



## The Sustainable Nordic City of the Future is the City we Already Have

Braae, Ellen Marie; Steiner, Henriette

*Published in:*

NORDIC WORKING PAPERS Opportunities and challenges for future regional development - notes from an open seminar, September 12, 2019

*DOI:*

[10.6027/NA2019-910](https://doi.org/10.6027/NA2019-910)

*Publication date:*

2019

*Document version*

Publisher's PDF, also known as Version of record

*Document license:*

Unspecified

*Citation for published version (APA):*

Braae, E. M., & Steiner, H. (2019). The Sustainable Nordic City of the Future is the City we Already Have. In K. Nilsson (Ed.), *NORDIC WORKING PAPERS Opportunities and challenges for future regional development - notes from an open seminar, September 12, 2019* (pp. 31-39). Copenhagen: Nordic Council of Ministers. Nordiske Arbejdspapirer, Vol.. 910 <https://doi.org/10.6027/NA2019-910>

# NORDIC WORKING PAPERS

## Opportunities and challenges for future regional development

- notes from an open seminar, September 12, 2019

*Kjell Nilsson et al.*

<http://dx.doi.org/10.6027/NA2019-910>  
NA2019:902  
ISSN 2311-0562

---

This working paper has been published with financial support from the Nordic Council of Ministers. However, the contents of this working paper do not necessarily reflect the views, policies or recommendations of the Nordic Council of Ministers.

Opportunities and challenges for future regional development

Open seminar with EK-R (Nordic Committee of Senior Officials for Regional Policy) and Nordregio's Board of Directors on 12 September, 2019, at University of Akureyri, Iceland

Organised by the Icelandic Ministry of Transport and Local Government, Byggdastofnun and Nordregio

Edited by Kjell Nilsson

Photo from Akureyri

## Contents

Regional development in the Nordic Region

*Kjell Nilsson, Anna Karlsdottir and Karen Refsgaard*

The Nordic Welfare State at the crossroads

*Joakim Palme*

Comments by *Katarina Fellman*

Comments by *Gerd Slinning*

The Sustainable Nordic City of tomorrow Is the city we already have

*Ellen Braae and Henriette Steiner*

Comments by *Holger Bisgaard*

Comments by *Kjell Nilsson*

Rural regions at a crossroads: Policy challenges for the future

*Gro Marit Grimsrud*

Comments by *Hanna Maria Urjankangas*

Comments by *Eydun Christiansen*

Comments by *Isabella Palomba Rydén*

Green Path Development and Change Agency in Nordic Regions

*Markku Sotarauta, Teis Hansen, Suyash Jolly and Nina Suvinen*

Comments by *Bjørn Barvik*

Opportunities and Challenges for Nordic Arctic and Subarctic Regions: A Case Study Approach

*Astrid E. Ogilvie*

Comments by *Thomas Gaarde Madsen*

Comments by *Halla Nolsøe Poulsen*

Opportunities and challenges for regional development in the North Atlantic Region

*Snorri Björn Sigurðsson*

Annex 1: Seminar program

# Regional development in the Nordic Region

By Kjell Nilsson<sup>1</sup>, Anna Karlsdottir<sup>2</sup> and Karen Refsgaard<sup>3</sup>

## 1. Introduction

What are the challenges and opportunities for future regional development in the Nordic Region? And how can the Nordic Cooperation Programme on Regional Policy be relevant in responding to this question? This was the focus of a seminar held in Akureyri in 2019 where six invited authors as well as discussants selected amongst the members of the Committee of Senior Officials for Regional Policy and Nordregio's Board of Directors presented their views on these questions.

Nordic Cooperation on regional development goes back to the 1960s. Cross-border cooperation started in the North Calotte region as early as the 1960s, while cooperation within the North West Atlantic region is of later date, from the mid-1980s. Another early initiative was the precursor to State of the Nordic Region, the so-called base project, which involved the collection and presentation of socio-economic statistics at regional and municipal level. Nordplan, which mainly devoted itself to courses for practitioners and post-graduate education, was originally established in 1968 as a Swedish government institution but co-funded by Denmark, Finland and Norway. In 1981 it became a Nordic Institute under Nordic Council of Ministers, which since its founding in 1971 has the overall responsibility for Nordic cooperation on regional policy.

### *Nordic cooperation programmes*

The first Nordic Cooperation Programme on regional development was adopted in 1979. Right from the start, there was a focus on collaboration on both rural and metropolitan issues (Nordiska rådet 1988). Key issues for collaboration on rural issues were ensuring commercial service in sparsely populated areas and initiatives to alleviate the problems of declining mining communities, while urban structural problems and development trends were compared in a so-called metropolitan project. Other big city issues that were early on the agenda were reduced industrial employment, growing housing problems for vulnerable groups and increased segregation between different city districts.

The Nordic Cooperation Programme for Regional Policy was revised for the first time in 1986 (Nordiska ministerrådet 1987). Following the extensive survey of the big city issues in the previous program period, they now chose to focus on dissemination in the form of seminars and conferences. Since the problems of sparsely populated areas were seen as being largely linked to access to workplaces and service, they chose to focus on the communications. Another area under strong growth in the 1980s was the spread of information technology and whether this development posed a threat or increased the opportunities for sparsely populated areas. A third focus area was on the development of small-scale technology for better utilization of local resources.

Across the specific foci on metropolitan areas and sparsely populated areas, research was conducted at NordREFO (Nordic Institute of Regional Policy Research), which was transformed into an independent institution on 1 January 1980. NordREFO's activities during the 1980s focused mainly on the development of regional planning and regional consequences of technical and economic development. Other topical issues that received attention were the imbalances between different

---

<sup>1</sup> Nordregio. Email: kjell.nilsson@nordregio.org

<sup>2</sup> Nordregio. Email: anna.karlsdottir@nordregio.org

<sup>3</sup> Nordregio. Email: karen.refsgaard@nordregio.org

regions, decentralization of decision-taking and the opportunities for society to influence the location of different types of businesses in the future.

In the 1990s, two new cooperation programs were adopted (Nordiska ministerrådet 1990, Nordisk Ministerråd 1995). The focus of NordREFO's research was concentrated on three areas: internationalization, decentralization and environmental issues, which were given a significantly greater role in regional policy cooperation during this period. Environmental issues also became increasingly important for the role of big cities in regional development, which otherwise was absorbed by the strong population growth and growth in the service sector. One issue that was discussed was whether the regional imbalance caused by this growth should lead to measures to slow down urban growth or whether expanding cities should be considered as growth engines for development in neighboring regions.

During the latter part of the 1990s, the relationship with the EU became increasingly important, especially how this would affect the development of the least populated regions in the Nordic countries. On the research side, the important change occurred that Nordregio was formed through a merger of NordREFO, Nordplan and NOGRAN, which was an institution formed on the basis of the aforementioned basic project.

Since 2001, a new Nordic cooperation program for regional policy has been drawn up in principle every four years. The 2000s began with a continued strong focus on the EU and how a Nordic regional policy could find its place in relation to the EU's, not least in view of the new economic instruments in the form of structural funds and Interreg programs that became available. Furthermore, opportunities were seen for a more integrated regional development policy where economic growth and physical planning were coordinated with environmental goals.

In the collaboration program for 2005-2008, two themes were added, which have continued to play a central role in the research carried out in support of Nordic cooperation on regional policy. The first concerns increased knowledge of demographic trends and especially in relation to an aging population, welfare production and the labor market. This was followed up in the cooperation program 2009-2012 with a special Nordic demographic program. The second new area was regional innovation policy and how an active such policy can contribute to increased employment and economic growth.

As of 2009, the implementation of the regional cooperation program has been carried out by working groups with representatives from the countries including Åland, Faroe Islands and Greenland. Rural development, sustainable cities and resilient regions have been common themes of working groups throughout the last three cooperation programs. In addition, during the program periods 2009-2012 and 2013-2016, there was a fourth theme on respectively cross-border regional cooperation and sustainable regional development in the Arctic.

Within rural development, the first two programs were highly concentrated on demography, while the ongoing third program has a broader view with e.g. attractiveness, youth and tourism as priority topics. Within sustainable cities, the first two programs were devoted primarily to the challenges of large cities and, above all, the capital cities, while the ongoing program focuses on small and medium-sized cities. Social sustainability has consistently held a central position with topics such as integration and housing issues, but in recent times the issue of greener cities has also been prioritized. The development towards more innovative and economically robust regions was initially studied on the basis of regional policy, after which the eyes were focused on bioeconomy, industrial clusters and green transition. Green transition is a central theme also in the current program together with smart specialization and needs and supply of skills.

## 2. The papers in the volume

On 12 September 2019 Nordregio in cooperation with the Icelandic Ministry of Transport and Local Governments arranged a seminar in Akureyri, Iceland, on the commission of The Nordic Committee of Senior Officials for Regional Policy. The aim of the seminar was to identify challenges and opportunities for future regional development in the Nordic Region. A further ambition was to create input and inspiration to the upcoming process of developing a new Nordic Cooperation Programme for Regional Policy 2021-2024. The current publication contains the papers presented by six invited authors as well as comments from discussants selected amongst the members of the Committee of Senior Officials and Nordregio's Board of Directors.

The volume contains six papers with associated comments. Please note that the comments are based on a draft version of the papers presented at the seminar in Akureyri and might therefore not always fully reflect the revised final papers.

### *The Nordic Welfare State at crossroads*

**Joakim Palme** made a distinction between the welfare state's arrangements and its outcomes. The equality dimension is important from a normative point of view because the value of equality unites across parties within the Nordic countries. But the Nordic countries are at crossroads – a bit like Alice in Wonderland when she asked the cat which direction to choose. If we are lucky, reform of policy institutions will be based on knowledge of what is working and not working in the welfare relations.

Palme described some achievements of the Nordic model. These include low life-cycle poverty, high employment rate, strong support for social security, good incentives and cost control, high social trust and economic growth. But he also stressed that it is not a miracle but outcome of certain policies – there are lot of gaps, even if creating ideal societies is maybe not a goal, history has shown us that we should not go there. Universalism has served us well so far, but maybe not ahead – there are a range of questions that have emerged as challenging that picture.

The issues that are being put to a stress test in recent world events/trends (oil crisis, globalization, Europeanisation, ageing population, migration and climate change – put pressures on social policy, redistribution of wealth issues, i.e. ageing population means stronger pressure on more tax funded redistribution, social insurance and tax base are being increasingly mobile, Reproduction (care services), Investment and Savings. Different kind of stress tests can be seen in the light of policy responses. He argues that in order to promote political and social sustainability the destructive forces of market competition must be met by constructive policies. The popularity of the Nordic model is linked to efficiency aspects. The extensive social services for children and frail elderly persons in the Nordic countries are contributing substantially to the high labour supply of Nordic women, not least compared to what we find in other European countries. The Nordic model actually protects its citizens and vulnerable groups (Ólafsson et.al eds, 2019). But we can question how sustainability as a newcomer in welfare state taxonomy can be defined in a meaningful way.

As a conclusion, Palme makes the case for an augmented social investment approach as a way forward in addressing long term challenges for a regional perspective.

The paper presents interesting perspectives that also are reflected in the result of the 2019 municipal and regional election in Norway but also other Nordic countries where the social contract between more rural and urban areas seems to be eroding. A result that can be interpreted as a protest result to plans on and implementation of a range of reforms. As a solution Palme conclusion stresses that there are social goals that have to be addressed and economic factors that have to be accounted for if one wants to establish sustainable welfare states (Palme, 2015). Marginalisation of certain groups

threatens cohesion – how do we address that? This makes the question what the role of regional policies could be in dealing with the challenges in the welfare model more urgent.

Regional development as intersectional topic will also evolve around development of skills and conditions for settlement and set the agenda in years to come. Also, social cohesion should be considered in regional development efforts. One thing is certain. Places will continue to change, and the Schumpeterian perspective is valuable. We should not stress to preserve places and companies, we should focus on people.

#### *The sustainable Nordic city of tomorrow is the city we already have*

**Ellen Braae** and **Henriette Steiner** identifies the ecological concerns that face the world, including climate change and resource depletion as the major challenge for a sustainable Nordic city. They also conclude that the same kind of Western industrial culture that has produced the welfare of Nordic cities of today is also what puts them at risk for an ecological crisis.

With this paper Braae and Steiner want to challenge the assumption that Nordic cities will become sustainable through building new sustainable settlements with new advanced technology and densification as an uncontested goal. They argue, as indicated in the title of their paper, that today's city is also the city of tomorrow and that it is always more sustainable to transform existing urban constructions than replacing them with new ones, even though these consume less energy and have a smaller footprint than the previous. In this green transition they see design as an explorative tool and a mediator in dialogues about scenarios for a more sustainable urban future.

Braae and Steiner suggest new ways of inhabiting, appropriating and transforming the city which means involvement of the citizens and working *in medias res* with a high degree of experimentation, for example with new modes of collective living, food production and work-life balance. To achieve this, they propose three policy measures: 1. Revise the notion of the city from a spatially well-defined entity to a regional perspective with various degrees of density and intensity. 2. Cultivate ethics no less than measurable fact and give non-human cultures a stronger voice when considering the trade-offs of certain practices or projects. 3. Establish a *þing* (an assembly or a parliament) for a discussion of the sustainable city of the future where input from philosophy, culture, science and civicism is included.

The two discussants both requested further ideas of concrete measures for mitigation and adaptation to climate change, for example how to prevent urban sprawl and enhance carbon-neutral transport solutions or how to plan and design for an urban environment which is much more robust to rising sea levels, heavy stormwaters and urban heat waves

#### *Rural regions at a crossroads: Policy challenges for the future*

In her paper **Gro Marit Grimsrud** argues that rural development policies of the Nordic Region have been on a downward slope for a long time, and that these policies in particular have failed to make themselves politically relevant in the era of urbanization and climate change. She provides a historic overview of the most relevant development issues and the change of development actors as well as presenting recent trends focusing on the role of the rural and of the rural development policies in the era of climate change with a change from expansion to contraction in space.

Rural policy has very much in Norway, but also to some degree in other Nordic countries, until recently been focused on two pillars; structural policies for people to live and economic policies for businesses to operate in rural areas. The rural areas were seen being economic and cultural resources and development of them as spatial expansion. Responding to processes of modernization



resulting in urbanization and centralization in the 1960s the response was a top-down development policy to ensure regional equivalence. From the 1980s, bottom-up policy processes with increased responsibility for rural development became the norm across Europe implying that regional and local self-governed bodies became important in realising the policy goals. Although having a greater say, also with limited capacity for many small communities to initiate and manage development processes. From the 1990s rural became regional in Norway, Grimsrud argues, which was in alignment with the EU-policies where functional regions are agents for economic activities while the rural areas are being seen as passive places for residing, recreation and living. This is in Finland less the case, here the focus is on cross-sectoral rural policies with local place-based solutions in line with the OECD Rural 3.0 where three types of rural areas are to be considered as explained by one of the discussants.

The marginalization of rural areas is embedded in broader processes of societal change and is a consequence of larger socioeconomic and political processes. Within these, a paradigm shift with climate threat being the overarching trend has changed the perception of and policies for rural development. This shift in priority of policies includes: Less resources for rural and regional policy and higher priority to centralised sectorial policies referring to climate and sustainability, and second that policies being used no longer are legitimate in order to stimulate for spatial expansion due to climate change issues (Knudsen, 2018). This environmental turn, favouring urbanism, is the largest challenge to rural development in the Nordic region Grimsrud argues. The arguments are aligned with those for economic and structural efficiency within sectors such as transportation, education, hospitals, and governmental services delivering welfare services. These economic arguments for centralisation and structural concentration have severe consequences for rural areas. The cities are perceived as arenas for climate solutions where continued growth and compaction should happen while the rural areas are being viewed being costly, non-attractive and environmentally unsustainable implying less public and private spending.

This is in a large contrast to the rural reality where economic activities and attracting people are the main issues. The environmental effects being used and presented are having a one-sided focus on few sectors, especially transport, while the overall consumption account is not taken into consideration which would favour the rural areas. Such a critique is documented in several studies emphasising the lack of a comprehensive consumption analyses, e.g. by Heinonen and Juni (2011). They show that substantially higher carbon emissions seem to be caused in cities than in suburban and rural areas mainly due to the higher income level and related higher consumption and even housing-related emissions. Finally, Grimsrud as well as the two discussants all highlight the human impact eco-spatialism has implied with a “guilt feeling” among rural people also documented by the recent election in Norway with a “rural rebellion” mentioned by a discussant.

Discussants although also presented a more optimistic view looking at the opportunities for rural areas Including putting forward the positive things. These opportunities among other including a green shift in the economy, tourism and innovative ideas for the public sector happening in the Nordic Region and studied in a number of Nordregio projects. Opportunities that show the need for increased focus in rural research on how to manage the resources and ensure added-value and ownership from these activities to the benefit of rural areas.

#### *Green Path Development and Change Agency in Nordic Regions*

**Markku Sotarauta** and his co-authors in their paper bring forward the need for change agency in Nordic regions with implications for place sensitive policies, supportive institutional arrangements

and identification of leverage points in order to ensure green path development. Localities and regions constructing their own understanding have a better chance to succeed than relying on top-down policies or consultants, a point also emphasised by the OECD (2018) in their rural policy. This in turn implies a need to reach beyond policy formation and implementation onto change agency.

The approach by Sotarauta is on institutional entrepreneurship, i.e. which rules of the game are to be changed? The background is earlier studies on cluster development, regional innovation systems and resilience of regions all of which led to focus on what kind of agency is required and who are the main actors. In the research project “Where and how green transition are happening” for transforming and reinventing regions cases in NO, FI, SE and DK were investigated about their upgrading of existing industries and businesses towards greener practices. The results showed how natural endowments and existing industrial specialisations framed path development.

Such regional transformation and path development, Sotarauta and his colleagues argue, call for a trinity of change agency: innovative entrepreneurs, institutional entrepreneurs, who work to change the institutional arrangements and finally place leaders who pool the competencies, powers and resources for collective action. Often, local and regional development authorities play that leading role with assignment to work for their area or region as well as having clear societal pressure to green the economy. The conclusion is that proactive interaction between innovative entrepreneurship, institutional entrepreneurship and place leadership play a decisive role in the green transition. All the researched cases showed that place leaders were in place to direct the greening of economy. These included institutional leaders (being regional with national or international actors in the Nordics) providing change processes with direction and innovative entrepreneurs striving to realise the new opportunities and finally strong local- and regional-level leadership. These ideas are much in line with the Nordregio research on Green Growth (Annala and Teräs, 2017) as well as the Quintuple Helix approach presented in Bryden et al (2017) with the key players in innovation bringing both interests and knowledge to the table.

On the aspects around relevant policies the discussants agree on the agency perspective with the need for a clearer focus on what roles and actors are needed in regional development and how political authorities can contribute to this. In support of regional value chains attracting students and competence building in these areas of green transition may be important instruments. It is however also key to be aware of having resilient green development with legitimate support at all levels as avoiding imbalances between the regions.

#### *Opportunities and Challenges for Nordic Arctic and Subarctic Regions: A Case Study Approach*

**Astrid Ogilvie's** point of departure is the effects of climate change on marine and coastal environments in the Arctic and the complexity of social and ecological interactions are amplifying manifold challenges and address issues such as natural resource management and impact of industrial activities. Ogilvie stresses that the Nordic values that steer Nordic cooperation, i.e. helping the region solidify its position as one of the world's most innovative and competitive with the sustainability development in focus, also needs to include the Arctic (five of eight Arctic nations are within the Nordic Region).

Some of the major transitions in the Arctic relate to urban development, tourism and natural resource extraction (including fisheries). In the paper the transition from harvesting fishery resources and primarily cetaceans (whales) are under the loop through three case studies in three different communities in Iceland (Húsavík), in Greenland (Qeqertarsuaq), and Norway (Skjervøy). These are all coastal communities, highly dependent on marine resources – the case studies serve to gain insight into the challenges, regional policies and potential opportunities these communities are facing and

are thus highly relevant. Ogilvie draws on a NordForsk Center of Excellence in Arctic Research project – ARCPATH.

The climate effects these different places are dealing with are reduced sea ice, glacier area retreat and loss, and shift in movements and location of migrating fish stocks. In Northern Norway climate shifts are causing “Atlantification” of the Arctic Barents Sea. Historic conditions for farming and fishing and for Norway also for forestry have been radically changed. Tourism is sweeping over as the new opportunity and also changing the structural conditions. A case of constructive adaptability and cultural flexibility. Changed fishing practices and boom in marine tourism are becoming the new economic backbone for such coastal communities. They are potentially vulnerable to the health of the environment they exploit, so issues of pollution and overexploitation are key.

The regional policies are not too much highlighted but in the case of Qeqertarsuaq the municipal plans are presented, including emphasis on continued primary industries and developing as a town. In relation to policies there are in ARCPATH identified serious flaws in the design of marine resource governance associated with transferable quotas, due to significant social, economic and ecological externalities that are not sufficiently dealt with in policy design, implementations and assessments. ITQs are panacea solutions to fisheries governance that need to be reviewed due to a range of negative social equity issues as well as lack of flexibility and sophisticated ecosystem understanding. The lack of job opportunities in the fishing sector causes increased rates of outmigration by youth and women, which threatens the resilience of these communities. Ogilvie argues that small scale fisheries in particular (if safeguarded) can provide locally sourced food with reduced food miles, fuel costs and greenhouse gas emissions. These fisheries offer not only flexible use of ecosystem services and diverse employment but also a sense of local fate control, belonging, cultural identity and pride in the community. Responsible development and the resilience of Arctic coastal communities are under a growing stress in the face of the cumulative impacts of changes in climate, increasing exploitation of northern resources and new governance systems that do not necessarily take into account future generations.

#### *Opportunities and challenges for regional development in the North Atlantic Region*

**Snorri Björn Sigurðsson** opens, with Akureyri as an example, by highlighting the positive value that institutions of higher education located outside the principal growth areas can have for young people and their choice of future settlements.

He describes the rural conditions in the North Atlantic region and its recent development concluding their position as being vulnerable. For these areas to be able to grow and prosper national authorities need to ensure proper conditions and policies, for example regarding quality and cost of transport and telecom infrastructure as well as basic services. Solutions are among others to be found in new technologies, i.e. digitalization creating solutions for new service deliveries of different types. Such changes require a reassessment of the public sector and its basic principles particularly with focus on the benefits and costs for both users and providers of the services. Within such a reassessment cross-sectoral collaboration is a key issue, e.g. between the health and the transport sector in order to ensure a holistic view of the impacts for the rural communities.

Sigurðsson presents a dual approach to the linkages between cultural and recreational activities and the resilience of a community. This is in line with a Nordregio study on economic and social resilience (Giacometti and Teräs, 2019) which concluded that adaptability is closely determined by the trust levels amongst regional actors, social cohesion and the human capital available. Sigurðsson also discusses the need for close collaboration between education, industry and the public sector at

different levels with examples from the blue bioeconomy. He also emphasises the need for a better integration of migrant workers in order to create a win-win situation in rural communities with a declining active population.

