

Short Intro

- I won't present SWEDESD in any detail here, neither the Faculty of Educational Science, or our work so far, but just touch upon it.
- SWEDESD: capacity building, policy development, and we are now developing a model for action-research as a third body of activity (this year nine large applications will be submitted, of which this is one). Two researchers from the Faculty now employed at SWEDESD – David who is ass prof and our scientific leader, and one PhD student working with ESD-transformation of all teacher education at the Faculty.
- We are in a new dialogue with Sida. Work with our international partners will continue and deepen. Activities in Sweden will become more important in the framework of GAP on ESD together with UNESCO (SWEDESD node, or co-node with UHR, The University Council).
- From research & other projects at the Faculty of Education, we can use methodology & theory of course. And build on knowledge gathered at SWEDESD.
- I've (Eva) been engaged in transdisciplinary research on sustainability – in South Africa on and with smallholder farmers. SWEDESD has done a lot of work in Africa and India. But all of you are engaged in that research context too. So – and as the call says – we shall and can bring a case of local knowledge from our region: the Sami people and culture, on which this thought piece will primarily focus.
- We finished this thought piece very recently (no PPP). And Jim... David replied: only the original is good enough... 😊

Q1 How is the food-climate-water-energy nexus constituted in a particular context/geohistorical space?

In a Sami context, it will be important to review existing policies that highlight well-functioning and limited sectorial or other responsibilities, lack of co-ordination between different "sectors", and inconsistencies between laws and regulatory frameworks that can be traced to Swedish and Norwegian State management structures and/or to traditional Sami decision making practices. Of particular importance is The Sami Parliament's Living Environment Program Eallinbiras (Iellembiras/Jielemen Bijre).

It is also important to analyze contextual and/or local scientific and sustainability food-water-energy-climate data in the Sami community.

- What kind of climate change vulnerability is associated to the nexus?
- Which proactive, reactive and inactive adaptation measures are being taken?

One interesting and important historical event is of course the Chernobyl incident in 1986, because it influenced water, fishing, rain deering, etc.

Furthermore, we will look into whether – and if so – what kind of cross-sectorial collaboration exists in current management structures.

- To what extent does the Sami case illustrate multi-stakeholder interaction and management/governance in a nexus context?
- How can a nexus approach be visualized on the basic case data and experiences from research persons involved in the case, for example people active in the Sami parliament?
- How are the problems with a food-climate-energy-water nexus defined from the perspective of the Sami community and what are the solutions suggested on the basis of this?
- Furthermore, in what sense do the Sami people envision the concept of solution in accordance with the particular views of nature, ethics, etc. that are presented in the policy documents?

Q2 What matters of concern are arising at this interface, and what are the contours of these matters of concern?

Here we believe that it would be interesting and important to based on this **the second coming of the realist**, look into the nature and function of "matters of concern" as presented both in Sami policy documents that cover the nexus, and, in interviews/co-creative conversations and possibly observations.

- What are the particular matters of concern in this particular indigenous community?
- How do they differ from other matters of concern (if any) in the other cases?
- How can differences and similarities be understood?

- And, what can we learn from this?

Q3 What 'learning curves' are people already on, what characterizes these, and how could these potentially be expanded?

- If any, what are the significant differences between the kind of learning that takes (time and) place in the Sami community in the face of the challenges and opportunities that the nexus presents, and the kind of learning that takes place in non-indigenous contexts?
- Is the Sami community engaged in a transformative learning process and if so, at what price and in response to what?
- And, does the Sami community acknowledge the need for transformative learning and if so why? If not, why?

Q4: How can an expansive Social Learning process be established across interacting activity systems/multiple stakeholders via formative intervention research/interagency working?

Here, we will establish a joint research case together with representatives from the Sami community, and Sami researchers researching the Sami context too.

We are dependent upon the local stakeholders to understand into which nexus-practices and levels and sectors we should intervene, and to understand problems and issues of learning in general.

Q5: Is/how can/does such an expansive learning process become transformative? (i.e. transformative social learning?)

