

Session IV – Health care in the high north

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Moderator Heikki Eskelinen

Session Theme - Climate Change: Planning for Responses

This session of three presentations – from Tanja Suni, Antti Roose & Martin Gauk, and Julia Martin – discussed the specific challenges of planning for a changing climate in the Northern territories. While radically different in their respective scopes and perspectives - from the evolution of networked interdisciplinary research projects; to analysing the environmental performance of architecture through the inclusive lens of urban planning; to expanding and extending the reach of environmental assessment reports – a clear theme emerged: we must think collectively, inclusively and expansively in our definition of what sustainability means.

Tanja Suni

“Land-Atmosphere-Society Processes in the Boreal and Arctic Regions – Collaboration Opportunities within iLEAPS and PEEX”

Suni spoke primarily about the aims and objectives of both iLEAPS (Integrated Land Ecosystem - Atmosphere Processes Study) and PEEX (Pan Eurasian Experiment) research projects, inviting future collaborations with other research programmes.

iLEAPS is an international research programme, established in 2004, and is a core project of IGBP and a key component of the Earth System Science Partnership. There are 16 affiliated science projects and three main themes covered – Dynamic Planet; Global Development; and Transformation to Sustainability.

Attention to the interactions between land-atmosphere is critical as this interface is where human life occurs, and what it is heavily dependent upon. Furthermore, anthropogenic action modifies the chemical composition of the atmosphere, triggering complex feedback mechanisms among the processes occurring between land and the atmosphere, most commonly exemplified as the ‘greenhouse effect’. This programme asks how human drivers – such as land use, irrigation, fertilization, urbanization etc – are interacting with ecosystem/atmosphere coupling.

The programme specifically aims to overcome the traditional ‘silo thinking’ of research models, instead joining up networks of natural and social sciences. The programme is target oriented, rather than focusing only on Basic Research, and aims to integrate a plethora of research programmes that were formerly separate, asking much broader, more inclusive research questions that deal with adaptation and socioeconomic impacts.

PEEX is a multidisciplinary, bottom-up initiative developed by several Russian, Chinese and European organisations. It looks to provide knowledge for a sustainable arctic and boreal region

and encompasses around 40 contributing institutes. It is visionary and ambitious, aiming to shed light on major uncertainties that this region faces.

There are 4 key focus areas - research agenda, infrastructures, society dimension and knowledge transfer – that combined aim to solve interlinked global challenges influencing human well being; establish and maintain long term coherent coordinated research and education infrastructures; and contribute to earth system science agendas and climate policy by providing adaptation and mitigation strategies.

Together iLEAPS and PEEEX aim to develop research and physical infrastructures to ensure an integrated, multidisciplinary approach to planning for climate change adaptation.

Antti Roose and Martin Gauk

“Mitigation policies and Planning Responses to Emergent Suburban Development in Estonia”

Roose and Gauk from the Department of Geography at the University of Tartu are researching how urbanisation patterns are impacting on, and impacted by, climate change in Estonia. The key long term objective of the project is to suggest how climate change and energy-efficiency issues can be integrated with urban policies and planning practices.

They argue that the connection between climate change mitigation and urbanisation have not been thoroughly assessed in Estonia and that a lack of adaptation policy means that a reactive, growth-only model persists. It was reported that public opinion in Estonia is that climate change is not significant, indeed the belief is that only positive changes are expected to be experienced, however certain regions will in fact be subject to a rise in sea level, flooding, coastal erosion and increased precipitation. The presentation outlined that there are currently very few inclusions of urban or housing priorities in adaptation policies and papers, with no particular energy performance indicators for planning plus a blinkered approach to what sustainable planning means.

Roose and Gauk reported findings from their research, focusing on the Tartu City region which has seen a mushrooming of sprawling, low density suburbs combined with a shrinking core city. Their empirical research objective is to examine the controversies between policies on multiple territorial scales and governance levels through assessment of suburbanisation processes within a neo-liberal planning framework, demonstrating how urban sprawl excessively contributes to the residential and transportation energy use and CO₂ emissions. They demonstrated through quantitative research that the suburban houses studied, using lifecycle assessment, are more energy and material intensive than city apartments or homes. The figures suggest that the most carbon intensive step in the life cycle is building operation, although interestingly for small flats in suburbs travel costs begin to overtake operational costs. The research found that compact development, focusing on the city core rather than expanding outside the city can save up to 25% energy and 22% CO₂ – overall low density development uses 3 times more energy than high density development.

They propose a number of steps towards a more sustainable planning system in Estonia – firstly there should be a balance between catering to the market and catering to the environment.

Secondly that there needs to be better enforcement of adopted plans and that those planning mechanisms need to be transparent and fair. Lastly they suggested that all new plans need to encourage compact, centred and complete residential areas.

Julia Martin

“Hyperextended Objects in Environmental Planning”

Martin, who is a PhD candidate at Goldsmiths College at the University of London, has a background in Landscape Architecture and Fine Art. Her research explores and questions how we imagine, create and define ‘objects’ in environmental planning and aims to contribute to critical discussion of environmental assessments and decision-making processes. The focus of her empirical work is Alcoa’s Fjarðaál aluminum smelter and the associated Kárahnjúkar Hydropower Plant and Jökulsá á Dal and the Jökulsá í Fljótsdal dams in east Iceland.

The research, drawing on many strands of post-structuralist philosophy, systems-thinking, Object Theory, and artistic practice suggests that we need to reconceptualise the very essence of Environmental Impact Assessments (EIA) to overcome existing conventions which maintain false binary oppositions between object-subject and object-environment. It was argued that maintaining artificially clear and neat frames around an object is an outmoded Modernist device that obscures the extents of environmental agency.

In place of a passive, introverted and unchanging entity, the research reframes the object, in this case the integrated aluminium smelter-hydropower plant, as part of a network, defined not by its own essence but through its contextual relationships and activities. Such relationships are ever-transforming and subject to the individual reaction times of objects within larger networks – Martin has coined the phrase ‘hyperextended objects’ to encompass this reconceptualization of environmental agency.

The analysis of the EIA of the smelter-plant-dam assemblage finds a resistance to systemic thinking, prevalent in many EIAs. It stops short of mapping beyond national borders, material transport routes, strictly maintaining global-local distinctions and excluding numerous issues deemed ‘irrelevant’. The research points out that the EIA was conducted by a company appointed by the developer, as is often the case, and this this can lead to only favourable evaluation criteria being used and false boundaries and limits of agency being drawn.

Martin’s artistic research-practice works to connect the biggest object and the smallest object, revealing the entire system and its expansive connections and correlations. A number of pieces were shown, varied in media and exploring several aspects of the problematic nature of the smelter-plant-dam. For example a piece of performance art where pre-foil-wrapped potatoes were thrown at the walls of the dam forces different expressions of the object to meet in space-time, exposing the consumption patterns at the root of the construction, while collages of super-imposed landscapes and objects explicitly link the global and the local, making the different ‘ends’ of the object meet.

Some Critical Themes arising from Audience Questions to All Speakers:

Is viewing everything – whether disciplines, research programmes, policies or objects - as connected and integrated always helpful? Are there dangers in this? How do we know when to stop?

How does this relate to one of the emerging themes of the conference – that certain uncertainty requires adaptation planning and management rather than fixed plans?

What tools and methods in research can we use to talk across boundaries?