Another key challenge mentioned by Sigurðsson is the growing concerns connected to ownership and control of land in rural areas, which as well as houses increasingly, are being bought up by foreigners.

### 3. The most important future challenges and opportunities

In our view, and inspired by the papers in this volume, the most important challenges for future regional development in the Nordic Region are:

- While the universal model of the welfare state built on equality and egalitarian norms has served and protected citizens so far, external stressors now have put the Nordic welfare model to a test. These make evident that the Nordic welfare model needs better to adapt to future challenges. One of the challenges is to secure that the three pillars of sustainability are meaningful and adapted to the emerging challenges of an ageing population in mid-term and long-term perspective. In a regional perspective, people need to be in focus if social sustainability should be accomplished. Therefore, skills development, labor market inclusion and the conditions for settlement will set the agenda in years to come.
- Nordic cities are facing primarily two serious challenges for their future development: climate change and segregation. Therefore, there is a need for developing further knowledge and concrete examples of appropriate measures for mitigation as well as adaptation to climate change. For example, how to develop a carbon-neutral urban transportation system. And what do we do with the spaces that will become available for other land-use when private cars are banned from the central parts of all larger cities? And how do we plan and design for an urban environment which is much more robust to rising sea levels, heavy stormwaters and urban heat waves? Furthermore, there is a need for concrete measures to reach social sustainability, e.g. how to tackle the lack of affordable housing for those unable to buy a home on the free market and how to make the cities more inclusive for immigrants, elderly, young children and people with disabilities.
- Research on rural development and policy is particularly needed in the emerging field of climate related policies. This includes investigation of the economic and social consequences for rural areas of re-centralised sectoral policies as well as environmental planning and policies adapted to rural areas. Recent research and policies on local planning and development has been dominated by an urban agenda. Finally, it is important that institutional arrangements are developed that ensure that economic value-added and jobs stays within the rural areas whether in tourism or in new green growth activities.
- Regional transformation and path development call for a trinity of change agency: innovative entrepreneurs, institutional entrepreneurs (who work to change the institutional arrangements) and finally place leaders who pool the competencies, powers and resources for collective action. Often, local and regional development authorities play that leading role with assignment to work for the region and also having clear societal pressure to green the economy. The conclusion is that proactive interaction between innovative entrepreneurship, institutional entrepreneurship and place leadership play a decisive role in the green transition.

- The effects of climate change on marine and coastal environments in the Arctic and the complexity of social and ecological interactions are amplifying manifold challenges and address issues such as natural resource management and impact of industrial activities. Hence it is important to have knowledge of how individual communities to varying extent are affected by this change. Furthermore, ecosystem services and transition of the pillars of the local economy in remote Arctic regions address future challenge in designing adequate sustainable governance models for the benefit of rural communities.

### *References*

Annala, K and Teräs J. 2017. Nordic working group for green growth – innovation and entrepreneurship 2013-2016 Synthesis report. Nordregio Report 2017:2. <http://norden.diva-portal.org/smash/get/diva2:1092495/FULLTEXT01.pdf>

Bryden J, Gezelius SS, Refsgaard K & Sutz J (2017). [Inclusive innovation in the bioeconomy: concepts and directions for research](http://dx.doi.org/10.1080/2157930X.2017.1281209). 7(1):1-16. Published online: 31 Jan 2017  
<http://dx.doi.org/10.1080/2157930X.2017.1281209>

Giacometti A & Teräs J (2019) Building Economic and Social Resilience in the Nordic Regions. Nordregio Policy Brief 2019. DOI: [doi.org/10.30689/R2019:2.1403-2503](https://doi.org/10.30689/R2019:2.1403-2503)

[Knudsen, J.P. \(2017\). Towards a spatial perspective – Norwegian politics at the crossroads, Norsk Geografisk Tidsskrift – Norwegian Journal of Geography, 72 \(2\), 67-81, DOI: 10.1080/00291951.2018.1445125](https://doi.org/10.1080/00291951.2018.1445125)

Nordiska ministerrådet. 1987. Regionalpolitik. Nordiskt samarbetsprogram. NORD 1987:8. København.

Nordiska ministerrådet. 1990. Nordiskt samarbetsprogram för regionalpolitik 1990-1994. NORD 1990:81. Köpenhamn.

Nordiska rådet. 1988. Nordiska rådets verksamhet 1971-1986. Översikt över rådets rekommendationer och yttranden. NORD 1988:78. Graphic Systems, Göteborg.

Nordisk Ministerråd. 1995. Tillväxt och utveckling i Nordens regioner – nordiskt regionalpolitiskt samarbetsprogram 1995-1999. København.

OECD, 2018. Rural 3.0. A framework for rural development. Policy Note. <https://www.oecd.org/cfe/regional-policy/Rural-3.0-Policy-Note.pdf>

Ólafsson, S., Daly, M., Kangas, O., & Palme, J. eds. (2019). Welfare and the Great Recession – A Comparative Study. Oxford: Oxford University Press.

Palme, J. 2015. How sustainable is the Swedish Model? In Marin, B (ed.) the Future of Welfare in Global Europe. Farnham: Ashgate

## *The Nordic Welfare State at crossroads*

*by Joakim Palme<sup>4</sup>*

### *Abstract*

The Nordic model is about the egalitarian values that has guided it, the universalism in the institutions that underpins it and the democratic as well as research based ‘modernization’ process that continues to reform it. Starting with the oil-crisis in the 1970s, the model has been under a sort of permanent stress test coming from neoliberalism, globalization, Europeanisation, ageing populations, migration, climate change, and the Great Recession. The model is further challenged by emerging regional divisions of welfare. I argue that that the social investment approach provides an interesting starting point for addressing immediate concerns and long-term challenges and this also is relevant from a regional perspective. It is about combining economic perspectives with social objectives with the aim to promote a socially sustainable development.

---

<sup>4</sup> Department of Government, Uppsala University. Email: Joakim.palme@statsvet.uu.se

## **Introduction**

In the comparative welfare state literature, modern welfare states are often discussed in terms of regimes or models. This can be a very effective approach in terms of simplifying different patterns of institutional similarities and differences among countries. Here the notion of a Nordic welfare state model is often referred to, which is true for academic as well as policy circles (Palme 1999/2000). There are also a lot of ‘friends’ of the Nordic model across the globe. Even if the Nordic welfare model of today may be less universal, less generous and more conditional than it was twenty years ago, it is still distinct in comparison with other welfare state models on a number of dimensions (Kangas et al 2016). Moreover, the social policy outcomes are more favourable; poverty and inequality rates are lower, income mobility is higher, and gender inequality is lower - just to give a few telling examples (Kangas et al 2017) and this is why the model continues to have friends. However, for anyone interested in the sustainability of the Nordic welfare states the enemies of the model are as important to recognize, listen to and analyse.

In my view, there are good reasons for understanding the Nordic model in at least three different ways: Firstly, the values that underpins it with the concept of equality being of core importance. Secondly, the notion of a model points to the importance of a set of institutions that we associate with these egalitarian outcomes and with the principle of universalism as being a fruitful starting point. It would, however, be a mistake to associate the Nordic welfare state model with a common blueprint or a fixed set of institutions. Instead, a distinguishing feature of the model has been its gradual evolution and stepwise adaptation to changing conditions as well as recognitions of new dimensions of inequality to be dealt with. Here gender inequality serves as a prominent example. Hence, the conditions relating to equality are signified by an elaborate system of benefits and services. The decision-making processes are democratic and often based on research and systematic investigation. This could be called a ‘modernization’ process, and this is my third angle on the model.

How can we understand the nature of the crossroads the Nordic welfare states are facing? I would argue that the current situation at least partly is due to policy failures. These failures are about not responding to new problems but also about ‘non-decisions’ that have led to a sort of ‘drift’ of the welfare state institutions (cf. Streeck and Thelen 2005). The consequences of these changes may be harmful for the model’s ability to reach social objectives as well as for its political sustainability. Part of this complex situation is however related to changes in the international and domestic structures, with varying degrees of political connotations in

terms of what is driving change. These changes appear to be creating difficult policy dilemmas for the Nordic welfare states, and other models too for that matter.

The notion of welfare states being at crossroads reminds us about a passage in Alice in the Wonderland, where she comes to a fork and does not know which way to go. A cat happens to sit there, and Alice asks the cat which way to choose. The cat, in turn, asks Alice where she wants to go, and she replies that she does not know. The cat then tells her that, if she does not know where she wants to go, then it really does not matter which of the paths she chooses. This is an important message for the Nordic welfare states. The choice of policy reforms should be guided by values, a vision – temporary as it may be – of what is a good society.

It is also reasonable to allow the policy choices to be influenced by the international agendas that the Nordic countries have subscribed to and we seem to be living in the century of big agendas. It started around the turn of the millennium with the Millennium Development Goals (MDGs), on the global level, and the Lisbon Agenda, on the European level. These agendas have come to be replaced, in Europe by the E2020 Agenda that is now soon coming to a close and The Social Pillar is sort of taking over. These European Agendas seem to be compatible with a Nordic value orientation to a surprisingly large degree. This is also true for the Sustainable Development Goals (SDGs) that have been put in place by the UN member states to replace the MDGs to guide world development until 2030, all countries alike. I have argued elsewhere (Palme 2012) that there may be a great value with these forward-looking agendas. From a democratic point of view, it is however important that the democratic processes are not inhibited by the long-term vision. We should not reduce the democratic reform work to become a matter of political planning and management. Instead, such agendas should be open for reformulation by future generations.

If the Nordic welfare state model is facing policy dilemmas, how can we envision policy choices that address goal conflicts? Is it possible to find solutions that by good policy design combine different policy instruments to achieve positive sum solutions? What I will ultimately argue in this paper is that the Nordic welfare state model will be eroded unless the egalitarian values we associate it with are matched by adequate policies. This involves raising high enough taxes to sustain true universalism and investment for the future.

### **Permanent stress test**

One way to look at the challenges to the Nordic welfare states over the past four decades is to see it as a series of ‘stress tests’ associated with the concepts of oil-crisis, neoliberalism,



globalization, Europeanisation, ageing populations, migration, climate change, and the Great Recession. While it appears to be advantages with a Nordic kind of welfare state in relation to these threats and challenges, policy changes and reforms are necessary to address them in a sustainable fashion.

The first welfare state ‘crisis’ emerged in the aftermath of the oil crises of the 1970s. The Nordic countries were perhaps less affected than the EU countries by the oil-crises. Unemployment levels were kept low by comparison with the continental European countries. But it was clear the economic crisis had created a crisis also for the welfare state and in 1980 the OECD published *The Welfare State in Crisis* (OECD 1980). This first fundamental crisis was accompanied by the more ideologically critique of the welfare state from a neo-liberal perspective and this critique of the big state was of course especially serious for the Nordic welfare states. The neo-liberal critique was not only about what was a desirable development but also about the economic ‘impossibility’ of the welfare state. The (big) welfare state was impossible from a domestic micro perspective because high taxes eroded the work incentives and from a globalization perspective because it eroded the competitiveness.

## **Globalisation**

Global economic integration continued to reach new levels but the fate of the Nordic countries has evoked particular attention in the globalisation context, which has of course to do with the fact that the Nordic countries not only have had the largest welfare states but also the highest levels of taxation. The view that this welfare state model is a heavy burden to bear and, consequently, will not be sustainable in the future was widely expressed. Why would globalization matter for the Nordic welfare states? Beyond the ideational critique, there are of course factors that put more practical limits to the welfare state in a globalised economy where the tax bases become increasingly mobile. How can the welfare state be funded in such a situation?

This is no trivial question; especially considering that the ageing of populations is putting a stronger pressure on more tax funded redistribution (see below). The global competition from low wage countries is also forcing countries in the rich part of the world to restructure their production. It is obvious that the funding of the welfare state hinges on a successful restructuration. This appears to boil down to the identification of two critical factors for a welfare state of the Nordic type. It can only be sustained if it can offer good incentives for labour supply and if it invests in human capital.

What the Nordic countries achieve in terms of international rankings of competitiveness may suggest that this kind of welfare state model, understood in a broad sense, is actually good for business: Capitalists worry most about their profits. If it is right that the wages are the residual in a globalised economy, then it is enough with competitive profit levels. Capitalists may also worry about social and economic conditions that have repercussions for their ability to extract profits; such as the supply of skilled labour and about social cohesion. Bad social conditions may surface as a threat to the social and economic order.

Another set of questions have been raised in relation to the popularity of the Nordic model and this is more linked to efficiency aspects. This is only partly and indirectly related to questions of competitiveness and globalisation. Well-designed public policy institutions may solve collective action problems and it can also be argued that public institutions may provide private goods to the citizens at a lower cost. It is also beyond doubt that the extensive social services for children and frail elderly persons in the Nordic countries are contributing substantially to the high labour supply of Nordic women, not least compared to what we find in other European countries. The notion of life-long learning has the potential of prolonging the work life, not least for those with highest exits, and this is of course one way of not only lowering the pressure on social spending but also securing the future tax base. These examples illustrate a potential contribution to the resilience of the Nordic model in the light of austerity and tax competition. There is also a general understanding, even if the empirical basis is somewhat unclear, that equality is promoting social cohesion, which in turn is good for business.

An important part of the Nordic model has been the special position with regard to structural change (Kangas and Palme 2005). Historically, this is perhaps most clearly demonstrated by the Swedish case: The so called ‘solidaristic wage policy’, launched by the Swedish Trade Unions Confederations’ (LO) economists Rehn and Meidner in the 1950s. Its purpose was the promotion of the principle of equal pay for equal work in organised wage negotiations, so that inefficient companies, unable to carry the costs, were eliminated. The efficient companies, in reality able to pay even higher wages than they were, made considerable profits. The strategy was then to secure that these profits through different measures were invested in new production and new jobs that would create income opportunities for the laid-off part of the work force. A significant part of this strategy was the active labour market policy, which partly consisted of appropriate education for the unemployed, but also financial support to move to where there were jobs. Simply put, the losers of the structural change would be made

winner, through public investments in education and encouragement to geographic mobility. Until the deep recession of the 1990s, the structural change was generally managed successfully, and full employment was maintained.

It could also be argued that the competitiveness of the Nordic model is linked to the gender equality associated with the Nordic model. It is expressed by the decreased differences in employment rates between women and men, which is a result of a number of interacting factors. The development emanated from the female participation in the educational system and continued through the expansion of the elderly care and child care. It enabled women, who were the primary responsible for children and ageing parents, to combine the responsibility to care with paid work. The improved economic incentives to enter the labour market, which the transition from joint to individual tax entailed, should not be underestimated. Yet without a high demand for labour, both in the private and the public sectors, the new 'dual earner model', which had been crafted in both the tax system and the social policy program, would not have had such noticeable effects. Thus, it showed that it is possible to improve work incentives in mature welfare states and lower the tax burden by broadening the tax base. This would in turn improve the competitiveness.

### **Europeanisation**

The Nordic countries differ in their experience of membership in the European Union (EU) but have in common that they have been exposed to European economic and political integration. There are different potential sources of pressure for changing the Nordic welfare states coming from these integration processes and this involves both direct and indirect effects. The common denominator is that the institutional differences between the Nordic welfare state model, on the one hand, and the other European welfare state models, on the other, is the source for why European integration is a challenge, or even a threat (cf. Tallberg et al 2010).

The Nordic model is commonly compared to the welfare models dominating in some other European countries. It appears justified to talk about a different Nordic model with the following features: Firstly, collective agreements on the labour market include investments in active labour market programs in contrast to labour market regulation either relying on legislative regulations and courts for resolving conflicts or liberal market-oriented regulation. Secondly, a combination of universal entitlements and earnings-related social insurance universally administered for different groups on the labour market in contrast to either state-

corporatist and segmented systems or models involving a lot of targeted benefits. Thirdly, a comprehensive and universal welfare service sector based on decentralized administration and financing; in contrast to insurance based or means-tested systems (or a combination of both.). Fourthly, a family policy model organized to support two-earner households in contrast to family policies based either on the male-breadwinner model or a market orientated model with very modest state support (at best).

The direct mechanisms of Europeanisation constitute formal demands from EU in the form of treaty decisions, directives and regulations on the economic or social area, influencing welfare policies, where the EU commission has an important role as proposition maker and the European Court of Justice as an interpreter of the common rules. These direct mechanisms occur in areas where EU has an exclusive or divided competence, like competition policies, internal market and social policy regarding the coordination of the social insurance systems for migrant workers. The indirect mechanisms contain the spreading of ideas, comparing and learning within Europe. These indirect mechanisms appear in areas where competence still remains on the national level, like family policy, taxes and social insurance benefits, or where EU only is supposed to support national measures, like in employment activation policy.

Becoming a Member State of the European Union meant that not only Denmark but also Finland and Sweden gained access to central decision making positions with significant opportunities to influence policy (Tallberg et al 2010): The Lisbon Agenda, the EU2020 Agenda and the Social Pillar could partly be interpreted as a result of the Nordic presence in Brussels and an ‘up-loading’ of the Nordic model.

It cannot be denied that there is internal tension in the construction of EU. Here it is motivated to give attention to the EU regulation that is designed to protect the migrating labour force and the asymmetry in the way that the Member States finance and give entitlements in their different social protection programs. As long as the asymmetry remains there will be political tensions (Ruhs and Palme 2018).

Is it possible to create more developed voluntary cooperation or is more supra-nationalism demanded in order to ease the tensions? The corporate tax is an example of supra-nationalism as an alternative to voluntary cooperation, but is it always a successful solution and is it desirable? One additional future question concerns the demands for more regulations, in the wake of the global financial crisis, possibly initiating more powerful measures on the EU level, such as a common unemployment insurance component. In the end, the future effects of

EU is a political issue involving both the political actors on the EU level, as well as in the individual Member States.

### **Ageing populations and the future tax base**

During coming decades, the rapid ageing of the population will bring about demands to increase income transfers and social services targeted at the greying population. The concept of a ‘sustainability deficit’ is a device to evaluate the severity of these demands by estimating the ability of a welfare state to maintain its current social policy programmes and other policies for the future. On the basis of these estimates, it is possible to forecast what the needs are for long-term tax increases or benefit cuts, in order to maintain government solvency (providing that no policy changes are made). The size of the required adjustment is usually indicated as a percentage of the GDP. Despite all the uncertainties linked to such long-term prognoses, they give a hint about the magnitude of the reforms required to reconcile projected revenues with expenditures. The concept of the sustainability deficit has been an effective weapon in the post-2008 political discourse in Finland. It has been used successfully to justify austerity measures and to cut down on public spending (Kangas, Palme and Kainu 2017).

Among the Nordic countries, there are very important regional aspects of the ageing question. This has to do with the fact that the differences among regions and municipalities within the Nordic countries are projected to increase. The model is further challenged by emerging regional divisions of welfare. On top of that, the importance of local taxes as a strategy of funding the provisioning of welfare services that have a strong aging component in them is likely to put a squeeze on many municipalities unless new forms of solidaristic cost sharing are introduced. Yet it is not enough to deal with these challenges just with compensatory measures. To pave the way for a more sustainable development in all regions it is important apply a more forward looking, intersectoral and investment-oriented approach. The distribution of skills appears to be of critical importance in this context.

### **Migration**

Gary Freeman’s (1986) claim that the welfare state is incompatible with migration has influenced many observers of this relationship. This strongly speaks to the Nordic experience. Here the welfare state emerged and expanded during a political period when populations were homogenous and migration was kept low, at least migration from outside the Nordic countries. At the same time, the labour markets within the Nordic sphere were opened after

World War II, stepwise including more and more countries. This coincided with most expansionary period in the history of the Nordic welfare state with little conflict and presumably strong economic benefits.

The situation now is of course different. The Nordic countries all experienced reasonably massive asylum related immigration, some more than others. All the Nordic countries also subscribe to the 'free movement' system of the EU/EEA economic area regardless of EU membership or not. The enlargement of the EU in 2004 and subsequent years (Bulgaria and Romania) has not been without tensions and this is not an exclusive phenomenon for the Nordic countries. The strongest tensions do however seem to be related to refugee migration. This includes discussion of the implication for the generous Nordic welfare state model both in terms of the economic burden and the political support of it.

### **Climate change**

Climate change is of course not only a challenge for the Nordic welfare states. It could even be argued that dealing with climate change in policy making is even less of a problem for the Nordic countries. One reason for this is that more egalitarian societies have an easier task in implementing carbon taxes because such taxes will not immediately create energy poverty in more in-egalitarian countries (Sommestad 2012). The protests of the so-called yellow vests in France can serve as a recent example of this. This suggests that it is not a coincidence that the Nordic countries tend to be forerunners when it comes to green taxes.

However, more policies and interventions are needed to be able to turn things around with the emissions. How far is it possible to go with taxation without provoking a strong political backlash? What is a realistic agenda concerning preventive measures from the social policy side that can help sustain political support for climate related policies?

### **The Great Recession**

The Great Recession can indeed be seen as a stress test for the welfare state. Also, in a global perspective, even if the financial part of it was very much of a European story. The Nordic countries were affected too, particularly Iceland. A recently published book (Olafsson et al 2019) can be seen as an attempt to see what we could learn from this test. From a Nordic perspective it can be concluded that a generous welfare state actually works in terms of protecting the residents and this includes typically vulnerable groups. High employment rates in combination with adequate unemployment insurance is a good recipe for protecting people

by insuring them. The Icelandic case also illustrates that it is possible to make policy priorities to improve the protection of vulnerable groups in the midst of the crisis.

Another important lessons from the Great Recession are that, firstly, domestic demand levels are of critical importance for counterbalancing external shocks, and, secondly, if public finances are in good shape this leaves room for responding to such shocks. The Swedish experience illustrates how different policy paradigms over time have informed and inspired policymakers to pursue very diverse kinds of policies (Olafsson et al 2019). This is true for Keynesian support of welfare state expansion and the Schumpeterian inspiration to the Active Labour Market Policies. The Swedish policy responses to two recent crises, the one in the 1990s and the Great Recession, illustrate some of the tensions between different paradigms but also how different kinds of paradigms can be combined to include policy instruments aimed at supply *and* demand as well as egalitarian human capital investment. This urges us to consider how social sciences can inform the design of good, possibly synthesized, policy paradigms in the aftermath of the Great Recession.

### **Sustainability and future of the Nordic Model**

The concept of sustainability is a newcomer in the welfare state taxonomy, and we are still struggling to make sense out of it in a more systematic fashion. Intuitively, it sounds as a desirable feature of societies and therefore it is important to extend the use of the concept to other domains than the ecological ones. To organize political, economic and social institutions in ways that respond to the needs and demands of present generations without infringing on the possibilities of future generations to meet their needs sounds not only attractive but also necessary in relation to the fact that without that it may be difficult to orchestrate societal reforms that would help ecological sustainability.