- What kind of transformational adaptation, which, as O'Brien and Sygna (2013) argue, implies deeper changes in practical, political, and personal spheres, can be identified in the Sami case study?

The three spheres of transformation framework highlights that transformation is dependent upon simultaneous changes in **the practical sphere** (which deals with actions, responses, and behaviors); in **the political sphere** (which concerns the social, political, and technological systems and structures that may enable or block responses in the practical sphere); and in **the personal sphere** (which is the sphere of paradigmatic beliefs, values and worldviews that influence the goals of the political sphere).

Climate change adaptation for transformation relates to all three spheres of transformation in the context of valued beings and doings, i. e. human capabilities (the practical sphere) and in the context of conversion factors (the political and personal spheres).

Although the practical sphere concerns for example actual climate change – induced voluntary or involuntary mobility of people (either as an adaptation strategy or because they are environmental “refugees”), the potential of this mobility is affected by and may influence the ability to be socially and existentially mobile.

Social mobility as characterized by, for example, access to social networks, having mobility resources, and being welcome in “safe areas,” is key to enabling adaptation and coping strategies based on geographic mobility.

Hence, the social, political, cultural, and technological systems and structures in the political sphere are crucial for understanding and facilitating adaptation for transformation.

Q6: Is this transformative learning process also transgressive? And if so how, and why does this matter? What does this have to do with the ISSC's interest in 'solution oriented science'...

Here we are particularly interested in *transgressive* learning as an opportunity to violate moral or social boundaries and order. Since problems associated with, caused by or emerging from the nexus are most likely "wicked" or highly complex, we need to enter into a field of uncertainty. It is important to transgress the boundaries between what is considered to be rational and irrational (or spiritual, or emotional, or embodied, etc.) knowledge in order to test ways to transform that does not correspond to the over-idea of transformation/s of frames of reference that dominate the literature. Rather, we need to look at what Preece, following O'Sullivan and colleagues emphasizes; that radical cultural, and therefore societal change, "requires an ability to deal with denial (of the problem), despair (of how to deal with it), and grief (at the loss of past behaviors)" (Preece 2003, 253–254; see also Scott 1997).

We believe that we should be bold here and challenge ISSC's interest in "solution oriented science", and engage in a critical conceptual analysis based on empirical case-study data; whose solutions—which problems?

Q7: What forms of emancipation, capabilities & agency emerge/and/or don't emerge from transformative/transgressive approaches to learning and if so why?

Here we are interested in looking into the particular capabilities and functions that emerge within and from transgressive and transformative approaches to learning in the Sami community.

Hence, we connect transformative learning and transformative education to human capabilities and wellbeing. The basis of this part of the case study would be that there are certain ethical limits to transformation of frames of references and that those limits are constituted by personal valued beings and doings.

Q8: Does, and if so how do transgressive learning processes give rise to 'Citizenship as agency' for adapting to risk and climate change... and how does this relate to/develop transformative societal movement/s for change at the water-climate-food-energy nexus?

Here we would like to connect transformative learning, capabilities, and power to the question of citizenship and what kind of citizenships that are needed in order to face, and solve, the challenges associated with the nexus. Let's together figure out in what way...

And finally, the particular Sami case study would provide an indigenous perspective of the notion of citizenship in relation to Q1 above.

Comments after presentation:

1. Carson and Pernilla at SWEDBIO – perhaps she could join us, or draw on? They have done work on biodiversity and the Sami culture.
2. Jim wants to add biodiversity to the nexus (related to the project as a whole).
3. Transgression between environment and culture in the becoming modern – issues have been raised.
4. Diversions and conversions again – modern technology/traditional culture, inside of the indigenous culture itself.
5. When does indigenous become non-indigenous? Indigenousness is still there maybe, but not the “fenced-in”-qualitatively and essentially different indigenous culture?
6. Could SWEDESD take a cross-cutting role – various organizations, capacity building, policy development? Should our's be a different role than research, or more than research?