded, as well as the imaginable alternatives. Creative offers in forest tourism or the use of eco-system services and certificates for protected or extensively managed areas are just two possibilities that could be discussed locally.



Left: Art in the taide puisto (Art Forest) in a residential area in Äänekoski;

Rechts: Café Wille in Äänekoski

4) Lessons learned for decision makers

Finally, the transfer activities and the knowledge gained from them provide some suggestions for decision-makers in the context of forest policy (also in Germany):

- **Rural regions** and their populations play a central role in the bioeconomy (Friedrich et al. 2023). An active shaping of this role should be strived for, is necessary for viable and sustainable solutions, and holds the potential for a long-term oriented local handling of ecological and social conditions. The transfer activities in Äänekoski revealed that there is a great deal of heterogeneity within the local population concerning ideas about forest and nature use, as long as it is sought and given space. At the same time, the dominance of an instrumental-economic understanding of nature seems to be unbroken. Creative and sensitive formats for local discussion and reflection are needed (and need proper financing) to bring different groups of people together in a fruitful and open processes.
- The case of Äänekoski also shows that contrary to fundamental scientific criticism (Eversberg et al. 2022b), the **promises of the bioeconomy** can indeed be fulfilled – at least regionally, in parts, and for the moment. Locally, the modernization of traditional sectors such as forestry can certainly become a driver of regional development. It also builds on a continuity of long-tested nature relations and use practices. The bioeconomy and its promise are thus partly popular with a broad majority of the population (as is the case in Äänekoski). However, this is accompanied by the risk that potentially problematic aspects are not noticed (in time) and addressed to the necessary extent (e.g. aspects of ecological sustainability or



Left: Forest-truck in residential area in the center of Äänekoski;



Right: Clear-cut forest area close to Äänekoski, picture taken from the window of a public bus between Äänekoski and Jyväskylä

the ‘limits to growth’ of the path taken so far). Entrenched structures and economic path dependencies can hinder the ability to act and the critical reflection of local actors. It should be within the scope of action of local politics, administration, and civil society to offer a space to repeatedly break up entrenched structures and to examine the paths taken concerning their long-term benefits and their ecological and social sustainability.

- **Transdisciplinary projects and transfer activities** require a new approach and a set of skills from the researchers who shouldn’t just pursue them with their usual competence set and ways of communication. If taken seriously, they require funding, trained personnel and space.

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