But how can we define social sustainability in a meaningful way? I would argue that it is ultimately about both the living conditions of individuals and what happens on the societal level. From an individual perspective it is fruitful to apply a life course approach and to think about conditions and policies that can help sustain favourable life courses for all members of society, leaving no one behind. From a societal perspective it is important to identify factors that can sustain our Nordic way of transferring resources across generations and different risk groups. It can be argued that human capital investments and a stable population development are critical factors in ageing societies, including the Nordic countries, which makes falling education investment as well as birth rates problematic (Lindh and Palme 2006). This

highlights a generational perspective on sustainability and here there is evidence to suggest that it is favourable for societies to have a “balanced generational welfare contract”. Treating different generations (age groups) in an equal way appear to foster collaboration and reduce distributional conflicts (Birnbaum et al 2017)

Another useful guideline of policy choices at the crossroads regards the institutional aspects of sustainability. I would argue that the Open Method of Coordination (OMC) which was initiated as a process that would make it possible for the Member States of the EU to achieve the goals of the Lisbon Agenda. The first chapter of the Lisbon strategy was about employment and the fourth chapter about social inclusion. A common feature was the focus on the individuals and their employment and social inclusion. Indicators on the country level were developed by aggregations of individual characteristics. Chapters 2 and 3 in the OMC are systemic and focus on pensions and health care. The last chapter was again about the conditions of individuals and households with a focus on social inclusion. It would be an advantage if The Social Pillar could be a framework for focusing on both systemic and individual aspects of sustainability.

The message is that there are social goals that have to be addressed and economic factors that have to be accounted for if one wants to establish sustainable welfare states (Palme 2015) and this likely to be true in a regional perspective too. This about creating sound economic incentive structures and in the Nordic model this is done by rewarding labour supply with earnings-related benefits and avoiding both very high marginal tax rates and creating poverty traps by relying on universal instead of means-tested benefits. That is not likely to be enough, though. The political sustainability of social policy institutions is also an important dimension that should be recognized. How can the political support to welfare state institutions be sustained over time? Two important but different aspects warrant our attention. The first is self-interest, any policy that does not speak to the self-interest of a majority of the electorate stands on a shaky ground in a democracy. This notwithstanding, we should also recognize that there are normative reasons behind the popular support to welfare state policies. This may have to do with the processes; that the institutions are based on principles that the electorate value (for example universalism, cf. Béland et al 2014), it may also have to do with the outcomes of the policies (for example successful poverty reduction). Combining all three principles sounds like a recipe for success in terms of the politics of the welfare state and this should count equally for regional policies.



## **Conclusion: A case for an augmented social investment approach**

The Nordic welfare states are evidently facing a number of challenges that are increasing the potential burden on the funding of (as well as difficulties to man) their elaborate system of benefits and services. At the same time as there are structural and political changes that put restrictions on what can be done ranging from how much taxes can be raised to how benefits are awarded due to supranational regulations. In addition to that, there are severe problems caused by the failure to uphold the political economy of the welfare state model (i.e. to sustain political majorities that have a self-interest in supporting the system).

It further appears warranted to ask: who are the worst enemies to the Nordic model? I suggest that one group is made up of those who fail to see that it is desirable and probably necessary to go beyond redistribution when reforming not only social policies but also regional policies. Another, very different group, is made up of those who fail to see that it is desirable with massive investment in human capital and invest in a socially desirable way and it is evident that there is strong regional aspect to this. A common feature of these two sorts of enemies is that they both support a Nordic model on the rhetorical level.

What can be done to address these different sets of real challenges? Designing good policies may be a more complicated issue than ever before. Then on the other hand, we should today be better prepared than ever, which should make it possible for us to act more wisely. This is important if we want to stay true to our values in a sustainable way. In what follows, I will argue that the social investment approach provides an interesting starting point in terms of addressing immediate concerns and long-term challenges also from a regional perspective.

The concept of social investment was launched as a strategy to reconcile the goals of employment, growth, and social inclusion (Morel et al 2012). It has however been criticized for not achieving its intended distributional consequences, particularly with regard to the ambition to simultaneously increase employment and decrease poverty. The concept of social investment has gained further traction at the EU level, manifested among other things in the EU2020 Agenda, and eventually in the launching of the Social Investment Package (SIP) in 2013. It has also influenced the so-called European Semester that monitors the economic development and vulnerabilities of the EU Member States. I would argue that this kind of social and economic monitoring that takes place on a European level also could be applied when it comes to regional development within countries.

The critique of social investment relates to two different versions of the social investment approach identified in the literature: the Nordic approach and the ‘Third Way’. They differ in their understanding of what constitutes productive and unproductive social expenditures, the roles they ascribe to social policy and to civil society actors, their view of equality, and how they strike a balance between rights and responsibilities.

I argue that the trade-off can be mitigated to the extent that investments in human capital and in universal education systems, combined with targeted ALMP (Active Labour Market Policies), succeed in raising productivity in the lower end of the wage distribution. This depends on the degree of wage compression, in particular entry-level wages. The distinction between the Nordic approach and the Third Way approach to social investment is important to bear in mind when assessing the critiques directed at the social investment perspective, especially with respect to the complementarity between social investments and social protection for promoting high employment and low poverty (Morel et al 2012). Another point that deserves to be emphasized is the role of wage-bargaining institutions and adequate minimum wages, which appear to have been largely neglected in previous literature on social investments (Cronert and Palme 2019). Sweden has seen a clear recasting of its social and labour-market policy portfolio. Policies to promote labour-force participation and to incentivise labour supply - such as child-care and elderly-care services, employment assistance programs, benefit sanctions, and the Earned Income Tax Credits (*Jobbskatteavdrag*) - have been expanded, whereas the human capital investment content of the policy portfolio has been diluted and the social protection systems for the working-age population have been weakened. This can best be described as a movement away from the Nordic social investment approach that identified Sweden in the post-war era, toward a Third Way approach to social investment. There appear to be better alternative policy choices.

### **Acknowledgements**

I would like to thank Katarina Fellman, Gerd Slinning and Kjell Nilsson for valuable comments on a draft version of this paper.

### **References**

Béland, D., Blomqvist, P., Goul Andersen, J., Palme, J. and Waddan, A. (2014). The Universal Decline of Universality? Social Policy Change in Canada, Denmark, Sweden, and the United Kingdom. *Social Policy and Administration* 48, 739-56.

- Birnbaum, S., Ferrarini, T., Nelson, K. and Palme, J. (2017). *The Generational Welfare Contract: Institutions, Politics and Outcomes*. Cheltenham: Edward Elgar.
- Cronert, A. and Palme, J. (2019). Social Investment at Crossroads: ‘The Third Way’ or ‘The Enlightened Path’ Forward? In *Improving Poverty Reduction in Europe*, edited by Bea Cantillon, Tim Goedemé, and John Hills. Oxford: Oxford University Press.
- Freeman, G. (1986) Migration and the Political Economy of the Welfare State. *Annals of the American Academy of Political and Social Science* 485: 51-63.
- Kangas, O. and Palme, J. (Eds.). (2005). *Social Policy and Economic Development in the Nordic Countries*. Basingstoke: Palgrave.
- Kangas, O., Palme, J. and Kainu, M. (2016). Den Nordiske Velferdsstatsmodell. In *Det norske samfunn*, 7. utgave. Oslo: Gyldendal.
- Kangas, O., Palme, J. and Kainu, M. (2017). Multifaceted roles of the social investment state in compensating, accumulating and multiplying endowments over the life cycle. In *Social Inequality across the Generations: The Role of Resource Compensation and Multiplication in Resource Accumulation*, edited by Jani Erola and Elina Kilpi-Jakonen. Cheltenham: Edward Elgar.
- Lindh, T. and Palme, J. (Eds.) (2006). *Sustainable Policies in an Ageing Europe*. Stockholm: Institute for Futures Studies, Research Report Series, Society and the Future No. 3.
- Morel, N., Palier, B. and Palme, J. (Eds.). (2012). *Towards a Social Investment Welfare State? Ideas Policies and challenges*. Bristol: Policy Press.
- OECD. (1980). *The Welfare State in Crisis*. Paris: OECD.
- Olafsson, S., Daly, M., Kangas, O. and Palme, J. (Eds.). (2019). *Welfare and the Great Recession A Comparative Study*. Oxford: Oxford University Press.
- Palme, J. (1999/2000). *The Nordic model and the modernisation of social protection in Europe*. Copenhagen: The Nordic Council of Ministers.
- Palme, J. (2012). ‘Den nordiske velfærdsstat og globalisering. Sverige som eksempel.’ *Økonomi & Politik* 85(4): December.
- Palme, J. 2015. How Sustainable is the Swedish Model? In *The Future of Welfare in Global Europe*, edited by Bernd Marin. Farnham: Ashgate.

Ruhs, M. and Palme, J. (2018). Institutional contexts of political conflicts around free movement in the European Union: A theoretical analysis. *Journal of European Public Policy* 25 (10), 1480-1500.

Sommestad, L. (2012) Climate policy and the social investment approach: towards a European model for sustainable development. In *Towards a Social Investment Welfare State? Ideas, Policies and Challenges*, edited by N. Morel, B. Palier, and J. Palme. Bristol: Policy Press.

Streeck, Wolfgang and Kathleen Thelen (eds.) (2005). *Beyond Continuity. Institutional Change in Advanced Political Economies*. New York: Oxford University Press.

Tallberg, J., Aylott, N., Bergström, C-F., Casula Vifell, Å. and Palme, J. (2010). *Europeiseringen av Sverige*. (Demokratirådets rapport.) Stockholm: SNS Förlag.

The paper covers interesting and very relevant perspectives on the challenges and the development of the Nordic welfare state. Palme argues that the Nordic welfare state model will be eroded unless the egalitarian values we associate it with are matched by adequate policies. The revision of the policies that support a modern welfare state must meet the national and international challenges of tomorrow.

The paper presents the challenges and the sustainability of the Nordic welfare states as a series of “stress tests”. Some of the challenges of the stress tests rather represent international mega trends, such as the concepts of oil crises, neoliberalism, globalization, Europeanisation, ageing populations, migration, climate change, and the Great Recession.

These few comments will focus on the regional perspective of the crossroads of the Nordic welfare state. What are the implications for the activities in our Nordic regions and what do the big agendas, or trends, mean for the future of regional policy?

Regional policy is by tradition intersectoral, a good starting point for combining policy instruments to promote the welfare model.

As pointed out in Palme’s paper, policy reforms should be guided by values, a vision of what is a good society. Discussing the sustainable development, the Nordic welfare model is a core condition concerning the social dimension of the sustainable development goals.

Another framework for the social sustainable development is that of the institutions and the trust in them, preconditions that should be pointed out as main resources for the regional development, for both the public sector and the business sector in the Nordic region. These are also a part of Palme’s argumentation. The trust in the institutions in the Nordic countries is so strong that we who live in the Nordic seem to prefer to trust our institutions ahead of our own families, when getting older for instance.

The article highlights *globalisation, Europeanisation, aging population, migration, climate change and the great recession* as challenges for the development of the Nordic welfare state. What do these trends imply to Nordic geography?

Globalisation, aging population, migration and the climate change are all of vast importance for the labour market in our regions and will set the agenda under the years to come. In the context of the Nordic cooperation programme for regional development, labour market conditions, employability and skills development could be further explored during the programming process - both from a rural development and from a smart business development perspective. Facilitating cross border working and employment is of significant relevance for the Nordic cooperation in general, and for the labour

---

<sup>5</sup> ÅSUB Statistics and Research Åland. Email: Katarina.fellman@asub.ax

market in the Nordic regions in particular. The implications of climate change on the regions are discussed in other papers of the seminar.

Regarding the labour market, the focus within regional policy is not the traditional labour market efforts, but rather education and training for a skilled work force to meet the competition of the new economic areas, such as Asia and Africa, where the advanced knowledge intensive business development in the frontline take place. The economy and society of tomorrow need lifelong learning and renewing of capabilities. Furthermore, skill development as a part of the personnel policy will be needed to attract qualified migrants as the population in the Nordic regions is aging. In addition, an including perspective of employment is required to avoid growing social gaps within our countries, for example social gaps in geography, generations, nationalities or in any other division.

The labour market also comprises new forms of employment, like making business via automation and digitalisation, which create noteworthy options in all Nordic regions, not least in the more peripheral regions. The technical development should be regarded as an opportunity that opens up new markets and opportunities rather than considering the development as a threat.

Globalisation, aging population, migration and the climate change are all of vital importance for the labour market, the development of skills, the settlements for the living and working and the demand for service and welfare in our regions. These challenges will set the agenda under the years to come.

These trends set the conditions not only for the more peripheral regions, but for the urban areas and city regions, as well. Social cohesion is important for the social stability and should be considered when planning for the future of Nordic regions. And, as stated in the paper, equality is one of the main recourses in the Nordic societies.

The tax base, that in the paper is stressed as one of the main critical prerequisites, is naturally vital to the financing of the welfare state and the regional policy. However, focusing on the regional perspective, the implications of the megatrends on the resilience of the Nordic regions, and hence the people living in the Nordic counties, should be the hub of our activities within regional policy for the next few years.

Thank you for an interesting and inspiring presentation and paper. Particularly interesting compared to the result of the local (and regional) elections in Norway last Monday, which was considered a rural "rebellion" by many. The Government has introduced many reforms over the past few years. Several of the reforms are in themselves well justified, for example, the municipal reform. Reducing the number of municipalities is necessary to ensure that municipalities will be able to respond to forthcoming challenges, particularly in providing services, and integrating common housing and labour markets with administrative borders to make more functional units and has been needed for a long time. In addition, there has been a police reform, a university and college reform, as well as a regional reform. Change is strenuous. The combination of all the ongoing reforms may have been too much for the skeptics, turning them into outright critics.

Politicians should be able to make unpopular decisions when necessary, but perhaps they should not make too many decisions if they strike the same people or region every time. And in Norway, remote municipalities or rural areas are impaired by the reforms, resulting in a rural "rebellion".

### **Welfare state**

- I think the paper highlights several important issues to take forward in the future cooperation program. Particularly how the Nordic welfare states share similar challenges based particularly on demographic forecasts and the sustainability of the welfare model.
- It inspires further Nordic comparisons, as our countries are affected differently by international economic development and at different times.
- It is however important to make this relevant to regional policy development
  - How do these issues challenge the intervention logic of regional policy across the Nordic countries?
  - What could be the role of regional policy in dealing with the challenges of the Nordic welfare model?
- Inspired by this paper, I think the concept of social resilience could be further explored, and related to growing concerns that marginalisation of certain population groups threatens national cohesion across the Nordic countries for example geographically differences or different socially groups.

---

<sup>6</sup> Department of Regional Development, Norwegian Ministry of Local Government and Modernisation. Email: [gerd.slinning@kmd.dep.no](mailto:gerd.slinning@kmd.dep.no)

## **The Sustainable Nordic City of Tomorrow Is the City We Already Have**

By Ellen Braae<sup>7</sup> and Henriette Steiner<sup>8</sup>

### **Abstract**

Nordic cities have experienced relative political stability, economic prosperity, and a successful transition to post-industrialism, and are considered good places to live. But with the mounting threats of climate change and resource depletion, we can say that the Western industrial culture that produced the Nordic cities is also precisely what is putting them at risk today. We therefore invite you to consider a straightforward answer to the question of what the sustainable Nordic city of tomorrow might be: *the sustainable Nordic city of tomorrow is the city we already have*. It will be a city that continuously vacillates between past, present, and future versions of itself, between unsustainability and sustainability, nature and culture, human and non-human. Our challenge is to make visible and interpret these different and differentiated relationships, and to conjoin them by including a wider range of participants in the discussion.

### **Keywords**

Industrial culture, welfare society, social and environmental justice, relational situatedness.

---

<sup>7</sup> Section for Landscape Architecture and Planning, University of Copenhagen. Email: embra@ign.ku.dk

<sup>8</sup> Section for Landscape Architecture and Planning, University of Copenhagen. Email: hst@ign.ku.dk



## The Sustainable Nordic City of Tomorrow Is the City We Already Have

### 1. Introduction

Look at this rendering of the artificial island of Lynetteholmen, to be built amid the waters of Copenhagen's harbour (Figure 1) (Lynetteholmen n.d.). Might this be an impression of the sustainable Nordic city of tomorrow? It offers an optimistic vision where sustainable architecture and dense urban planning have become the guiding parameters of a brighter and better future, with the new island forming a protective shield to guard Copenhagen's inner city against the rising sea. Housing an estimated 35,000 inhabitants, and complete with the new infrastructure of a tunnel beneath the harbour to solve the inner city's congestion problems, the island of Lynetteholmen is a beautiful and powerful idea. But is it fair to propose to sell off newly created land to finance the construction of a road tunnel, a highly inflexible infrastructural measure that is likely to affect local marine life? Can we label the island *sustainable* simply because its architecture might consume less energy and have a smaller footprint than previous projects, given that it will be built from scratch with top-notch new materials, and will densify Copenhagen without demolishing existing structures? Indeed, is constructing a massive habitable dike the best solution to the problem of rising sea levels? If so, what are the costs? Building a whole new urban island as a city-within-the-city will certainly mean a lot of extra energy consumption, and will have unpredictable side effects on local ecological, biological, and social conditions – complex conditions over which we have little overview or control.

In this paper we would like to challenge the assumption that the Nordic cities of the future will become sustainable through grand building schemes guided by sustainability as a measurable technological effect, and with urban densification per se as an uncontested goal. As a scheme, Lynetteholmen reeks of utopian clean-slate visions, a wild dream that promises an alternative to existing cities. We doubt, though, whether it can provide an all-encompassing vision of a better future for everyone – despite the fact that it may create a pleasant urban living environment for some, has the potential to generate wealth out of nothing, and suggests a strategy for further densifying an already dense urban area. Instead of dreaming a dream of newness, however, we argue that the sustainable Nordic city of tomorrow will inevitably be largely identical to the Nordic city of today. We suggest that this city is full of inherent contradictions and tensions, and that it will always be both sustainable and unsustainable at the same time. The aim is therefore **to work with what is already there** (Braae 2015), and **to take into account other kinds of knowledge (from history, philosophy, biology, and ecology, and from citizens as well as practitioners)**. In this way, it will become possible to reflect the highly complex and differentiated relationships among the material, ecological, biological, and human concerns that together propel the city towards sustainability or unsustainability. This

understanding recasts the notion of sustainability as a question of concrete and situated relationships, and it requires us to reflect on the fragility and constant processual reordering of those relationships. It entails a vision of a future that will never be a linear progression into better times, but will always be fraught with tensions, anxieties, uncertainties, and unexpected events and circumstances, and will long bear the lingering burden of our shared and fundamentally unsustainable recent past. The task for policymakers is to understand these challenges and tensions, and to take different knowledges and citizen power into account, in order to understand the **socio-economic and ecological trade-offs** involved in any vision of change (Gulsrud and Steiner 2019).

Let us now give some background information to support these claims. First, we outline how Nordic cities – for all their advantages and good intentions – were born out of a highly successful yet fundamentally unsustainable Western industrial culture. We then discuss that culture’s bearing on dominant ideas about the welfare society, which coincided with the period after the Second World War, when Nordic cities experienced their greatest growth in quantitative terms. Finally, we make some concrete recommendations regarding how to deal with the predicament we outline, and we explain that this predicament requires philosophical reflection as much as responses from praxis.

## **2. From the past to the present: The Nordic city and Western industrial culture**

Take a look at this map of one Nordic city, Copenhagen (Figure 2). The map shows the city’s gradual expansion over time from the early nineteenth century onwards. It is emblematic of the way the Nordic countries **transitioned into industrial culture during the nineteenth and twentieth centuries**. This transition entailed a massive restructuring of the urban fabric of many Nordic cities, and a shift from rural to industrial economies in most Nordic areas. Notably, this form of city- and society-building came with a world view where **humans mastered nature and took advantage of its resources** (Williams 1980, pp. 67–85; Tsing 2015). It therefore reflected a particular hierarchy that had dominated Western culture since early modernity: some humans stood at the top of a pyramid, while other species (and even some other people(s)), and the material and vegetal riches of the earth, were for their use and to disposal. Often, when we think of the history of modern society, we think of the metropolises of the late nineteenth and early twentieth centuries; the different shades of blue on the map indicate the metropolitan parts of Copenhagen in this sense (Figure 2). The metropolises were furnished with boulevards and large parks, as well as residential neighbourhoods for the bourgeoisie and the factory workers. But if we look at the city of Copenhagen today, we see that only a fraction of its architecture stems from the period of the early metropolis. In quantitative terms, most of Copenhagen’s built fabric is the product of post-war modern industrial culture; this includes all the structures you see in yellow, orange, and red on the map. So, if an exploitative relationship with the

surrounding context is part of what that culture's success and values were built upon, we have to consider how to deal with that double bind: a future with no unsustainability would contradict the central workings of the existing Nordic city. We may argue alongside British archaeologist Ian Hodder (2014) that this situation builds an entrapment: the Nordic city embodies a particular cultural understanding of the material context, but that very understanding is responsible for the city's current challenges regarding sustainability.

In the twentieth century, the Nordic countries underwent various social reforms in response to this societal form's growing problems and injustices, which were often described as *urban* problems (Mumford 2000). Moreover, the desire to solve these problems by restraining the forces of capitalist development was accompanied by a growing awareness of the ecological toils that industrial production forms accrued, leading to influential ecological movements and policies in the Nordic countries (Jørgensen et al. 2013). We also see an imprint of this on the map (Figure 2), which reveals that the city of Copenhagen adheres to the modern planning principles epitomized by the famous "finger plan" of Copenhagen from 1947: simply imagine that the white triangular areas between the suburban fingers that stretch from the palm of the hand covering the inner city are the green wedges that separate the different infrastructural and built-up corridors of greater Copenhagen. This means, of course, that the white on the map is not white, but green – and the further away from the city centre you get, the more this white area reflects agricultural production, producing highly cultivated shades of green, brown, and yellow, depending on the time of year. Thus, the city is large, and largely flat; its architectural and infrastructural development is absolutely vast, and well connected with other urban densities outside Copenhagen proper. Overall, this map therefore portrays an urbanity comprising different degrees of intensity of built-up fabric – but no part should be seen in isolation from any other. Moreover, we can gather from the map that Copenhagen also adheres to the modern urban principle of **function segregation**, and its residents rely on **transport** (and hence fossil fuels), as well as on a distant **agricultural hinterland** of industrialized food production (Jensen 2010). Yet, many **modern Nordic values and policies – even the "finger plan" itself – are also a reaction to modernization** and entail a wish to restrain capitalist forces and protect people and the environment from exploitation (Borges et al. 2017). Nordic cities therefore carry **the promise of a sustainable future** that has resistance to industrial culture embedded in it, even as these cities embody that very culture.

Seen on this larger scale, the project discussed above to build a large new island in Copenhagen's harbour seems like a single drop in a vast ocean of built-up urban stuff. As a sparkling clean-slate vision, moreover, it might even distract us from the greater question of how we can best embed the

material heritage of industrial culture into planning today. Our argument is that we need to consider the vast economies of scale in the architectural culture of the modern Nordic cities we already have, and to **resist the temptation to spend our energy trying to construct new ‘ideal’ versions** of them. Before we return to this question of how to approach material heritage in more concrete terms, let us turn for a moment to the tensions and contradictions that arise from the influential post-war period of welfare state politics – and the huge impact these policies have had on the establishment of the stretched-out kind of city seen on the map.

### **3. Welfare and sustainability: Considering material/human relationships in a wider sense**

Nordic countries’ welfare state policies **materialized principles** of democracy, equal opportunity, and well-being in urban planning and architecture – for example, by building schools, hospitals, infrastructures, and housing on the incredibly large scale we have just glimpsed on the map of Copenhagen (Figure 2). This happened over a very short period of time, with a speed that was only possible thanks to highly industrialized building techniques and practices. Look at this aerial photograph of a part of Albertslund Syd housing estate, situated to the south-west of Copenhagen (Figure 3). Built in only five years (1963–1968), but accommodating around 5,000 people, the houses were built from prefabricated elements, and everything was standardized to meet the requirements of modern family living: each family separate in its own home, yet all brought together in a sea of architectural sameness, and in close proximity to green areas as well as urban infrastructures, industry, and public institutions. This was an attempt to use public planning principles that were **democratic but also top-down and centralized**, and which meant that while the welfare state architecture provided well-being for all, the health and well-being of humans generally stood over and against that of other species and ecological processes (Braae and Steiner 2019). Indeed, the Nordic welfare city was intended to free humankind from the burden of nature (Braae 2017). The welfare society’s large swaths of architecture, institutions, and infrastructure are thus marked by important ideas about social justice, but also by the aim to give everyone access to the material prosperity of modern culture. The good life for the citizens of the welfare state therefore came with certain costs to others. Of course, we are not making a plea for ontological differentiation, placing the concerns of humans and human culture on a par with everything else (Steiner 2018). But we do make the plea that the relationships between humans, others, and the other, and the consequences particular choices may have, should always be considered in the planning process.

To bring welfare, inclusivity, and democratic planning principles into alignment with today’s ecological crisis, we therefore argue that **a broader ethical framework** needs to be employed, in a way that concerns not just human-centric forms of justice but also other forms – for example,

environmental justice. Hence, **a wide range of knowledge from fields such as biology, geography, ecology, philosophy, and history needs to be employed in the planning process.** The question now is: how do we decide which relationships are most important, and how do we prioritize among the inevitable socio-economic and ecological trade-offs involved in any architectural and planning proposition?

#### **4. Conclusion: The past, present and future of the Nordic city**

To sum up: We live in times of great prosperity, political stability, and opportunity in the Nordic countries. We have great cities that are well known and widely sought-after because they are clean, green, well structured, and good places to live, reflecting the values of social justice and high-quality urban planning traditions (Borges et al. 2017). And yet, we anxiously feel various crises encroach on us, and this poses different challenges for cities and their inhabitants. We remember the financial crisis of 2008, but also the refugee crisis that peaked in 2015; and we may think of the ongoing Brexit negotiations as a sign of the endlessly resurfacing of crises today (Steiner and Veel 2020). This sense of perpetual, latent crisis, we argue, is evident above all in the ecological crisis of which climate change is one aspect – a crisis we feel very concretely when extreme and changing weather conditions hit the cool, temperate Nordic countries and the cold Arctic regions. The weather is becoming hotter, wetter, and drier all at once. This requires urgent responses and changes to the urban fabric in the future to ensure that our cellars and roads will not flood when heavy rain falls or when the sea rises, and so that we can continue to grow crops, flowers, trees, and grasses across the region.

We appreciate that the desire to build more resilient and sustainable cities to alleviate these problems is a way to cope with this situation; but we listen very attentively whenever these visions are formulated in such a way that they simultaneously suggest propelling us into an even cleaner and greener new future. We need to foreground the tensions between various values, and to negotiate with them within each specific place, acknowledging their mutual differences. We therefore suggest a notion of sustainability that situates us as humans in relationships with the concrete context of multiple relations across various scales that surrounds us – for example, ecological, material, or social relationships. These relationships can have benign (e.g. sustainable) or malign (e.g. unsustainable) tendencies. Moreover, we emphasize that the question of sustainability has particular urgency today in light of the serious ecological concerns that face the world, including global warming, climate change, resource depletion, and biodiversity loss, which are all intimately connected to the proliferation of Western industrial culture during the past two hundred years. Therefore, the question of the sustainable Nordic city of tomorrow has much to do with the Nordic cities of today: the cities we live

in now, which are always also the cities of the past, and which have grown out of an in many ways unsustainable Western industrial heritage.

However, these issues are not only characterized by social, historical, and economic constraints, as we have pointed out above; they will also have to be continually negotiated spatially. This means that the design city is not only about the production of significant design in a historical context; it is also a tool to further our understanding of what happens and what can be done when we start looking for tensions and synergies. With design as an explorative tool and a mediator, the production of dialogues about scenarios for the future can accommodate and anchor the much wider, abstract, and pressing questions about a more sustainable future for our planet in concrete cultural and personal spheres. This is a prerequisite for creating grounded change, and for sustaining core Nordic values such as trust, participation, and inclusiveness.

We started out by referencing the idea that in Copenhagen, the next big project will be to build a huge new island in the middle of the city with sustainable new architecture, houses, and businesses, with green areas and huge infrastructural schemes. Of course, compared with the architecture and infrastructure that make up most of Copenhagen at present, this island is going to be top-notch, displaying startling architecture with triple-layered glass and great insulation: a place to live where you can cycle to work, or quickly take the metro to the rest of the city, or drive your car through a tunnel so that you arrive at the airport in an instant. But at present, the costs of this development – the trade-offs it entails – are completely unclear.

With mounting threats such as climate change and resource depletion, we can say that **the modern, urban, industrial, welfare culture that produced the Nordic cities is also what is putting them at risk**. While we believe that **the sustainable Nordic city of tomorrow can only be the city we already have**, that city was born from a heritage that is both sustainable and unsustainable, both inclusive and exclusive, both resilient and fragile, depending on whom we ask and which perspectives we consider. We therefore urge planners and policymakers to listen to the different kinds of knowledge that can help us to unfold this fraught condition, and that point to all the tensions and challenges that result from it. Rather than considering large-scale replacement models for what we already have, we suggest beginning to think in different hierarchies of continuities, dependencies, and differentiation. We need to include knowledge in the planning process that will allow us to understand the complex socio-economic and ecological trade-offs and costs that any concrete policy or project will always entail.

Using different temporalities can challenge linear visions of the future – for example, temporalities taken from the Rs of waste theory, i.e. reduce, reuse, recycle, recover, and residual management (European Parliament and Council on Waste 2008). The idea here is that it is better to reduce waste, or to reuse or repair objects, before we recycle them or dispose of them: better to wear an old or recycled jacket made of polyester than to buy a new one made of organic cotton or recycled plastic bottles. This requires differentiated deliberations, but sometimes also difficult choices. We need to take seriously our **fraught urban heritage from twentieth-century industrial culture**; while we can build on a traditional Nordic planning process that is both democratic and top-down, we should also make sure to question its human-centric ethos. Rather than projecting new ideals on top of what we have, we should look for **new ways of inhabiting, appropriating, and transforming the city** we already have, in ways that involve many interest groups, and where **intrinsic dilemmas can become visible** and undergo public scrutiny and deliberation. This way of foregrounding ‘**relational situatedness**’ is not stale: it means working *in medias res* and with a high degree of experimentation. This will sustain the power, engagement, creativity, and **involvement of citizens** – for instance, in experimentation with new modes of collective living, food production, work-life balance, etc.

The question of sustainability as a relationship with context (past, present, and future) requires *philosophical* reflection. However, ecological problems, climate change, resource depletion, and social sustainability in cities require responses from *praxis*, including technical, political, behavioural, affective, and designerly approaches and methodologies. In this paper, we have touched on all of these areas, and we have invited you to consider a straightforward answer to the question of what the sustainable Nordic city of tomorrow might be: *the sustainable Nordic city of tomorrow is the city we already have*. It is a city bound in both positive and problematic ways by tensions concerning its history, politics, and inward and outward constitution. Those tensions ought not to be dealt with by building new visions that fail to consider the claims of the pre-existing context, whether material, ecological, political, social, or economic. The task for policymakers is to understand these different challenges, tensions, and relationships, and to make them conjoin, even if those conjunctions may be messy and unpredictable.

So, how to do this? We offer three concrete proposals:

1. **Revise the notion of the city**, from a spatially well-defined entity to urbanized areas with various degrees of density and intensity. This will nuance the ideal of the sustainable city of the future as a compact city (Garcilazo 2019). Thinking in terms of intensities and multifunctional clusters, moreover, means foregrounding the regional perspective.

2. **Theorize concrete hierarchies that mark relationships between human and non-human cultures**, giving non-humans a stronger voice. We need to educate each other and others by considering the hidden costs or trade-offs of certain practices or projects on different scales, for both humans and non-humans, starting with schools and universities: we need to teach children and students to *think* philosophically, and to *engage* in debate, so as to cultivate questions of ethics and deliberation no less than questions of measurable fact. The aim is not to focus exclusively on definable developmental goals, but to always pay attention to broader relationships and hidden trade-offs in the achievement of those goals.
  
3. Establish committed fora for discussion, knowledge exchange and exploration, whereby we can **include input from philosophy, culture, science, and civicism in the discussion of the sustainable city of the future and our relationships with the material context – with things**. Taking our cue from the Old Norse etymological root of the word *thing* – *þing*, meaning ‘meeting, assembly, council, discussion’ – we suggest that such a forum should not be a ‘thing of things’, ‘a parliament of things’ (Latour 1993), but a *parliament for understanding our relationships with things – a ‘thing’ for understanding our relationships with things*, and for understanding the city as an aspect of material culture. Moreover, we must ensure that these fora do not close down once a project is completed, but that they compulsorily continue to accompany each project into its afterlife.

## References

- Borges, L. A., Nilsson, K., Tunström, M., Dis, A. T., Perjo, L., Berlina, A., Costa, S. O., Fredricsson, C., Grunfelder, J., Johnsen, I., Kristensen, I., Randall, L., Smas, L. and Weber, R. (2017). *White Paper on Nordic Sustainable Cities*. Stockholm: Nordregio. doi: 10.30689/R2017:3.1403-2503.
- Braae, E. (2015). *Beauty Redeemed: Recycling Post-Industrial Landscapes*. Birkhäuser: Ikaros Press.
- Braae, E. (2017). Velfærdslandskaber og fællesskaber [Welfare Landscapes and Communities]. In K. Bendsen, J.R., Jensen, Lotz, K., M.J., Raahauge, K.M., Simpson, D., Vindum, K. (Eds.), *Form til velfærd* (34–49). Copenhagen: Kunstakademiets Arkitektskoles Forlag.
- Braae, E. and Steiner, H. (2019, forthcoming). Expanding Danish Welfare Landscapes: Steen Eiler Rasmussen and Tingbjerg Housing Estate. In J. Haffner (Ed.), *Housing and Landscape*. London: Routledge.
- European Parliament and Council on Waste. (2008). Directive 2008/98/EC of the European Parliament and of the Council on Waste and Repealing Certain Directives. Retrieved October 3, 2019 from <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098>



- Garcilazo, J. E. (2019). What Have Been the Key Successes and Shortcomings of Regional Planning in the Last 20 Years and What Are the Key Lessons to Be Drawn? Presentation given at open seminar, Nordregio, Akureyri, September 12, 2019.
- Gulsrud, N. and Steiner, H. (2019, forthcoming). When Urban Greening Becomes an Accumulation Strategy: Exploring the Ecological, Social and Economic Calculus of the High Line. *JoLa: Journal of Landscape Architecture*.
- Hodder, I. (2014). The Entanglements of Humans and Things: A Long-Term View. *New Literary History*, 45(1), 19–36.
- Jensen, E. H. (2010). *Byplanlægning: Et produkt af tiden* [Urban Planning: A Product of the Time]. Copenhagen: Geografforlaget.
- Jørgensen, F. A., Karlsdóttir, U. B., Mårald, E., Poulsen, B. and Räsänen, T. (2013). Entangled Environments: Historians and Nature in the Nordic Countries. *Historisk Tidsskrift*, 92(1), 9–34. Retrieved August 23, 2019 from [https://vbn.aau.dk/ws/files/198706942/Entangled\\_Environments\\_Historians\\_and\\_Nature\\_in\\_the\\_Nordic.pdf](https://vbn.aau.dk/ws/files/198706942/Entangled_Environments_Historians_and_Nature_in_the_Nordic.pdf)
- Latour, B. (1993). *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.
- Lynetteholmen. (n.d.). Lynetteholmen. Retrieved September 15, 2019 from <https://www.lynetteholmen.com>
- Mumford, E. (2000). *The CIAM Discourse on Urbanism*. Cambridge, MA: MIT Press.
- Steiner, H. (2018). Nature Created? Or, the Gentle Touch of Artificial Snow. *Montreal Architectural Review*, 4, 5–18.
- Steiner, H. and Veel, K. (2020, forthcoming). *Tower to Tower: Gigantism in Architecture and Digital Culture*. Cambridge, MA: MIT Press.
- Tietjen, A. (Ed.). (2010). *Forstadens Bygningskultur 1945–1989* [Suburban Building Culture 1945–1989]. Copenhagen: Realdania/Dansk Bygningsarv.
- Tsing, A. L. (2015). *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton: Princeton University Press.
- Williams, R. (1980). *Problems in Materialism and Culture*. London: Verso.

Figure 1

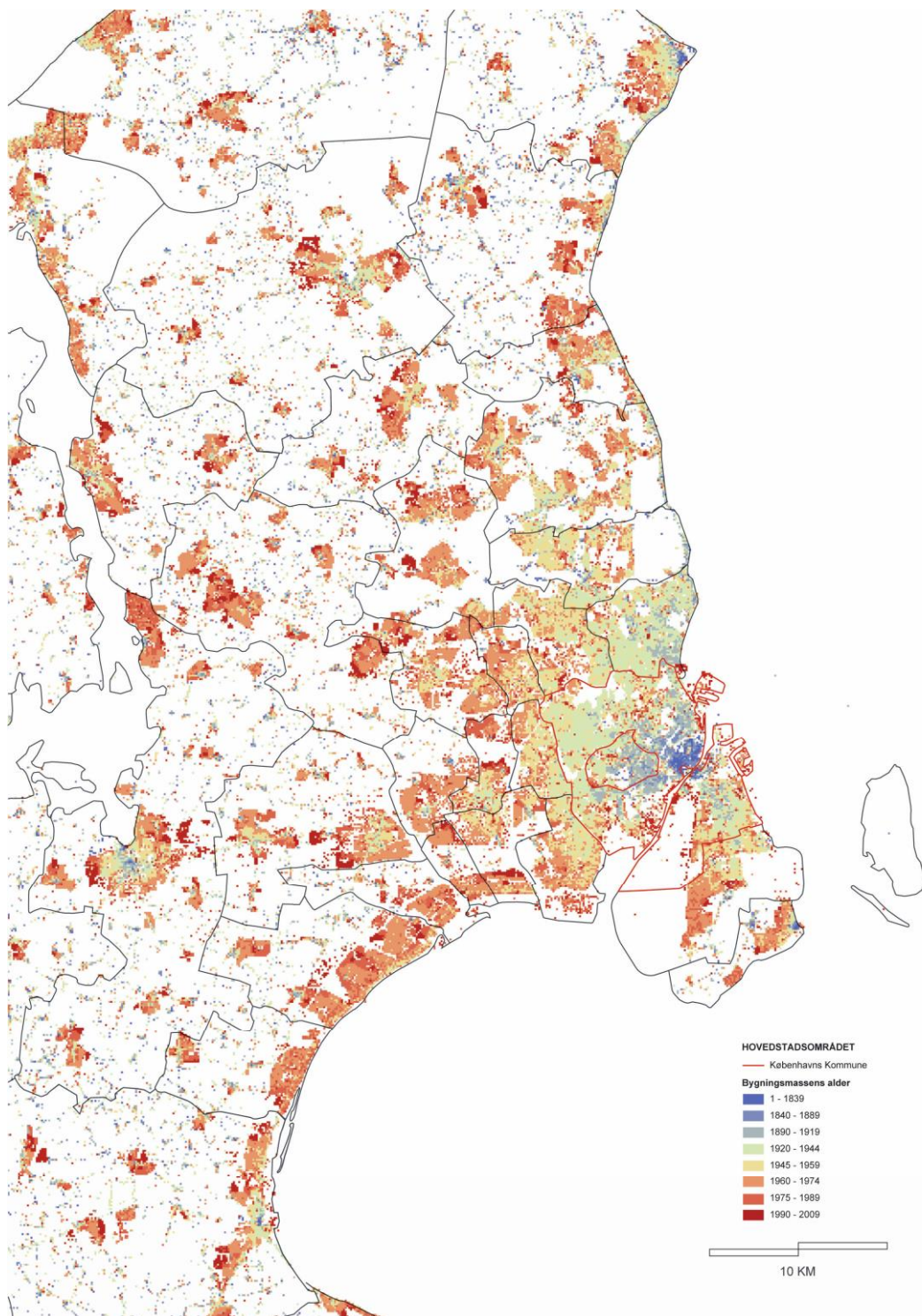


Note: Lynetteholmen, rendering. This was the initial visualisation of the project idea which is in a process of undergoing revisions.

Source: By & Havn

(<https://www.skyfish.com/sh/5c500e36ba2696a7109261bba6bedbd91571ff29/3eb3055f/1323088/35065556>) (SLETH)

Figure 2



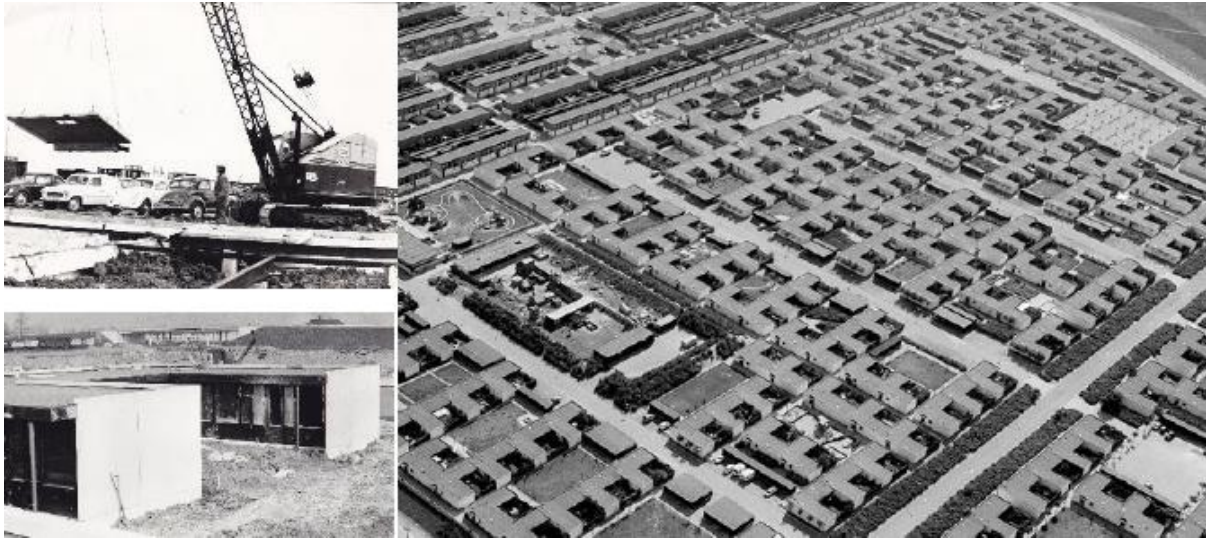
Note: The yellow, orange, and red mark the urban expansion that took place after 1945 in greater Copenhagen, demonstrating the omnipresence of the post-war city today.

Source: Tietjen (2010, p. 42.)





Figure 3

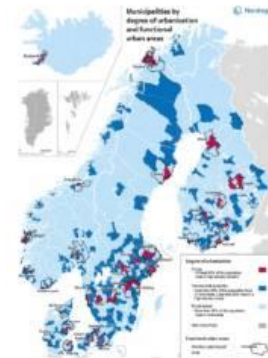
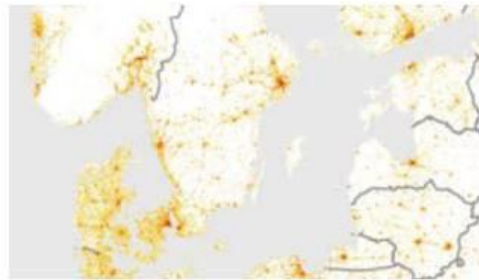


Note: Albertslund Syd (1963–1968) in Copenhagen, Denmark, is one industrialized housing icon among many.

Source: Archive material.

*Holger Bisgaard<sup>9</sup>: Comments on the draft version of **The Sustainable Nordic City of Tomorrow is the city we already have** by Ellen Braae and Henriette Steiner*

The Nordic city is a small city in an international context. It is also a city that is not a dense city like the larger European cities. The cities in the Nordic countries are dense in the center but the city is also spreading out into the landscape (see map 1 to the left). Over the past 20 years, population growth has primarily been concentrated in the larger Nordic cities, but the population is still spread over a large area (see map 2 to the right).



The nordic city  
the density  
2015

NORDREGIO d. 11.09.2019 Holger Bisgaard

The Nordic welfare states have given a high level of prosperity and therefore most households can afford a car. This means that you can live away from the city, but still have your work and leisure in the city. The result is that many commuters use the car, which creates more population, increase CO2 emissions and congestion. Urban sprawl, which we have a lot of in the Nordic countries, is usually not very sustainable because it requires many resources to achieve high mobility and provide the settlements with public service.

The sprawl settlements are contrary to the planning tradition we have in the Nordic countries. In the last several years, there have been two opposite trends in urban development - one that has drawn the population into cities and another that has maintained that many have been able to live in smaller settlements while having easy access to both the labor market and the facilities in the cities. A study of access to workplaces in Denmark shows that access to workplaces is of course greatest in the country's two main centers Copenhagen and Aarhus, but that it is also relatively high along the motorway connecting the two centers.

Such a city is difficult to make sustainable. On the other hand, many of the dense urban areas in the city have undergone major changes over the past 10 years. The cities have got more parks, got more public transport - light rail, metro and BRT. The cities have

<sup>9</sup> Bisgaards kontor, Copenhagen. Email: bisgaard@jgade.dk

also improved conditions for cyclists and pedestrians. So, there are also many initiatives that are sustainable.

Thus, I do not find that the note addresses urban sprawl and transport. Nor don't find that the note adequately addresses the issue of climate prevention as part of the assessment of whether Nordic cities are sustainable.

Many of the Nordic cities are located by the sea and by waterways. Prior to World War II, settlements were usually placed high in the terrain. But much of the urban development that has taken place in the last 50 years is located close to the sea and rivers. With the sea level increase and more cloud burst will come, it will cause flooding and landslide problems in these areas. This can result in high costs for climate adaptation. Which also cannot be said to be sustainable.

So, with the above comments, I would like to ask the question:

Is the Nordic welfare city sustainable?

Do Nordic cities meet UN global goals and the climate goals from Paris?

*Kjell Nilsson<sup>10</sup>: Comments on the draft version of **The Sustainable Nordic City of Tomorrow Is the City We Already Have** by Ellen Braae and Henriette Steiner*

The paper contains a captivating and perspective-rich narrative and it is well written. However, the recommendations are formulated in an abstract rather than policy-relevant way and would need to be accompanied by concrete examples on how to do.

Braae & Steiner identifies “the serious ecological concerns that face the world, including global warming, climate change, resource depletion and biodiversity loss” as the major challenge for a sustainable Nordic city. In order to tackle the challenges of an ecological crisis “that the kind of culture that has produced the Nordic cities is also what puts them at risk (...) it means that we have to regard nature as part of the city.”

However, I have some problems with following the argumentation. On one hand they say that “a perception of nature as only true natural when stripped of human influence [is] at best naïve and at worst detrimental to our handling of current challenges”, on the other hand here I feel an advocacy for nature’s value of its own, when they argue for enlarging “the urban orchestra” by considering how human activities affects non-humans and to promote well-being not just of humans, but also of the planet itself.

This “requires including different voices in the discussion as well as a wider range of knowledge also from fields such as biology, geography, philosophy, history, as well as citizens to tell their story in relation to the problems and tasks at hand.” Aren’t these disciplines already involved in the urban development process today? – I am thinking of the teams participating in large urban development competitions in Denmark, e.g. Køge Bugt, Fredericia, Ringkøbing, Middelfart.

They also argue for an extended meaning of the word “design” when it comes to urban development: “With design as an explorative tool and a mediator, the production of dialogues about scenarios for the future can accommodate and anchor the much wider, abstract and pressing questions about a more sustainable future for our planet in the concrete cultural and personal spheres, which is the prerequisite for creating grounded changes and for sustaining some of the core Nordic values such as trust, participation and inclusiveness.”

From my perspective I totally agree that the addressed ecological challenges are crucial for the Sustainable Nordic City of Tomorrow. However, I could have wished more concrete bid for appropriate measures for mitigation as well as adaptation to climate change. For example, on ways towards a carbon-neutral urban transportation system. What do we do with all the spaces that will become available for other land-use when private cars are banned from the central parts of all larger cities? And how do we plan and design for an urban environment which is much more robust to rising sea levels, heavy stormwaters and urban heat waves?

Finally, I would welcome some concrete suggestions on how to reach social sustainability, e.g. how to tackle the lack of affordable housing for those unable to buy a home on the free market and how to make the cities more inclusive for immigrants, elderly and young kids.

Do we have the tools and instruments that are needed to meet these future challenges? According to Erik Vieth Pedersen (personal communication, 17 September 2019) the current Norwegian Planning and Building Act gives good opportunities to steer urban development in a sustainable direction. The term sustainability is explicitly mentioned in the law and it gives public authorities a usable tool for coordination, weighing for considerations and conflict management regarding the use of nature and

---

<sup>10</sup> Nordregio. Email: [kjell.nilsson@nordregio.org](mailto:kjell.nilsson@nordregio.org)



natural resources and the development of cities, communities and transportation with transparency, predictability and stakeholder involvement. Universal design and the consideration of children and adolescents are also included in the law, which states that planning should define objectives for the spatial, environmental, economic, social and cultural development of municipalities and regions, and express societal demands and roles.

To conclude, most of the challenges pointed out by the authors may be handled within the scope of the current planning system, presumed that there is a political will to do it. How this is implemented by and in an interplay between national, regional and local authorities as well as the integration of different sectoral interests should be a regular focus for Nordic research and cooperation.

# Rural regions at a crossroads: Policy challenges for the future

By Gro Marit Grimsrud<sup>11</sup>

## Abstract

Traditional rural development policies of the Nordic region have been on a downward slope for a long time. It has failed to make itself politically relevant in the era of urbanization and climate change. This paper gives a short historic overview of the most relevant development issues and the change of development actors. It also presents recent trends, and focuses on the role of the rural and rural development policies in the era of climate change.

This paper has been prepared for presentation at the seminar “Opportunities and challenges for future regional development” with EK-R (Nordic Committee of Senior Officials for Regional Policy) and Nordregio’s Board of Directors on 12 September, 2019, at University of Akureyri. Organised by Ministry of Transport and Local Government, Byggdastofnun and Nordregio.

**Keywords:** rural development, “eco-spatial” paradigm, climate change

## 1 Introduction

The general interest in rural development has been on a downward slope over the past few decades. As more and more people have moved to towns and cities, rural areas have increasingly been seen as places of few opportunities and with little capacity for future development. On top of this vicious circle, rural development policy has failed to make itself relevant in the era of climate change and extreme urbanism. The traditional perception of rural areas as green spaces with closeness to nature and down-to-earth lifestyles has recently been overturned. So too has our perception of cities as grey spaces of pollution and decadent lifestyles. The urban has become the new green.

The environmental turn favours urbanism. The rural areas therefore face more severe challenges than ever before. This is because the environmental arguments for urbanisation align well with the traditional economic and structural efficiency arguments of sectorial interests such as transportation, education, hospitals and governmental welfare services, - which also favour concentration. Cost-effectiveness and climate mitigation efforts play on the same team; combined they strengthen the prospects for urban development and subsequently, marginalise rural regions. This new *eco-spatial paradigm*, a term coined by Knudsen (2018), is what I see as the biggest challenge to rural development politics in the Nordic region. In Norway (maybe in other Nordic countries too), regional

---

<sup>11</sup> NORCE, Norwegian Research Centre. Email: grgr@norceresearch.no

policy has traditionally overruled the geographical rationales of any other sectoral politics such as communication, agriculture, fisheries, higher education, hospitals and local administration. Despite these very strong structural trends towards centralisation and urbanisation, there are also some nuggets of hope for the rural areas in the future.

In this paper, I will start with a short historic overview of the rural and regional policy of Norway. This is to show that what has been regarded the most important development issues has changed over time, and so too has the way we do rural and regional politics. I will emphasise the most recent history to show that the importance of rural development policy has shrunk considerably over time, and money allocated to remote rural places has been reduced relatively to places that are more central. I then present the environmental turn and its challenges on the rural. At the very end, I reluctantly give a few recommendations for future policies.

### *Scope and limitations*

This paper deals with rural development policies in the Nordic Region and seeks to give an “added Nordic value” in the sense that the topical issues covered should be relevant to all of the Nordic countries. There are of course differences between the countries regarding their internal geographies, their demographics and their industries as well as disparities in their political systems and policy priorities. The fact that Sweden, Denmark, Finland and Åland are EU members while Iceland, Faroe Islands, Greenland and Norway are not is one. Despite the aim of looking at the Nordic countries as a whole, the research on which the paper draws its conclusions is from Norway and much of it is based on my own research. I hope that readers from other Nordic countries can relate the text to the rural policies of their own countries.

It should also be noted that I write about opportunities and challenges for future *rural* development whilst the seminar in Akureyri is titled “Opportunities and challenges for future *regional* development”. There are many definitions and opinions about what “rural” and “regional” mean, as is clearly exemplified by the Faroe Islands, which as a nation is a rural part of Scandinavia, and yet they have rural and urban regions (Christiansen 2019). In this paper, I take rural to mean the areas outside of big cities and their adjacent non-urban commuter belt. The rural is the countryside, but also the small towns and villages located far away from highly urbanised areas. Regions on the other hand can include both rural and urban regions. It is a concern that rural is used as a collective term in this paper. Rural regions do of course differ in many ways. They face many of the same structural challenges but have very different resources and opportunities to meet them. It would be beyond the scope of this paper to attempt to cover these differences.

## 2 The hitherto most important rural development issues

### 2.1 A short historical overview

The most important issues in rural development have always revolved around the thinning out of population and its economic underpinning. However, the way we think about the rural as well as the policies and strategies employed to retain rural areas as places for production and habitation have changed somewhat over time. I will try to illustrate this with a brief and superficial historical overview (see Angell et al. (2016) for a more extensive review).

When did rural development begin? Going back a long time, the quest for arable land – or some other place-based natural resources to live off – populated larger and larger parts of the Nordic countries (Sømme 1968). The rural areas were seen as a resource and development was defined as *spatial expansion*. The reason I stress this, is that the logics of spatial expansion has underpinned rural and regional development policies up until quite recently.

We did not have a regional development policy as such until after the Second World War. While not going into the historical details of this development, the main reasons for investing in rural development have always been linked to the need/wish to make use of *all* of the economic and cultural resources within the country's territory. Additionally, at least in Norway, it has been important to uphold a strategic presence along the Russian border. This has meant that spatial expansion has always been logical – either in the form of new greenfield investments and new settlements, or in the form of retaining old settlements and built environments.

After WWII, *structural rationalization* set in (processes that are still going strong), less so in Iceland and Norway, more so in Sweden and Finland (Hansen 1972). The labour-saving technological changes in the economy, especially in the agricultural sector, triggered migration from rural to urban areas. These processes of modernization resulted in urbanization and centralization. Even if urbanisation was desired from an economic development point of view, there were already in the 1960s growing concerns that the exodus of people from rural areas might lead to the underutilization of natural economic resources. As a result, the state took responsibility for creating jobs and providing welfare services in rural regions – to ensure that no regions were lagging behind. To begin with, this took the form of *top-down development policies and strategies*. In practise this meant that the state encouraged – through a wide range of subsidies and instruments - the establishment of new or the relocation of old manufacturing plants that could function as engines for further economic growth. There was also a significant rise in the transfers of money to the agricultural sector to ensure production even in marginal areas. Furthermore, the building of physical infrastructure was also part of the modernisation strategies. Nonetheless, the expansion of the welfare state to all the municipalities was by far the most important factor contributing to rural development. Since Norway had and still has numerous municipalities, these new jobs were widely spread, and contributed significantly to hamper the exodus of young women from rural areas. The most important development issues from this period – often referred to as the golden age of rural development - was the creation of jobs and regional growth in the primary and secondary industries. In addition, it was considered important to secure “equal living conditions” all over the country, hence the strong will to provide a wide range of welfare services even in the most remote municipalities.

It is fascinating that this “golden age” coincided with a disruption in the continuous post-war urbanisation process. For a few years in the late 70s and early 80s, signs of counter-urbanisation were evident. While the “back-to-the land” movement was a trend unfolding in many other westerns countries too, it is generally believed that the generous rural development policy of Norway helped quite a lot (Grimsrud 2011). What should be remembered from this, though, is that the “green wave” of counter-urbanisation came as a surprise both to researchers and to planners in many countries. Since this turn was unpredicted, it is perhaps not fair to rule out the possibility it could

happen again. Also, it is quite intriguing in light of the current state of affairs, that the rural turn was explained and motivated by ethical and environmental arguments in favour of leaving the city.

The top down - or exogenous - strategies were gradually weakened from the 1980s and onwards, partly because they were very expensive to sustain and partly because there was a growing belief that development should start from below; strategies should be designed and implemented locally. In the years following the 1980s, *endogenous approaches* became the norm in rural development policy prescription across Europe, not only in the Nordic countries. It meant that local and regional self-governed bodies, in close cooperation or partnerships with local businesses and other local and regional public and private stakeholders became very important in the realisation of rural and regional policy goals. In 2003, the regional level (the county administrations) formally took over the responsibility for the rural and regional policy in Norway.

Endogenous development strategies did also expose several problems. Perhaps the most important one concerns small communities' limited *capacity for development*. It soon became obvious that many rural communities were too small and peripheral to have the capacity to initiate and manage development processes on their own. In an increasingly globalised world, the importance of networks reaching out of the locality was stressed, and the role of capital, consumers and regulatory bodies too. Ray (2001) eventually proposed the most used term *neo-endogenous development* to describe an approach to rural development that is locally rooted, but outward looking and characterised by dynamic interactions between local areas and their wider environments. The importance of (non-hierarchical) networks across different scales, territories and actors led Bock (2016) to coin the term *nexogenous development* to advocate that development initiatives need not be either bottom-up or top-down. Today, most rural development initiatives are anchored in partnerships and other forms of collaborations. The recent *city-region programme* (2014-2018) launched by Ministry of Local Government and Modernisation (Norway) is an example where non-hierarchical collaboration (mostly on regional economic development) was intended - albeit perhaps not always achieved (Leknes et al. 2018). A study of a handful of the participating regions suggests the regional collaboration caused more harm than help to the small rural municipalities involved (Angell and Grimsrud 2017a).

The shift from exogenous to endogenous development strategies thus resulted in local actors having a greater say in development processes. There was also a change in what was considered important development issues. While job and value creation were still important issues (and indeed where the bulk of the money was spent), we saw the emergence of "softer" issues such as investing in competence through "competence centres" and establishment of regional research institutions, the stimulation of small businesses, particularly within private services. The municipalities got their own development funds and could support local *small-scale* initiatives. It was also recognized that the "old" regional policy was designed to target "male" enterprises (whilst the problem was female exodus) hence a small pot was set aside for female entrepreneurs (Lotherington 2002).

## 2.2 From rural to regional policies

It has been claimed that the Norwegian rural policy was buried in 1992 when the Ministry's white paper «Town and countryside – hand in hand» (St.meld. nr. 33 (1992–1993)) was released (Teigen 2012). From then on, the *rural* development policy changed its name and its contents to *regional*

development policy – a change inspired by the wish to align with the EU policy of integrated regions (Teigen 2012). Development instruments previously reserved for rural areas became available for urbanized areas too. More importantly however, it can be interpreted as a move away from the ambition of retaining a scattered pattern of settlement, as the designated areal units for goal achievement changed from municipalities to bigger functional/economic regions. The aim of rural and regional policy was (and still is) to create robust and integrated regions. In practice, this meant more emphasis on developing strong regional centres and improving transport and communication links between the centre and its rural hinterland. The goal was to make it easier for rural residents to travel to work and services in the nearby regional centre. Ideologically, this functional divide represent a view where the rural areas are seen as (passive) places to reside, while the regional town is where the economic activity will take place. The term “region-enlargement” is a term used to describe this development strategy. It was adopted from Sweden and underscores spatial expansion as the logic underpinning rural/regional development.

The main arguments for concentrating sectoral investments and service provisions to regional centres come from economic and service-efficiency points of view. Concentration is also advocated as a means to rise the quality of services. A key argument is that it has proved difficult to employ the required competence in small and peripheral places because highly educated people prefer to work in large specialised environments. This is also one of the arguments used to advocate a consolidation of municipalities and regional administrations. By 2020, the number of municipalities will be reduced from 428 to 356 and will according to The Ministry of Local Government and Modernisation, provide better welfare services, more sustainable development and improve local democracy” (KMD 2019, my translation).

The lump sum given to the county administration for rural development issues has decreased over the past decade (under the Conservative Government). In addition, it has become more difficult for *individual* rural communities to get their development initiatives funded from this source. They are encouraged to cooperate across municipal borders because it is believed that pooling up the resources will increase the quality of the development initiative. In other words, capacity restraints are sought dealt with by encouraging local development actors to team up to benefit from “economies of scope”. An evaluation of inter-municipal cooperation on economic growth issues suggests that the opposite took place (Angell and Grimsrud 2017a). Small rural communities did instead experience a loss of benefits associated with small-scale operations. Importantly, they also experienced a loss of capacity because cooperation took time away from other (more important) issues. Since increased cooperation is seen as the current mode of operation, small municipalities feel obliged to take part despite little capacity. In this way, their already stretched capacity is divided between many (regional) collaborative networks, with barely any gains to their own community.

### 3 Current issues: To be attractive or not to be

Cruikshank (2009) argues that two discourses have dominated the Norwegian rural development policies. One is about “economic growth” and the other is about the “intrinsic value” of the rural.

Until quite recently, these two discourses have been integrated, in the sense that it has not made much sense to talk about the intrinsic cultural value of the rural as separate from the rural economy. In fact, it has always been an ambition in Norwegian rural policies to stimulate increased value creation, but this ambition is always articulated in relation to the goal of maintaining a dispersed pattern of settlement (Cruikshank 2009). As argued by Knudsen (2017), these discourses are now disentangled - as is readily apparent in the three priority areas presented in the budgets from 2013 onwards. The first reflects the continued aim to stimulate *economic growth and innovation*. This is where most of the money is spent; notably the geographical criteria for allocation (traditionally favouring the rural) have gradually disappeared. The second also addresses the “economic growth discourse” by its commitment to provide *competence and infrastructure*. (At the same time however, sector politics have consolidated schools and universities and closed down peripheral units. This is despite rather convincing evidence of the crucial role regional universities play in providing educated labour to their regions (Linguist et al. 2012, Gythfeldt and Heggen 2012)). The third topical area, *local attractiveness*, speaks to the “intrinsic value discourse” and arguably, more than the other two it has suited development schemes even in the smallest and remotest municipalities. Judging by the amount of money allocated and the relative size of recent cutbacks, it is also the least important.

One might say that the disentanglement of the two discourses reflects a noticeable divide between understanding the countryside as a space for production and understanding it as a space (or commodity) for consumption (Woods 2005). Under the local attractiveness headline, most rural communities in Norway have engaged in schemes to encourage in-migration (Grimsrud and Aure 2013). In their efforts, they have put on an urban gaze (cf. *tourist gaze*, Urry 1990) and branded their communities in the form of a rural idyll, wilderness, or place of adventure. The absence of “jobs and careers” as a selling point was quite striking, – rendering the impression that the rural is not a place for career-oriented people, but a place for people with gender-traditional family values or as a playground for urban adrenalin junkies (Grimsrud and Aure 2013). The coupling of the rural to leisure time and dwelling, and the coinciding decoupling of the rural from production and value creation, is a relatively new trend in Norway and arguably, it does not contribute to making the rural areas more attractive to the younger and more educated generations. People who have invested in an education generally prefer to make use of it.

In the same period as the schemes to attract in-migrants were running, the population of the rural areas grew for the first time in decades. The growth was however caused by an *unexpected* inflow of immigrants and not the local attractiveness schemes. Intriguingly, while the returnees (the main target group of the local attractiveness schemes) were offered quite extensive help to find suitable jobs, housing and land, the immigrants did not receive any such help (Grimsrud and Aure 2013). Immigration was not considered part of the rural attractiveness schemes – despite the pronounced aim of attracting new residents. It did perhaps not help that the immigrants did not at all fit the image of the rural in-migrant the communities had constructed, as most of them came because of an available job and not because they fell in love with the place or had any other place-related motivation for settling there (Grimsrud and Båtevik 2016). They were not mainstream counter-urbanites but rather rural by default, to use Halfacree’s (2008) terms.

Labour migrants have contributed significantly to rural development as they have generally filled vacancies in the rural labour market, and in particular, they helped to fill skilled and professional

positions that educated native people moved away from or did not want to move to the peripheries to secure (Båtevik and Grimsrud 2017). Furthermore, immigrants quite often renovated and refurbished run-down houses – partly because proper housing was not available (Grimsrud 2014). In fact, very many of the communities that engaged in in-migration schemes discovered that their housing markets were not working, and that providing good quality housing for in-migrants *surprisingly* proved more difficult than finding them a suitable job (Grimsrud and Aure 2013). In this period, the need for differentiated housebuilding in rural areas was acknowledged, and a national programme “Housebuilding in rural areas” (2012-14) was launched. While rather new in Norway, housing issues have been a central focus area in Denmark’s regional development policies (Angell 2018).

One lesson to be learned is that rural development sometimes happens without the recognition of rural development agents (cf. counter-urbanisation in the 70s). Even in communities where immigrants are recognized as a valuable resource for local development, there is very little evidence that immigration issues are incorporated into local planning and development policies. Most municipalities have a “non-policy” or at best, a “guest worker policy” towards labour immigrants, and are not working from the assumption that they will settle down and stay for any length of time. This is peculiar given the time and effort spent on attracting and retaining native residents (Båtevik et al. 2014). It shows that immigration and in-migration belong to different policy domains, which are not coordinated – not at the state level and not at the local level.

## 4 The challenge of climate change

The marginalization of rural areas is embedded in broader processes of societal change and is a consequence of large socioeconomic and political processes. Globalization, urbanization, digitalization, growing mobility, ageing population and financial crises are trends which effects we have already begun to witness in rural areas. The trend – or rather paradigm shift – that overarches all of these is the existential threat of climate change. It represents a radical challenge in many ways, but here I will focus on ways in which it has changed the general view of “the rural” and “the urban”. In Norway, the rural has traditionally had the upper hand in this dichotomy. The rural has been seen as environmentally friendly and morally superior, while the urban has been associated with pollution. As will be elaborated below, this image has been turned upside down. Furthermore, there has been a radical change in the logic of national spatial politics. While the traditionally strong rural development policy has been about *expansion in space*, spatial politics is now about *contraction in space* (Knudsen 2018).

The old heroes in rural development policies were pictured as young couples moving to the countryside. The more remotely they settled the bigger heroes they were. In the new era of *spatial contraction*, the new heroes are advocates of urban development and settlement densification.

### 4.1 The rural as climate villains

Rural areas are already affected by the green shift in many ways - as are regions everywhere. The need for adaption, mitigation and radical change is readily apparent and firmly embedded in policy



goals at international, national and local levels. The thing to worry about from a rural development perspective is that *compact cities* are authorised as the arenas for low carbon transitions. This is stated both in the UN sustainability goals and in national policy documents on regional development (Meld. St. 18 (2016–2017)) where compact cities are endorsed as “part of the solution to a more environmentally sound future”. Nothing wrong with that per se, but it renders the countryside construed as unsustainable, mostly due to its dispersed pattern of settlement and car dependency. Firstly, this division of roles and responsibility, where rural areas are cast as the problem and cities as the solution, legitimises less spending in rural areas and more spending on efforts to make compact cities even more attractive and sustainable. Secondly, it adds to the already bad reputation of the rural. Not only are these areas costly, inefficient, incompetent and unattractive to the younger generations – they are also bad for the environment.

The agricultural sector – just to mention one of the “rural” economic sectors – is severely hit by the prospects of climate change. Firstly, farmers are directly stricken by the damage climate change can do to their crops and livestock. Secondly, and affecting meat producers in particular, their legitimation is questioned because of the climate gas emissions from cattle. While pictures of grazing cows and sheep in idyllic green surroundings have been used to signify the cleanliness and environmentally friendliness of small-scale Norwegian food production, the same cows are now depicted as methane villains causing more harmful emissions than inland air-traffic. In Norway and Sweden, the consumption of red meats has been reduced by two percent from 2017 to 2018 because of people’s concerns for their own health, animal welfare and environmental impact (Ruud 2018). This trend is expected to continue and any cuts in production will be particularly challenging for farmers in the most peripheral areas where topography and cold climate constrain alternative uses of the land. Perhaps new opportunities are awaiting. As is true for other *sectors* too, the problem is recognised and large sums are granted to research and innovation to find more environmentally friendly modes of production. In the meantime, food production on city-roofs is on the rise.

The climate challenge is thus imposing a restriction on farmers’ use of their land. The conflict between use and protection is a classical one. An example is the wolf-debate, which arguably is not so much about the wolf itself, or about losing sheep, dogs and game to carnivores. The resistance is more a symbol of new priorities in land use management in favour of protection, which is economically unfavourable to farmers, hunters and landowners as well as representing a threat to the rural way of living and local control over the outfields (Krange and Skogen 2019). There are other similar examples of protests against diminishing control over local land resources (currently: wind-turbines, mining, wild reindeer, forestry) where rural interests are downplayed for the sake of (morally superior and irrefutable) global environmental interests. To the public, I am afraid these protests come across as narrow-minded and add to the bad reputation of the rural.

## 4.2 The new spatial paradigm of contraction

Environmental concerns are not new issues in planning and development policies. The compact city and the densification of already built environments have been standard planning ideals since the

1990s (Næss et al., 2015), but it has gained new momentum and permeated all sectors in recent years and in particular after the Paris Agreement on climate change entered into force in 2016. Within the “territorial” field of local planning and development where bottom-up strategies have been endorsed since the 1980s, we have recently witnessed a return to *top-down strategies*, or what Knudsen (2018, 75) refers to as an *implicit national physical planning policy*. As Knudsen maintains, this is evident through the shift in the hierarchy of policy areas. Firstly, the traditional rural policy used to be strongly prioritized over most other policy areas, but this has changed in the favour of a “deliberate prerogative for policies referring to climate and sustainability, and from 2013 onwards also to modernization over regional policy” (2018, 75). Secondly, urban planning has gained a standing as the tool for solving environmental problems, for meeting a demographic boom, and for providing smarter and better solutions to habitation and infrastructure. This is enforced through the “National expectations to regional and municipal planning” (KMD 2015); which are guidelines pertaining to all municipalities, both rural and urban. They make clear that densification and compact development is the way forward, primarily *for environmental* reasons – the main argument being that it is less space-demanding and hence reduces the need for individual fuel based transport. In addition, compact cities are cast as *economically sustainable* with references to the benefits of agglomeration and urbanisation effects. The *social sustainability* of concentration is emphasised by pointing out that a reduction in car use is good for public health and that compact living will lead to livelier, more dynamic and attractive town centres. It is hard to argue against a development policy that is environmentally, economically and socially sustainable at the same time.

With this new environmental turn, it is clear that space is considered a scarcity. Spatial planning now has contraction as its guiding logic (Knudsen 2018). This is the opposite of the traditional rural policy where the logic of expansion prevails. The new imperative suits the big towns and cities because they do experience pressure on land use. Their problem is to manage and distribute growth in a fair way, to balance between economic, social and environmental interests. In smaller towns and rural areas, however, the challenge is to *create* growth and *attract* activity – which calls for different strategies. In this respect, their strongest selling point is available space. The rural benefit of being able to offer relatively cheap land and available buildings to commercial interests, as well as giving residents (with moderate income) the opportunity to build big family houses with spacious gardens in beautiful surroundings – is essentially taken away. Furthermore, the implicit assumptions embedded in the guidelines; that the private car is something of the past and that future generations will prefer an urban way of life, do not speak very well to rural areas.

With reduced spending on rural development issues, the way forward for rural and non-urban municipalities is to stay true to the national expectations and typically apply for money to construct bicycle and footpaths and to install parking meters, in order to make the municipal centre more attractive. Facilitating modern apartments and investments in multipurpose buildings in the municipal centres is also encouraged. There are indeed examples where investments like these have beautified villages and, in some ways, made them more attractive (Angell and Grimsrud 2017b). It is however not clear that these developments will lead to reduced car use or in any other way reduce climate gas emissions. There seems to be very little interest in investigating these matters in non-urban settings.

My point here is not to ridicule the way that top-down “urban” guidelines are levied on rural localities. The point is that rural areas should be made just as responsible for reducing their carbon footprints as the urban – but in their own way. Unfortunately, there has been very little interest in finding out what environmentally friendly local planning and development could look like in non-urban settings. The bulk of research on these matters take the urban as their point of departure. To my knowledge, there are currently no environmentally friendly “models” or recommendations for rural development policy to lean on – only instructions to do tinier versions of the urban/national guidelines. It is my impression that rural planners and development agents are lost for words and quite simply lack a vocabulary with which to discuss these matters. This is particularly evident in regional collaborations where the ambition is to do planning across municipal borders. The rural interests fall through as narrow-minded when faced with centralists who find their ammunition in the UN sustainability goals.

Currently we know very little about the environmental effects of sustaining a scattered settlement pattern. Perhaps too much attention is given to emissions from car transport. Rural people are indeed more dependent on the car than urban people are. However, if more attention was given to general consumption, the accounts would seem a bit more in the favour of rural living, as Finnish research has suggested (Heinonen and Junnila 2011). One could also argue that the urban-rural divide is not helpful in this respect as people and products are increasingly mobile. People registered as urban by their home address, might spend much time in the countryside, for instance in their 2<sup>nd</sup> home – and vice versa.

Perhaps it could be helpful to lift the view from the individual town to the pattern of settlements. I will illustrate this with the 10-minute town as an example (Angell and Grimsrud 2017b). The 10-minute town has been put forward as an ideal model for urban development. If the amenities people need on a daily basis – or quite regularly – are located within 10 minutes’ walking distance from their home so that they do not need a car, the prospect of reducing climate gasses is quite huge. While the 10-minute idea has been ridiculed for its utopian aspects, the Nordic countryside is de facto full of small towns and rural villages where you would have to walk very slowly to spend as much as 10 minutes from one end to the other. However, these towns are not functionally 10-minute towns (anymore) because it is increasingly difficult to find “your daily needs” within their borders. This is because of a thinning out of services and work places caused by a wide range of processes, one of them being the centralisation of public administration and services, health care, education, transportation etc., another is related to diminishing markets and harder economic competition. The solution to this problem is hardly to designate areas to bicycles and pedestrians or to claim parking charges. To get to their workplaces, their schools, the police and healthcare rural and small-town people have to travel increasingly further afield – to the next big town. Are we convinced this is more environmentally friendly? Are we certain that bicycle lanes in rural villages is the best way to make the village more environmentally friendly? Should Nordic countries perhaps try to come up with green policies for tiny-towns and non-urban areas? Big cities have their “metropolitan policy packages” in which the state and city work together to stop any growth in car based individual traffic. I doubt it is a good idea to make a rural policy package that is simply a smaller version of the urban, but a policy to address the challenges and opportunities the environmental imperative impose on non-urban areas is probably a good one.

## 5 Some opportunities and recommendations for the future

Rural areas and rural development policies certainly face severe challenges. Traditionally, the rural development policy favoured the most peripheral rural communities, with the larger share of economic instruments designated to remote areas (Onsager and Grimsrud 1993, Angell et al. 2016). This paper has tried to show that over the past decades, the rural policy has been weakened in many ways; less public spending and a geographical shift towards regional centres at the expense of small rural communities. At the same time, the sectoral policies have strengthened their territorial policies in favour of towns and city-regions. To begin with, the quest for more economic and structural efficiency was the reasoning behind their preference for urban locations. In more recent years, they have according to Knudsen (2018:74) become *free-riders* on the climatic imperative. Thus, economy and ecology play together in a combined claim for what Knudsen (2018:67) calls the *eco-spatiality*, which should “cover the notion that the demand for reducing the ecological footprint can be realigned with cost-efficiency in spatial and sectoral planning”. Consequently, rural policy has incredibly strong centralising forces to fight. In addition, the rural and the people living there have to struggle with the image of being climate baddies.

Looking at the bright side: where there are challenges there are also opportunities. History is full of examples of crises that have led to new inventions both materially and socially. With the tendency to support regional rather than local development networks, it is important not to undermine the potentials for change brought about by local enthusiasts and entrepreneurs operating at the scale of a village or a rural community. Development initiatives very often come from local enthusiasts in small communities who care about their immediate surroundings. The tendency to move development planning from local to regional networks may have the effect that the distance between the individual persons with entrepreneurial capacity and the authorities becomes too big. A caution against doing away with the small-scale benefits is therefore in place.

The Merkur-programme is a promising rural development scheme where small and remote grocery shops can get economic support as well as business advice. Inspired by a similar Swedish programme, some of the Merkur-supported shops have recently made formal agreements with their municipalities to produce welfare services. These services may for instance include: conveying municipal information, library services, tourist information, looking after the elderly, bringing them medicine and groceries, helping them with applications and filling in forms on-line, taking on immigrants for language training and providing a “coffee corner”. Often, the shops are the only institution left in the area and their function as a common meeting place with coffee service is socially quite valuable. The municipality pays for these services in money or in returned services (for instance snow clearing around the premises). The arrangements have some resemblance with the ideas behind the Danish concept *Kommune 3.0.*, where the idea is that municipal services should be co-produced by the municipality and its citizens. However, a preliminary result from an ongoing study is that while the municipalities are happy to support the rural shops, they are not rigged to make use of shops’ services (Angell and Grimsrud 2019). Nevertheless, there is a potential for future improvements that may benefit rural and remote communities.

The interesting thing from a rural development perspective is that the small shops have reinvented themselves from being passive receivers of economic rural development support to being active

development agents. The shops may also act as important arenas for local economic and social development initiatives (Båtevik and Halvorsen 2016, Angell and Grimsrud 2019). Yet, they are often ignored or considered too small to be recognised as potential partners in rural and regional development networks. This is also true for other local firms. Rural development policies need renewal – hence new actors should be welcomed.

*Population growth:* the historical overview showed that rural areas twice in recent history experienced an unexpected population growth. Firstly, in the 70s when there was net migration from urban to rural areas, and secondly when large number of immigrants came to the country and settled in a more scattered pattern than did the native migrants. The immigration wave showed that rural areas are indeed attractive from an economic point of view. The common belief that there are no “good jobs” outside of the big cities is simply not true. It is ironic that the rural communities themselves have promoted the rural as places where jobs and careers are not important. Instead, they have marketed their communities as places for leisure activities and as idyllic places for children to grown up (with no need for mums to work full time). As experienced by both immigrants and non-immigrants moving from urban to rural areas, there are plenty of good jobs – also for skilled and highly educated people - outside the big cities. In a national survey, “good job” was the most prominent motive for newcomers to settle in rural areas (Grimsrud 2011, Sørli et al. 2012). The career opportunities in rural areas and in regional centres are not communicated well enough to the public.

The current environmental imperative depicts the cities as the arenas for solutions, mainly from the point of view that compact cities require less use of land and less transportation. If the quest to reduce our carbon footprint broadens, the idea of *no-growth* in consumption might pick up. Rural back-to-the-land lifestyles might become more popular again, as they were in the 1970s, and thus ignite a new trend of urban-rural migration.

#### *Recommendations*

I am reluctant to providing policy recommendations based on this paper, because it is written up in a rather short period of time and without being founded on a thorough research project.

Unfortunately, a reduction in public spending on rural development policies have also meant a reduction in the money set aside for rural research (Knudsen 2018). In turn, this means that there has not been a lot of research to build recommendations on; only a few reports from small-scale consultancy projects. Nevertheless, based on the above discussions, I have three points to make:

- 1 Invest in research on rural development and policy. Following reduced funding, the rural research community has shrunk considerably with hardly any new recruitments. This has the effect that the knowledge production in the field is scarce and with few inputs to the policy files. Furthermore, students of geography and other regional development subjects at Norwegian universities hardly have any curriculum based on Norwegian rural research. Students of local planning hardly have anything on rural planning on their curriculum. As pointed out elsewhere (Grimsrud 2011), when it comes to regional/rural development, Nordic countries are not comparable to the UK and central Europe who currently dominate the research on regional development. Hence, ideas developed there are not necessarily useful to Norwegian (or Nordic) conditions.

The lack of rural research is particularly evident in the emerging field of green development politics. Research on local planning and development seems to be totally dominated by an urban agenda.

- 2 Norwegian rural development policy has in some sense gone from having a national coherent policy to having regional policies for rural development. The well-being of the rural seems to longer to be a national responsibility. Interestingly, Sweden has gone in an almost opposite direction and has now for the first time launched a national coherent policy specially designated for rural areas (Rydén 2019). With the strong focus on the regional level, Norway should be careful not to kill local enthusiasm by extending the distance from initiative to result. Physical proximity seems to matter in local development matters. It seems we still need a policy designed especially for small and remote places.

As pointed out my commentators, there is a need for more knowledge on how the relationship between urban and rural areas can work to benefit both types of areas. Hitherto, inter-municipal collaborations seem to have been designed to strengthen the regional centre. Thus, to there is obviously a need for new modes of cooperation.

- 3 Talk positively of the pro-activeness of rural areas and bring forward the good examples, instead of showing their statistical deficiencies relative to the urban.

*Acknowledgments:* Thanks to my commentators Hanna-Maria Urjankangas (Ministry of Economic Affairs and Employment, Finland) Isabella Palomba Rydén (Ministry of Enterprise and Innovation, Sweden) and Eydun Christiansen (Kommunufelagið, Faroe Islands) for their comments and written inputs to my paper. Thanks also to my colleague Elisabeth Angell for comments on an earlier version of this paper.

## References

- Angell, E. and Grimsrud, G. (2019). *Stor velvilje, men lite samarbeid. Resultat, erfaringer og læringsverdi fra pilotprosjektet «kommunen og nærbutikken»*. Norce-report, forthcoming.
- Angell, E. (2018). *Landsbygdpolitikk i Skandinavia*. Notat fra Norce til Kommunal og Moderniseringsdepartementet.
- Angell, E. and Grimsrud, G.M. (2017a). *Småkommuners nytte av regionalt samarbeid om næringsutvikling og næringsrettet samfunnsutvikling*, Rokkansenteret rapport 5, Bergen: Uni Research Rokkansenteret, ISBN 978-82-8095-120-5
- Angell, E. and Grimsrud, G.M. (2017b). *Attraktiv og bærekraftig? Småbyers erfaring med nasjonale retningslinjer for by- og tettstedssutvikling*. Rokkansenteret rapport (4) Bergen: Uni Research Rokkansenteret; ISBN 978-82-8095-119-9
- Angell, E., Grimsrud, G.M, Flo, Y. (2016). *The Rural and Regional policy of Norway. Institutions, development features and current instruments*. Rokkansenteret rapport (5), Bergen: Uni Research Rokkansenteret, ISBN 978-82-8095-108-3
- Bock, B.B. (2016). Rural Marginalisation and the Role of Social Innovation; A Turn Towards Nexogenous Development and Rural Reconnection. *Sociologia Ruralis*, 56, 5, 552-573.
- Båtevik, F.O. og Grimsrud, G.M. (2017). Nye sentrum–periferi-mønster? Tilgang til kompetanse gjennom arbeidsinnvandring. In: Andersen, J.R.; Bjørhusdal, E.; Nesse, J.G., T. Årethun (red.) *Immateriell kapital. Fjordantologien 2017*. s. 49-68 ISBN 9788215028163, Universitetsforlaget. DOI: 10.18261/9788215028163-2017-03
- Båtevik, F.O. & Halvorsen, L.J. (2016). Den entreprenørielle distriktsbutikken som nærings- og utviklingsaktør i små lokalsamfunn. I: Kvangarsnes, M; Håvold, J.I, Helgesen, Ø. (red.) *Innovasjon og entreprenørskap*, s. 82-101. DOI: 10.18261/9788215027623-2016-05
- Båtevik, F.O., Grimsrud, G.M. and Netteland, G. (2014). *Nye innbyggjarar, nye utfordringar? Vestlandskommunane i møte med arbeidsinnvandrarane*. Forskningsrapport 59. Volda: Møreforskning.
- Christiansen, E. (2019). Input for Nordregio seminar 12th of September 2019. Kommunufelagið, Faroe Islands
- Cruickshank, J. (2009). A play for rurality – Modernization versus local autonomy. *Journal of Rural Studies*, 25(1), 98–107. doi: 10.1016/j.jrurstud.2008.06.005
- Grimsrud, G.M. (2011). How well does the 'counterurbanisation story' travel to other countries? The case of Norway. *Population, Space and Place*, 17: 642-655 DOI: 10.1002/psp.6552017
- Grimsrud, G.M. and Aure, M. (2013). *Tilflytting for enhver pris? En studie av tilflyttingsarbeid i norske distriktskommuner*. Bergen: ideas2evidence ISBN 978-82-93181-13-2
- Grimsrud, G.M and Båtevik, F.O. (2016). Velkommen til bygda? Tilflyttingsarbeidets tvetydighet. I: *Lokalsamfunn*. Cappelen Damm Akademisk ISBN 9788202514310. s. 283-302

Gythfeldt, K. and Heggen, K. (2012). *Er høgskolene regionale kvalifiseringsinstitusjoner? Likheter og ulikheter mellom høgskolene på Vestlandet og i hovedstadsregionen*, rapport 2012 nr. 5, Høgskolen i Oslo og Akershus.

Halfacree, K. (2008). Trial by space for a 'radical rural': Introducing alternative localities, representations and lives. *Journal of rural studies* 23 (2), 125-141

Hansen, J. Chr. (1972). Regional disparities in Norway with reference to marginality. *Transactions of the Institute of British Geographers*, 57, 15-30. Doi: 10.2307/621551

Heinonen, J. and Junnila, S. (2011). A Carbon Consumption Comparison of Rural and Urban Lifestyles *Sustainability* 2011, 3(8), 1234-1249; <https://doi.org/10.3390/su3081234>

Knudsen, J.P. (2018). Towards a new spatial perspective – Norwegian politics at the crossroads, *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, 72 (2), 67-81, DOI: 10.1080/00291951.2018.1445125

Knudsen, J.P. (2017) Vicarious habitation – reinterpreting the role of peripheral living in a Nordic context, *European Planning Studies*, 26 (2), 279-296, DOI: 10.1080/09654313.2017.1361589

Leknes, E., Onsager, K., Bayer, S.B., Haus-Reve, S. and Johansen, S. (2018). *Evaluering av utviklingsprogrammet for byregioner*. Stavanger: International Research Institute of Stavanger 2018 ISBN 978-82-490-0923-7

KMD (2015). Nasjonale forventninger til regional og kommunal planlegging. Oslo: Kommunal- og moderniseringsdepartementet

KMD (2019). Om kommunereformen (about the municipal mergers on the government's website). <https://www.regjeringen.no/no/tema/kommuner-og-regioner/kommunereform/id751048/> (accessed 9.10.2019)

Lotherington, A.T. (2002). *Ikke for kvinnes skyld... En analyse av kvinnerettet distriktspolitikk i Norge 1980-2000*. NORUT Samfunnsforskning AS Rapport nr 13/2002. ISSN 0804-6069

Meld. St. 18 (2016–2017). *Berekraftige byar og sterke distrikt*. Kommunal og moderniseringsdepartementet

Næss, P., Saglie, I.-L. & Thorén, K.H. (2015). Ideen om den kompakte byen i norsk sammenheng. Hanssen, G.S., Hofstad, H. & Saglie, I.-L. (eds.) *Kompakt byutvikling: Muligheter og utfordringer*, 36–47. Oslo: Universitetsforlaget.

Teigen, H. (2012). Distriktspolitikk gjennom 50 år – Strategane og avviklinga. *Nytt Norsk Tidsskrift*, 29 (2), 157-165.

Krange, O. and Skogen, K. (2019), *Ulovlig jakt på store rovdyr. Holdninger i befolkningen, lokalsamfunn og blant jegere*. NINA rapport (ISSN 1504-3312)

Lindqvist, M., Olsen, L.S. and Baltzopoulos, A. (2012). *Strategies for Interaction and the Role of Higher Education Institutions in Regional Development in the Nordic Countries*. ISSN 1403-2503; 2012:2, Stockholm: Nordregio



Ray, C. (2001). *Culture economies: A perspective on local rural development in Europe*. Centre for Rural Economy, Newcastle  
<https://www.ncl.ac.uk/media/wwwnclacuk/centreforruraleconomy/files/culture-economy.pdf>  
(accessed 9th Oct. 2019).

Ruud (2018). Interview with CEO Ruud in Animalia.  
<https://svineportalen.no/kjottforbruket-ned-to-prosent/> (accessed 9th Oct. 2019)

Rydén, I.P 2019. Input for Nordregio seminar 12th of September 2019. Ministry of Enterprise and Innovation, Sweden

St.meld. nr. 33 (1992–1993). *By og land hand i hand. Om regional utvikling*. Kommunal og arbeidsdepartementet

Sømme, A. (1968). *A geography of Norden: Denmark, Finland, Iceland, Norway, Sweden*. London: Heinemann

Sørli, K., Aure, M., Langset, B. (2012). *Hvorfor flytte? Hvorfor bli boende? Bo- og flyttemotiver de første årene på 2000-tallet*. NIBR-rapport 2012:22. Oslo: NIBR

Urry, J. (1990). *The Tourist Gaze: Leisure and Travel in Contemporary Societies*. London: Sage Publications

Woods, M. (2005). *Rural Geography*. London: Sage Publications

- In Finland, **rural policy is considered as a part or a sector of regional development as well as urban policy and island policy**. The Ministry of Economic Affairs and Employment is responsible for integrating the rural policy with overall regional development.
- At the moment, the Ministry of Agriculture and Forestry has the responsibility for rural and island policies whereas regional development and urban policy are taken care of by the ministry of Economic Affairs and Employment.
- Last November, Finland celebrated **30 years of cross-sectoral rural policy** and I would say rural policy is very much **alive and well organized**. This is true especially when compared to urban policy that has not always had a stable position on political agenda despite a strong tradition of urban policy concentrated on innovation and competitiveness starting in the 1990's. Therefore, I would say that the **statement on traditional rural development policies of the Nordic regions are on a downward slope is, to some extent, exaggerated in the case of Finland**.
- This is true amid Finland's **fast urbanization** during past years. Urbanization in Finland has taken place **rather late** but that it is the pace is quick. What is rather worrying, the population is concentrating in three biggest cities that are attracting working-age population from smaller cities, I would say rather than countryside even.
- **Rural areas are not uniform but diverse**, and therefore we need to understand both the "rurals" and "urbans" in more detailed way and beyond administrative borders. In Finland, we use a **GIS based regional typology that uses grid data as starting point**. We have found the typology very useful tool in understanding regional development and changes and tailoring policy measures to meet regional and local needs.
- Gro Marit states in her working paper **that the environmental turn favors urbanism** and at worst, this may lead to **marginalizing rural regions**. I recognize this possibility by the discussion in Finland. At worst, people living in rural areas are made to **feel guilty** for having to use their car instead of public transport etc. as living in densely populated cities is considered superior what comes to reaching climate targets. However, there is **research-based evidence to witness that the type of region plays smaller role that has been assumed but it is the level of total consumption that matters**.

---

<sup>12</sup> Ministry of Economic Affairs and Employment, Finland. Email: hanna-maria.urjankangas@tem.fi

- Another thing is, that the **discussion on sustainable level of usage of natural resources such as forests, is somewhat heated**. In a country whose wealth is historically built on forestry this is something new. What should we think about forests? **Are they primarily a source of raw material or a carbon sink?** There is a clear shift in discussion as a few years back bioeconomy was considered one of the most promising sectors of economy in Finland and at the moment, we are discussing whether there is enough wood in the country to supply for the growing needs of forest industry. This is clearly a question of sustainability – which aspects should we prioritize?
- I would like to think that **rural areas are a part of solution when responding to climate change**. In order to accelerate the role of bio- and circular economy we need lively rural areas. However, this means that we **need to solve the tensions between different aspects of sustainability**. Rural areas are needed to provide clean water and food, let alone diverse ecosystem services. All of this means, that people living and working in the countryside have an important role and it is important that people can choose to live and work in rural locations as well as in cities.
- To conclude on environmental turn, I would stress that **different regions have different solutions to tackling climate change. Global challenges often call for local, place-based solutions**. Therefore, it would be important to work across different levels of government and localize the actions needed. This is already taking place in most cities, but should be done on regional level as well, for example in the form of regional roadmaps to carbon neutrality.
- We are currently in the process of preparing the **new Government's regional development priorities**. In the government's programme regional development plays quite an important role as the programme **recognizes different types of regions and cities from metropolitan region to sparsely populated rural areas**. Also, the programme emphasizes place-based development and **developments based on regional strengths and specialization**. The aim is a balanced regional development and the idea that people should be able to live and work where ever they choose to.
- If you consider urban-rural interaction, the somewhat worn-out concept is gaining new force **via multi-locality**, or residential multi-locality, meaning that people share their time between different locations. This is seen as a possibility to rural areas. A **precondition** for this is that there are broadband connections and other infrastructure and services available that serve not only the permanent residents.
- I agree strongly with Gro Marit on that we should **see rural areas via their possibilities and opportunities what comes to climate change or small-scale activities and not only concentrate on shrinking population or other negative aspects**. Life can be experienced good in different kinds of environments. One way of looking forward are local and regional strategies of “smart shrinkage”, turning population decline into strength.

- The way rural areas are presented and discussed in the media is mainly via shrinkage and we need to be active in order to diversify discussion.

First of all, thanks for an interesting and inspiring presentation and paper.

When you come from a place like Faroe Islands, as I do, talking about rural development is always a dilemma. The whole nation, Faroe Islands, is a rural part of Scandinavia at the outskirts of Europe. In this regard The Nation (Faroe Islands) can be compared to other rural regions in part of Scandinavia or in Iceland, and we can use some of the same tools, policies and strategies to develop our country that other regions use.

On the other hand, we also have centre and periphery inside the Faroe Islands. You can say a periphery in the periphery that has some other challenges and needs some other tools and solutions.

In this respect the Faroe Islands can be regarded as a region with rural and urban regions. I therefore can only agree, when you say there are many definitions of the meaning of rural and regional.

You mentioned a change in Norway, where rural development policy changed its label and its aim to regional development policy. Maybe rural development policy can be seen as rural development in the Faroes internally, and regional policy can be seen as the Faroe Islands (The Nations) struggle to keep the population growing.

Talking about one kind of rural development, one kind of rural politics, in the Nordic countries is of course very difficult, as there are so big differences between the countries.

Faroe Islands can be compared with Akureyri or the region Norðurlandi.

Prioritizing the University of the Faroe Islands has had the same effect there as it had on Akureyri or Norðurlandi.

But perhaps we need to have to classify or define some groups of regions and rural societies, like Jose Enriq mentioned. Thus, we are able to pair similar regions and municipalities for more fruitful comparison.

The part “The climate change and the bad reputation of the rural areas”, which refers to the fact that the green shift favours the big cities is very interesting. As you say, big and compact cities are authorised as the areas for low carbon emissions, on the other hand small places are bad for the environment.

Not only are these areas regarded as costly, inefficient, incompetent and unattractive to the younger generations – they are also bad for the environment.

It is a very good illustration of the point that reality is created and defined by the Center.

But the Green shift is also an opportunity for the rural areas.

In 2015 the Faroese Energy Company SEV was awarded the Environmental Price of the Nordic Council for its work with renewable sources of energy and vision “100by2030”. The goal of the Faroese government is that the entire energy consumption on land must be electrified and covered by renewable energy sources by 2030.

---

<sup>13</sup> Kommunufelagid, Faroe Islands. Email:eydunc@kf.fo

Sustainable settlements or villages appear in several areas. I just read in the Newspaper about Torup og Dyssekilde being nominated villages of the year in Denmark. They are eco communities Northern Seeland.

I believe there are opportunities for the rural areas as well in the green shift. There already is a lot of good examples out there, and Nordregio has a project on establishing a network of Nordic islands with ambitions and possibilities for becoming carbon neutral.

The article is rather critical or pessimistic of the future regional researchers. The rural research community has shrunk considerably over the past years, with few if any new recruits. This is a potential problem for knowledge production and innovations in this field.

Although I am not capable to repudiate or verify this trend, I believe some of the areas you mentioned in the article are part of ongoing projects in Nordregio (climate, housing ect.).

I totally agree, however, with your recommendations in the final part of your article.

As I mentioned I am the leader of the association of Faroese Municipalities, which is a political interest organization. Most of the politicians of the municipalities are not in the business of highfaluting goals, they usually seek practical tools to solve practical problems.

The housing situation is one example.

- We need to find solutions or tools to alleviate the housing problem in rural areas. Many rural communities in the Faroes – and I know the situation is alike in Iceland – experience that people from the cities, and foreigners, own considerable portions of the houses in the rural communities. These houses are not for rent, and the private banks are not interested in financing new houses in rural communities. Thus, people can't move to the rural communities.

How is this problem met or solved in other countries?

- We also need to find new solutions or tools to help managing the tourism industry. It is a fact that many rural areas in the Faroes, in Iceland and in Norway do not benefit financially from tourism. They only get the disadvantages. Tourism is governed by the big players: Airlines, shipping companies, big hotels and tour operators. How local communities can benefit from tourism development is a most relevant question. This is how the vast majority of the people in rural areas feel, and they are right: By definition, tourism is not sustainable if rural areas merely are left with its negative consequences, while big businesses in the centre areas (or in foreign countries) reap the benefits.

How is this problem met or solved in other countries?

- Finally, and more overall, we need to find common solutions to, how rural areas can reinvent them self in more viable ways. How can we for example rid ourselves of the image of rural areas as awkward, conservative, boring societies?

I believe it is very important that the policy makers are enabled to see the relevancy of the research.

The foremost task of research therefore is to disseminate the perspectives and the relevancy of its findings to the political system, especially to the policy makers.

We have to ask, how the results can be presented to the political system, so that it absorbs the information and appreciates the relevancy, usefulness and applicability of its findings?

This must be one goal for the future of regional development research in the Nordic.

*Isabella Palomba Rydén<sup>14</sup>: Comments on the draft version of Rural regions at a crossroads: Policy challenges for the future by Gro Marit Grimsrud*

Gro Marit Grimsrud's paper on policy challenges for the future gives us an interesting historical overview of the rural and regional policy of Norway. The paper analyses the most recent history considering the lower economic allocation to the rural areas over time and the environmental challenges. The paper gives some recommendations based on this paper and on the few reports on regional development that are available according to the writer.

The historical overview gives us the chance to reflect on the similarities between Norway and the other Nordic countries. The high urbanization process that has taken place in Norway has taken place also in Sweden. In Sweden since 2005 there are 290 municipalities and 85% of the population live in urban areas. If we go as far back as to 1952 a boundary reform more than halved the number of municipalities to 1037 and only half of the Swedish population lived in county municipalities at that time.

The policies for the rural areas in Sweden have addressed in the past mainly the rural areas as areas for the agricultural sector. Now the government has taken a broader perspective. In 2018 the parliament passed a Governmental bill stipulating an objective for a coherent rural development policy, aiming at long-term sustainable development of Sweden's rural communities. In Sweden we now for the first time have a coherent rural policy, a broad all-inclusive approach that is based on an all-party commission of inquiry.

The aim of the bill is to address the rural areas in Sweden as more than traditional business around the agriculture sector. The main focus is the concept of equal possibilities and its wider meaning as *Viable rural areas with equal opportunities for enterprise, work, housing and welfare that leads to long-term sustainable development throughout the country*. In other words, it should be possible to live in rural areas on equal terms as in urban areas. The sub targets are economic, ecological and social sustainability and should serve as guidance in the development of the policy.

The implementation of the policy has just started, and the first results will be seen in the Budget Bill for 2020 to be presented to the Parliament on September 18<sup>th</sup>.

Gro Marit Grimsrud's paper provides some policy recommendations. The need for more research and good examples is big. Also, we would like to add the need for research focused on the relationship between the urban and the rural areas – how can both these realities take advantage from each other rather than conflict with each other? There is also a need to make sure that the results of the research undertaken reaches the policy makers and thus provides ground for political decisions.

---

<sup>14</sup> Department for Rural Affairs, Division for Regional Growth and Rural Development, Swedish Ministry of Enterprise and Innovation. Email: Isabella.palomba.ryden@regeringskansliet.se



# Green Path Development and Change Agency in Nordic Regions

## A Collage from the Observations of the Gonst Project

Markku Sotarauta<sup>15</sup>, Teis Hansen<sup>16</sup>, Suyash Jolly<sup>17</sup> and Nina Suvinen<sup>18</sup>

### Abstract

This paper is premised on the idea there are no one-size-fits-all theories and models for transforming regions towards greater sustainability. Consequently, green path development calls for place-sensitive policies, supportive institutional arrangements and the identification of particular leverage points for transition. All this leads to issues related to change agency. This paper proposes that to enhance green path development and to truly construct sustainable regional development models, we need to better understand what actors can actually do to transform and reinvent their regions, and how this can be achieved. There is a need to reach beyond policy formulation and implementation debates. In this paper, these issues are scrutinised from the perspective of green path development and change agency in Nordic regions. The paper is based on the Nordic research project 'Where Does the Green Economy Grow? The Geography of Nordic Sustainability Transitions.'

## 1 Introduction

With climate change advancing and the challenge of sustainable development mounting, there is an increasing need to find solutions to many wicked problems locking us into the past and to provide workable, alternative visions for the future. In this paper, these issues are scrutinised from the perspective of green path development and change agency in Nordic regions. The scrutiny is based on an extensive Nordic research project, 'Where Does the Green Economy Grow? The Geography of Nordic Sustainability Transitions' (Gonst).<sup>19</sup> In practice, this paper is a collage of the work done and tentative observations made in one of the six work packages of the project by August 2019.

The starting point for the project is that there are no one-size-fits-all theories and models to be readily implemented for transforming regions towards greater sustainability. Consequently, the second starting point is that green path development calls for place-sensitive policies, supportive institutional arrangements and the identification of particular leverage points for transition. In our

---

<sup>15</sup> Urban and Regional Studies Group (Sente), Tampere University. Email: markku.sotarauta@tuni.fi

<sup>16</sup> Department of Human Geography, Lund University. Email: teis.hansen@keg.lu.se

<sup>17</sup> Urban and Regional Studies Group (Sente), Tampere University. Email: markku.sotarauta@tuni.fi

<sup>18</sup> Urban and Regional Studies Group (Sente), Tampere University. Email: nina.suvinen@tuni.fi

<sup>19</sup> The Gonst project brings together investigators from six universities and research institutes in Denmark, Finland, Norway and Sweden. It is funded by the Nordic Green Growth Research and Innovation Programme in cooperation with NordForsk, Nordic Innovation and Nordic Energy Research [grant number 83130]. The project is coordinated by Lund University. See more at gonst.lu.se

thinking, all of this leads to issues related to change agency. The concept of path development is used to situate manifold developments and related agency into a dynamic framework. From these starting points, the Gonst project seeks to answer the question of where and how the green economy is growing. The project is based on a mixed methods approach, utilising both qualitative and quantitative techniques. This paper draws mainly upon the qualitative case studies, while quantitative methods have been applied in the analysis of the importance of human capital and technological specialisation in the greening of the Nordic countries and their regions (see Tanner et al., 2019; Østergaard et al., 2019).

Observations made in studies focusing on cluster development, regional innovation systems or the resilience of regions have led academic research to focus more and more on issues related to change agency (e.g., MacKinnon et al., 2018). Moreover, recent literature on the dynamics of regional development shows that translating the observations and experiences from the past to the conscious creation of new development paths necessitates linking change agency both conceptually and functionally to path development frameworks (Karnøe and Garud, 2012). Consequently, this paper proposes that to enhance green path development and to truly construct sustainable regional development models, we need to better understand what actors can actually do to transform and reinvent their regions, and how this could be achieved. The many issues related to green path development may be reduced to our capacity to think, act and make decisions across many divides. The need to revisit regional development capabilities is more urgent than ever. What we need is a robust theory and practical recommendations not only on what kind of policies are needed but on *how* to influence, lead complex processes, and hence to embed the capacity to transform regions strategically. As a result, in being increasingly and simultaneously confronted with ecological as well as social and economic difficulties, regions face the issue of leadership more urgently than ever. Yet sustainable regional development is difficult to achieve in practice because of constraining rules, procedures, short-term perspectives and conflicts of interests. To overcome these and many other bottlenecks, change agency needs to be better understood than it has up to this point.

This paper aims tentatively to answer following questions: (a) what kinds of agency are required in green path development, and (b) what are the main actors in the efforts to green regions? First, to outline the conceptual framework, the concepts of green growth, path development and the trinity of change agency are briefly introduced. Tentative observations of the case studies carried out in the Gonst project are then introduced, and third, issues related to agency are briefly discussed.

### The cases

In total, eight case studies have been conducted. The focus in each regional case study is slightly different, as the cases were selected based on the quantitative analysis (four cases) and the reputations of regions for being frontrunners in their own countries (four cases). Several case studies revolve around the bioeconomy (Scania, Värmland, Trøndelag and Central Finland), while the Hordaland, Northern Jutland and Southern Denmark cases are about the greening of the maritime industry and offshore wind industry (Andersen et al., 2019). The case of the Tampere region deals with developments around generic technologies, which can be categorised under the rubric of cleantech.

In this paper, the main emphasis is on the Danish, Finnish and Swedish cases. The empirical case analysis is based on 79 interviews with key actors as well as the analysis of secondary data consisting of the main policy documents, media archives and earlier studies of the case regions.

## 2 The key concepts: Green growth, path development and change agency

### Green growth

Many governments all over the world have adopted the “green growth” thinking to frame the greening of their economies. By doing so, they aim to highlight the economic opportunities rather than the many threats arising from climate change (Capasso et al., 2019). The Organisation for Economic Co-operation and Development (OECD) defines green growth as enhancing economic growth, but simultaneously secure ecological sustainability. Therefore, there is a need to speed up innovation underpinning sustained growth and new economic opportunities (Green Growth, 2015). This line of thinking is based on a conviction that we need green industries that “develop and sell products, solutions or technologies that improve the environment, either directly or through a more efficient utilization of resources” (Grillitsch and Hansen, 2019, p. 2166). Green growth may have highly varying characteristics, as shown in a review introducing 50 Nordic green growth cases (Mikkola et al., 2016).

All the countries and regions studied in the Gonst project have adopted the green growth agenda.

### Green path development

Green path development refers to industrial development around products, solutions or technologies that “reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services” (UNEP, 2011, p. 16). Green path development opportunities and practices vary between regions (Grillitsch and Hansen, 2018), but at all events, all sorts of actors at different scales have adopted sustainability thinking and embedded it into their own strategies and objectives. Often all of this is reflected in ambitions to boost green industries (Coenen et al., 2015; Hansen and Coenen, 2015).

Grillitsch and Asheim’s (2018) three broad categories are useful in the categorisation of green paths. (1) *Upgrading* is about existing industrial paths changing qualitatively, potentially in three different but intertwined ways: (a) climbing in the hierarchy of global production networks by introducing green services and products, (b) introducing major changes by the adaptation of new green technologies and/or the introduction of new sustainable business models (renewal), or (c) identifying, creating and/or invading niches to tackle issues raised by climate change and other environmental demands. (2) *Diversification* refers to existing industries diversifying into new green industries, and (3) *emergence* is about the creation of completely new green industries, which are not based on the existing competencies and technologies or market demand from the existing regional industries (Grillitsch and Hansen, 2018).

Put simply, all the cases are about upgrading existing industries and businesses towards greener practices. The main ambition is not only to enhance sustainability measures but also to improve the regional conditions so that businesses and other actors would be able to improve their positions in the global production networks by greening their offerings and finding new niches. Technology

development is one of the key dimensions in these efforts. It seems that upgrading is the main line of action, but accompanied by hopes, intentions and explicit objectives to diversify the regional economies and perhaps to potentially introduce something completely new. The borders between regional development paths are not fixed or non-renewing.

#### Trinity of change agency

Grillitsch and Sotarauta (2019) argue that regional transformation and path development call for three types of potentially overlapping agency: innovative entrepreneurs, place leadership and institutional entrepreneurship. They label these three forms of agency the *trinity of change agency*. The first of the three, *innovative entrepreneurs*, are capable of perceiving emerging opportunities and are willing to take risks for value creation. Innovative entrepreneurship is a driving force for change (Shane and Venkataraman, 2000). Regional transformation also needs risk-taking and opportunity-savvy *institutional entrepreneurs*, who work to change the institutional arrangements. They are individuals or groups of individuals, but also organisations or groups of organisations, that initiate change processes with the ambition to change institutional arrangements or introduce new elements to them (Battilana et al., 2009; Sotarauta and Pulkkinen, 2011). Institutional entrepreneurs are crucial, as they pave the way for other actors. For their part, *place leaders* pool competencies, powers and resources for collective action. They work first and foremost for their locality or region. As path development is about multi-actor, multi-vision and multi-ambition processes, place leadership is an essential element in any effort to transform a region. Grillitsch and Sotarauta (2019) suggest that the absence of one or more forms of the trinity of change agency or poor interplay between them may be among the main reasons why efforts to transform regions so often fail. Conversely, a well-balanced trinity of change agency may be one of the success factors.

### 3 Some tentative empirical observations from the Gonst case studies

In this section, some selected observations from the case studies are discussed to highlight the nature of path development and change agency. As the interview data have not yet been fully analysed, all the observations are preliminary and suggestive. More systematic analyses and reporting will follow.

The case study on **The North Denmark Region** is about regional path renewal in greening the maritime sector, evolving from the existing shipbuilding industry in the region. For this line of industry, North Jutland has an advantageous geographic location in the middle of the North Sea, Kattegat and Limfjord. It has developed into a well-functioning hub for several small- and medium-scale maritime equipment manufacturers and service providers. The maritime industry has grown by adding new value-added business activities around maritime equipment manufacturing. Maritime service providers have been integrated into shipping, fishing, offshore oil and gas, and offshore wind power (for more, see Andersen et al., 2019).

The case study emphasises the complex interplay between multiple actors at all levels of governance (Andersen et al., 2019). Local and regional authorities have assumed the role of place-based leaders, while the many private and public-private actors are the central entrepreneurial actors. They have played an important role in developing green shipping and green maritime technology by investing in specialised R&D units. The regional authorities have played an instrumental role in

prioritising the maritime industry as a main target of the region and then formulating a regional strategy to promote the region's maritime industry. The regional authorities have focused on developing competencies, supporting business development, organising networks with regional firms and maritime organisations and aligning with EU funding programmes for the regional maritime industry (Sotarauta et al., forthcoming).

However, the greening of the maritime sector has been slow and gradual due to the uncertain nature of global and EU-level regulations and the different interests of shipping ports, shipowners, cargo owners, and maritime equipment manufacturers and suppliers. Actors need to navigate a complex set of institutional arrangements, including environmental regulations set by the International Maritime Organization (IMO) and EU for greening the maritime industry. Due to the global nature of the maritime industry, the region has struggled to introduce significant green initiatives, except for new, innovative demonstrations and test initiatives by the maritime equipment suppliers in the region (Andersen et al., 2019).

The case study of **The Region of Southern Denmark** is about the emerging offshore wind energy sector in Esbjerg. It has benefitted from the symbiotic relationship with the offshore oil and gas industry, developments in the onshore wind industry and the presence of suitable infrastructure conditions provided by the Esbjerg port area (Andersen et al., 2019). Indeed, according to Andersen et al. (2019), relatedness to existing regional industries, the presence of relevant knowledge and skills in the region, and the implementation of specific regional policies and programmes can be seen as essential factors for regional path development. The port of Esbjerg has played a key role in enhancing the new industry in the region. It has worked together with offshore wind firms and suppliers in the region and aimed to solve their challenges moving forward. The port authority offers a flexible infrastructure for different offshore wind firms and provides continuous support by adopting flexible approaches. In a short paper, it is not possible to fully discuss the whole spectrum of actors that have contributed in their own ways to the greening of the maritime industry, but it is worth mentioning that, in both Danish cases, the regional universities have collaborated with the regional maritime and offshore wind industries and supported the development of new knowledge for product and service development.

The case study of the **Tampere Region** (Finland) deals with cleantech. The region and the city have adopted the concepts of circular economy, cleantech and bioeconomy. Both aim to construct policy platforms for the mobilisation of new kinds of ecosystems and thus find novel ways to identify the policy contents as well as to organise interaction and communication between various actors (Sotarauta and Suvinen, 2019). The ambition of using platforms as policy vehicles is to contribute to building value chains, enhancing their quality, introducing innovation and creating additional value. Land-use planning, main infrastructure projects and waste management are used as innovation platforms to build innovation ecosystems, i.e., to mobilise heterogeneous groups of actors to benefit from each other's competencies. From a policy perspective, the core actor is the City of Tampere, and at an operational level the infrastructure actors are seen as anchor organisations. Interestingly, it is much more common than in a cluster policy to have infrastructure-related organisations (waste management enterprises, energy enterprises, electricity companies, land-use planning) to take a central role in specific projects. Earlier, in the context of development programmes, the lead was often

taken by the main industrial companies and/or universities. This represents a clear deviation from the earlier local innovation policy approach that was constructed around multi-year and multi-actor development programmes to identify policy platforms on something the city was already doing (for more, see Andersen et al., 2019; Sotarauta and Suvinen, 2019).

The case study of **Central Finland** focuses on the bioeconomy. As in the case of Tampere, also in Central Finland, the developments are organised around platforms as a specific ecosystem is being constructed around the new bioproduct mill of Metsä Group. The mill itself produces not only high-quality softwood and hardwood pulp but also a range of other bioproducts (tall oil, turpentine, bioelectricity, product gas and sulphuric acid). The company is building the first ring of the ecosystem around its mill – its products as well as multiple material flows, including side streams and effluents produced by the manufacturing process. Some of the first-ring partners are converting the side streams of pulp production into bio products that either create additional value to the local community (district heat) or are new businesses in their own right (bioenergy). Instead, the local development actors are actively involved in constructing a second ecosystem ring. They work to mobilise companies from different industries, such as manufacturers related to bioeconomy, knowledge-intensive services, logistics, maintenance services, housing, and so forth, and they also aim to induce scientific research groups to become members of the ecosystem and potentially also to locate in the region.

With local development actors, Metsä Group has initiated divergent changes, which in time are expected to change not only regional conditions for the forest industry but also those in the industry more broadly. If in Tampere the leadership is in the hands of the city council, in Central Finland the institutional leader is one of the Finnish forest industry giants. In a way, the new bioproduct mill is simultaneously about path upgrading and diversification, and potentially also the emergence of something new. It is not only in search of new products but is also constructing a novel ecosystem with other actors around its new bioproduct plant. The bioproduct mill is seen as a platform for other organisations to experiment with and produce their own products (Andersen et al., 2019; Sotarauta and Suvinen, 2019).

The case study of **Värmland** (Sweden) addresses the efforts to boost bioeconomy. The crisis in the existing pulp and paper industry in the 1990s forced the region and the companies to search for new development paths. As in Central Finland, a new vision of change for a traditional pulp and paper industry has emerged, its focus being on utilising waste streams and developing new services and products by extensive collaboration among core stakeholders. While in Central Finland the core institutional leader is a corporation, in Värmland leadership is shared between the Värmland Region and the leading firms (Stora Enso, Billerud Korsnäs, etc.). Basically, all the main corporate players of the region have been mobilised to contribute to diversification and upgrading the existing bioeconomy-related path, and a designated cluster organisation has been established to take care of the management of collective development efforts. The core private organisations share the ambition to push the industry forward with public agencies. In the regional development programme, some critical issues have been raised: (1) the peripheral nature of the Värmland Region, which makes it difficult to attract skilled, high-quality workers, and (2) the vested interests of the incumbent pulp and paper manufacturing firms in structural maintenance and an exclusive focus on exploiting existing competencies (Andersen et al., 2019; Jolly, Grillitsch and Hansen, 2019).

The case study of **Scania** (Sweden) focuses on the path creation on the biogas industry in Southern Sweden. This case study highlights the role of strong alignment with the waste management, agricultural and food, and public transportation sectors in the region, as well as strong system-building activities by the regional stakeholders and strong political support by the regional government (Andersen et al., 2019). Although the biogas industry in Scania began with a promising start and scaled up rapidly until 2011, it faced significant challenges due to strong competition with the emerging electric vehicle sector and direct competition with cheaply imported biogas from Denmark. In recent years, the biogas sector in the region has seen a considerable reduction in investment, with biogas producers not being able to sell their biogas due to overreliance on a single buyer, i.e., the regional public transport authority *Skånetrafiken*. For the future of the regional industry, there is a need for more stable and transparent rules at the national level in terms of long-term support mechanisms and stable incentives to reduce uncertainty for future investments in the regional biogas industry.

#### 4 Discussion: Change agency for sustainability in the North

The case studies show how natural endowments and existing industrial specialisations frame path development (Andersen et al., 2019). Based on their extensive literature review, Capasso et al. (2019) maintain that green growth requires competencies that allow for handling complex, non-routine situations in both the private and public sectors as well as between them. In other words, the different capabilities of change agents need to be pooled, mobilised and coordinated to support green transition, and how actors are motivated to work together in the context of clusters (Värmland, Trøndelag, Hordaland, Norway) or on joined platforms (Tampere Region and Central Finland) (Andersen et al. 2019). Our research work, still in progress, suggests that proactive interaction between innovative entrepreneurship, institutional entrepreneurship and place leadership may indeed play a decisive role in these efforts.

In all of our cases, we can identify actors who have taken the lead in pooling resources, powers and competencies to direct the greening of the development paths. Often, local and regional development authorities play a leading role; they have an assignment to work for the region and also clear societal pressure to green the economy. In the Nordic countries, close collaboration between key actors is embedded in the basic assumptions of the coordinated economy systems, and hence leadership emerges more from the formal governance system than outside it. Importantly in all the cases, several firms in different capacities have been mobilised – or have been among the mobilisers – to contribute to the collective effort and exploit it. The public authorities also play a key role, in slightly differing ways, through their support functions, paving the way for major corporations, SMEs or start-up firms.

Yet the other side of the coin reveals sluggish decision-making and slowly progressing improvements in regulative institutions, as well as a lack of incentives, which are often significant barriers for new path development. The cases also show that, in some regions, the many overlaps between public actors and their provision of specialised services in similar functional domains for a regional cluster have not made the path development any easier. Multiple public organisations with overlapping services and activities create ambiguities in organisations doing overlapping work, serving individual interests and not coordinating with each other. Of course, change agents, by necessity,

operate in the jungle of multi-scalar institutional arrangements and face all sorts of difficulties, and hence they more often than not struggle to initiate and direct regional path development (MacKinnon et al., 2018). Change agency can be dauntingly complex, which is exactly the reason it deserves additional attention in both academic research and the world of practice. Importantly, several studies highlight how agency may be distributed but is still a strategic and future-oriented driver for change (Dawley, 2014).

## 5 Conclusion

In sum, institutional leaders provide the change processes with directions, and they work to change institutions to better support the greening of regional economies, while innovative entrepreneurs perceive and strive to realise new opportunities. Our cases suggest that these two forms of agency have both, in their own ways, played central roles in green path development. We suggest that, in the North, institutional entrepreneurship is not based on any individual organisation or a person but is shared regionally and beyond, involving national and international actors. It is shared to control the risk, to better understand the multi-dimensional issues from several perspectives, and to shape as early as possible the notoriously complex multi-actor decision-making processes. In every case region, for the initiation of divergent institutional changes in support of green path development, a shared action has been mobilised; organisations designated to support this by managing boundary-spanning and co-ordination functions have been established, or respective roles have been assigned to an existing organisation.

Moreover, in a fairly typical Nordic tradition, all six cases demonstrate strong local- and regional-level leadership (in concert with national actors and policies) assumed by public authorities. Public actors that have assumed a leadership position consciously aim to construct new collaborative spaces (policy clusters, platforms) with state, non-state, business and research organisations. Continuously evolving emergent forms of action necessitate finding such forms of collaboration that benefit both the mobilised members of the collective effort and the region in question. The systems of institutional entrepreneurship are defined by the roles various actors play to pave the way for green path development in their regions for selected industries, products or other commercial entities. There is not a single actor in search of new visions and works to direct the key processes related to green path development, but many that are interdependent, and who are both directly and indirectly aligned to support each other. The system of institutional entrepreneurship does not determine the unfolding of a new path but frames the actions of influential actors in multiple ways.

We suggest that the enhanced green path development calls for a better understanding of institutional entrepreneurship systems, the various roles actors have in them and the ways they are led. All this necessitates reaching beyond formal policies and modes of governance and focusing more on practices and activities.

## References

Andersen, A.D., Bugge, M., Capasso, M., Jolly, S., Klitkou, A., Sotarauta, M., Steen, M. & Suvinen, N. (2019): Green growth in Nordic regions. Eight case studies. NIFU Working paper 2019:7. NIFU: Oslo



- Battilana J, Leca B and Boxenbaum E (2009) How actors change institutions: Towards a theory of institutional entrepreneurship. *The Academy of Management Annals* 3: 65–107.
- Capasso, M., Hansen, T., Heiberg, J., Klitkou, A., and Steen, M. (2019). Green growth – A synthesis of scientific findings. *Technological Forecasting and Social Change*, 146, 390–402.
- Coenen, L., Hansen, T. and Rekers, J.V. (2015) Innovation Policy for Grand Challenges. An Economic Geography Perspective. *Geography Compass*, 9, 483-496.
- Grillitsch, M., & Asheim, B. (2018). Place-based innovation policy for industrial diversification in regions. *European Planning Studies*, 26(8), 1638-1662.
- Grillitsch, M., and Hansen, T. (2019). Green industrial path development in different types of regions. *European Planning Studies*. DOI: 10.1080/09654313.2019.1648385
- Grillitsch, M., and Sotarauta, M. (2019). Trinity of change agency, regional development paths and opportunity spaces. *Progress in Human Geography*. DOI: 10.1177/0309132519853870
- Hansen, T. and Coenen, L. (2015) The geography of sustainability transitions: Review, synthesis and reflections on an emergent research field. *Environmental Innovation and Societal Transitions*, 17, 92-109.
- Jolly, S. Grillitsch, M., and Hansen, T. (2019). Agency in regional path development: Towards a bio-economy in Värmland, Sweden. Papers in Innovation Studies Paper no. 2019/07. Lund University.
- Karnøe, P. and Garud, R. (2012) Path creation: Co-creation of heterogeneous resources in the emergence of the Danish wind turbine cluster. *European Planning Studies* 20, 733–752.
- Mackinnon, D., Dawley, S., Pike, A., and Cumbers, A. (2018). Rethinking path creation: A geographical political economy approach. *Economic Geography*. DOI:10.1080/00130095.2018.1498294
- Mikkola, K., Randall, L., and Hagberg, A. (2016). *Green growth in Nordic regions: 50 ways to make it happen*. Stockholm: Nordregio Reports.
- OECD. (2015). *Towards Green Growth? Tracking Progress*. OECD Green Growth Studies. Paris: Author.
- Shane, S. and Venkataraman, S. (2000) The promise of entrepreneurship as a field of research. *The Academy of Management Review* 25, 217–226.
- Sotarauta, M., and Suvinen, N. (2019). Place leadership and the challenge of transformation: Policy platforms and innovation ecosystems in promotion of green growth. *European Planning Studies*. doi.org/10.1080/09654313.2019.1634006
- Sotarauta, M., Hansen, T., Jolly, S., and Suvinen, N. (forth). The many roles of change agency in the game of green path development identifying the system of institutional entrepreneurship in the North. Unpublished manuscript.
- Tanner, A.N., Faria, L., Moro, M.A., Iversen, E., Østergaard, C.R., and Park, E.K. (2019). regional distribution of green growth patents in four Nordic countries: Denmark, Finland, Norway and Sweden. DTU, Department of Management Engineering: Lyngby.
- UNEP (2011). *Towards a green economy: Pathways to sustainable development and poverty eradication*. Nairobi: UNEP.
- Østergaard, C. R., Holm, J. R., Iversen, E., Schubert, T., Skålholt, A., Sotarauta, M., Saarivirta, T., and Suvinen, N. (2019). The geographic distribution of skills and environmentally innovative firms in Denmark, Norway, Sweden and Finland. AAU, Department of Business and Management: Aalborg.

- The agency perspective is a refreshing approach to regional development - especially in connection with the smart specialisation methods
- Inspired by this paper, we suggest that the future cooperation program addresses the agency perspective as part of the overall approach.
- This will allow us to be more explicit about what roles and actors are needed in regional development and how political authorities at different levels can contribute to this.
  
- The paper inspires also several questions that I think will be interesting to take forward, for example:
  - What national policies matters for a place-based approach to "Green path development" and other regional industrial developments? What policies should be welcomed, because of importance for differensiert type of regions? This may be more important than traditional regional policies.
  - If regional policy is to be place based, how do we manage the risk of imbalances between regions?
  - What role is there for central state policies for reducing regional imbalances in a place-based approach to regional development?
  
- Another question is how to avoid to be non-resilient on the green path. All that is called green transition of industry will not always be considered as environmental friendly, and of the same reason not always will it have local support. This can be a threat to legitimacy and therefore also resilience, and are concerns the division of decision making between local, regional and national level.

---

<sup>20</sup> Department of Regional Development, Norwegian Ministry of Local Government and Modernisation. Email: bjorn-kristen.barvik@kmd.dep.no

## ***Opportunities and Challenges for Nordic Arctic and Subarctic Regions:***

### ***A Case Study Approach***

By Astrid E.J. Ogilvie<sup>21</sup>

#### **Abstract**

Uncertainties regarding climate change and the complexity of social ecological interactions amplify the manifold challenges to present-day life in the Nordic Arctic and Subarctic. Specific challenges include potential climate-driven physical and ecosystem changes and their impacts on interlinked economic activities, ecosystem services, community infrastructure, and human welfare, particularly with regard to livelihoods involving fisheries and marine mammals, as well as shipping and industrial activities. Reduced sea-ice cover and related climate impacts require mitigating strategies to be undertaken through local, regional and international measures in order to adapt to such changes. These may include adaptive resource management, preparedness and human security. Coastal communities in particular are at risk for a variety of reasons, including their fundamental dependence on fluctuating marine resources, regional sea-ice and ocean variability and changes in marine and coastal environments and attendant key issues such as resource governance systems and impacts of industrial activities.

**Keywords:** Climate Change; Húsavík; Nordic Arctic; Qeqertarsuaq; Skjervøya

#### **1. Introduction**

Responsible development and the resilience of Arctic coastal communities are under growing stress in the face of the cumulative impacts of changes in climate, increasing exploitation of northern resources and new governance systems. As new challenges occur in the Arctic and Subarctic including *inter alia* climate change, biodiversity loss, shifting migration patterns, rapidly changing economies and livelihoods, and new patterns of resource access and use, so too must research findings converge around new knowledge and new ways to co-produce

---

<sup>21</sup> Stefansson Arctic Institute. Email: astrid.ogilvie@svs.is

knowledge for innovative solutions and ways of addressing those challenges. Understanding these challenges and their implications for Arctic and Subarctic societies demands convergence research<sup>i</sup> and synthesis of the findings of that research. In addition to this, across the Nordic countries, movements are taking place towards new political and administrative government structures at the regional level (Bukve *et al.*, 2008; Cooke, 2009; Nordic Council of Ministers, 2017).

This paper will focus on a case study involving three Nordic Arctic regions: Iceland, Greenland and northern Norway and will consider two interlinked elements: tourism (specifically whale-watching tourism) and fisheries. It will draw on the methods and findings of one specific research project that has much in common with the Nordic Council of Ministers' goals. This is *Arctic Climate Predictions: Pathways to Resilient, Sustainable Societies (ARCPATH)* a NordForsk-funded Nordic Centre of Excellence Project. The context of this project is the fundamental importance of the Arctic in the climate system, as it is host to key atmospheric and oceanic processes and feedbacks. Added to this, global warming has caused intense changes in Arctic climate, with a rise in temperatures during recent decades that is close to twice that of other regions (Arctic Report Card, 2018; IPCC, 2013, 2018). These rapid changes are a challenge to human welfare that is already at risk from socio-economic as well as climatic drivers (AHDR, 2004; 2014; Einarsson, 2009, 2011a, b; Young *et al.*, 2018). Loss of sea ice is particularly relevant, with a direct and immediate effect on Arctic communities, through increased shipping (and attendant risks) as well as the many complex issues involved in Arctic oil and gas exploration, together with effects on fisheries and marine mammals (Bravo and Rees, 2006; Bravo, 2010; 2017; 2019; Gearheard *et al.*, 2011). Anticipating climate change in the Arctic over coming decades is potentially more important from a societal and adaptation-planning perspective than simply projecting climate into the future – an exercise that is intrinsically uncertain, especially at a regional level (IPCC, 2013; 2018). Climate fluctuations on the timescale of a decade, and at local levels, are strongly influenced by feedbacks internal to the climate system. Above these uncertainties in climate stand the complex social ecological interactions between climate and global change. Together they bring manifold challenges to foreseeing opportunities for responsible regional development in the Arctic.

The ARCPATH project has the overarching goal of fostering responsible and sustainable development. This requires the reconciliation of environmental, social, and economic demands (UNDP, 2011). Thus, these three aspects are central to the project's three main subgoals: *i) To predict regional changes in Arctic climate over the coming decades using innovative methods*

*to capture both anthropogenic and natural factors in global and high-resolution regional models; ii) To increase understanding and reduce uncertainties regarding how changes in climate interact with multiple societal factors, including the development of local and regional adaptation measures; iii) To combine improved regional climate predictions with enhanced understanding of environmental, societal, and economic interactions in order to supply new knowledge on potential “pathways to action”.* These pathways include: i) Evaluations of how potential climate-driven physical and ecosystem changes may affect interlinked economic activities, ecosystem services, and human welfare in Arctic coastal communities; with particular regard to fisheries, marine-mammals, tourism, shipping, and industrial activities; ii) Strategies regarding societal effects of reduced sea-ice cover and related climate impacts and local, regional and international measures to adapt to such changes, including resource management, preparedness and human security. The ARCPATH project has a particular focus on interlinkages between the convergent challenges that involve marine mammal-distribution, in particular whales, and whale-watching tourism as well as fisheries. These issues will be highlighted here.

As with the ARCPATH project this paper will consider three key Arctic Nordic regions: northern Iceland, western Greenland, and northern Norway. This case study has implications for regional development in the Nordic region as a whole. There is a particular focus on coastal communities as these are at risk for a variety of reasons, such as their fundamental dependence on fluctuating marine resources, and attendant key issues such as resource governance systems and impacts of industrial activities. Specific locations have been chosen for comparative study. These are: Húsavík in northeast Iceland; Qeqertarsuaq in western Greenland; and Skjervøya in northern Norway. These are all coastal communities that are highly dependent on marine resources. The following sections will consider a climatic and historical overview, a description of the locations to be considered, and a summary that highlights challenges, regional policies and potential opportunities for the different regions.

## **2. Global and Arctic Climate Change**

Evidence for striking changes in global and Arctic climate in recent decades has increased dramatically and a large body of literature has ensued. The *Arctic Human Development Report* (AHDR, 2004) and the *Arctic Climate Impacts Assessment* (ACIA, 2005) highlighted several key findings focusing on the rapid warming of the Arctic and the potential impacts on Arctic

(and global) communities. These findings, even more compelling now, continue to be corroborated (Forbes, 2011; AHDR, 2014; Stroeve *et al.*, 2014; Kahn, 2016; *Arctic Report Card*, 2018; Overland *et al.*, 2018a,b; Box *et al.*, 2019). Rapid changes in the Arctic and globally may also cause regime shifts that interact with one another to cause cascading effects (Rocha, *et al.*, 2018). The IPCC Fifth Assessment report (2013) concluded: “Effective decision-making to limit climate change and its effects can be informed by a wide range of analytical approaches for evaluating expected risks and benefits, recognizing the importance of governance, ethical dimensions, equity, value judgments, economic assessments and diverse perceptions and responses to risk and uncertainty” (*Summary for Policymakers*, 3.1.).

Figure 1 shows annual-mean temperature variations over the North Atlantic Arctic compared with global-mean variations. Although far from synchronous there are noticeable similarities. Particularly striking is the early-twentieth-century global warming from 1920–40. Although anthropogenic aerosols may play a role, this is thought to be primarily the result of natural forcing related to the Atlantic Multidecadal Oscillation (AMO), which is reflected strongly in the North Atlantic temperature series shown in the figure (see also e.g., Zhang *et al.*, 2007; Semenov and Latif, 2012). Although the North Atlantic region is clearly more variable than the global record in terms of temperature, both show another strong warming trend over 1995 to 2005. While internally generated variability and decadal fluctuations (such as those related to ocean–atmosphere interactions) are important, the longer time-scale changes are primarily due to anthropogenic forcing. There are indications of a downturn in the northern North Atlantic temperatures since about 2005. This may modulate the secular anthropogenic warming trend in the Atlantic sector of the Arctic and Subarctic in coming decades.

The climatic regimes of Iceland, Greenland and northern Norway are quite different, but the climate systems that affect them are closely linked by virtue of geographic proximity. As a result of the warming effect of the Irminger Current (see Figure 2) Iceland enjoys a relatively mild climate. Greenland has a true arctic climate with its surrounding waters dominated by the cold, sea-ice-laden East and West Greenland Currents. In the past, the region has experienced relatively severe ice conditions, with ports commonly closed for long periods due to winter ice and icebergs (Ogilvie, 2010; Miles *et al.*, 2014; Ogilvie *et al.*, 2019;). In the early part of the twenty-first century sea ice has only been a rare visitor to the coasts of Iceland. In recent years, the climate of Greenland has been marked by record warm temperatures, reduced sea ice, significant ice loss by melting, and glacier-area loss (Tedesco *et al.*, 2017; Andersen *et al.*, 2019; <https://nsidc.org/arcticseaicenews/>). Iceland is greening, having experienced very warm years recently, and it is possible that the country's glaciers which have always

been such a dominant feature of the landscape will have disappeared within the next 200 years (Trausti Jónsson, pers. comm; <https://www.euronews.com/2019/07/25/first-glacier-to-disappear-in-iceland-will-be-marked-with-memorial>). Both Iceland and Greenland are experiencing longer growing seasons for crops and vegetation in general, coupled with increased uncertainty concerning the movements and locations of fish stocks. For northern Norway, the pronounced retreat of sea ice (e.g., Onarheim *et al.*, 2014) and increasing influence of Atlantic Water has characterized climate shifts in the region in the Barents Sea (Lind *et al.*, 2018) and around Svalbard (Polyakov *et al.*, 2017) to the extent that the term “Atlantification” of the Arctic was recently coined. These oceanic changes are likely to have had a substantial and direct contribution to the recent climate warming across the region (Isaksen *et al.*, 2016).

### 3. Historical Context

The countries of Iceland, Greenland and Norway are linked both geographically and historically. The settlement of Iceland, primarily from Norway and the northern British Isles, began in the late-ninth century. Approximately 100 years later, small colonies of Norse people from Iceland established two settlements in southern Greenland. They also travelled annually to the Disko Bay area to hunt for prized walrus ivory. By the time Norwegian and Danish missionaries arrived in western Greenland in the early-eighteenth century, the Greenland Norse had long disappeared, leaving a mystery that fascinates people to this day (Barlow *et al.*, 1997; Seaver, 1997; Ogilvie *et al.*, 2009; Ogilvie, 2016).

Greenlanders have traditionally subsisted on marine mammals (Born *et al.*, 2017). This form of subsistence has also been important in Iceland, but on a far smaller scale, although the practice is clearly as old as the first settlement (Kristjánsson, 1980; Perdikaris and McGovern, 2008; Frei *et al.*, 2015). Although foreign fleets pursued large-scale whaling in Greenlandic waters in past centuries, native Greenlanders have hunted whales only for domestic use. This practice continues today, including in our study areas. Whaling has been significant in Norway, which continues to hunt minke whales under an “objection” to the International Whaling Commission's global ban on commercial whaling, which came into effect in 1986. Commercial whaling has been conducted intermittently in Iceland. Initially, large Norwegian whaling stations were operated from the mid-1880s until the First World War, originally on the Vestfirðir peninsula (northwest Iceland) and later on the east coast. By about 1912, stocks had become depleted, and whaling was no longer profitable. In 1916, the Icelandic

Parliament passed an act prohibiting whaling. In the following decades, whale stocks gradually recovered. Whaling resumed on a relatively small scale in 1948 and has continued with intervals. In 2009, Icelandic authorities allowed commercial whaling for a period of five years, with an annual quota of 150 fin whales and 100 minke whales. In 2019, Icelandic authorities decided to step up commercial whaling by allotting increased quotas for 5 years, allowing the annual take of 209 fin and 217 minke whales. However, adapting to changed conditions, Icelanders now also focus on promoting whale-watching as part of a growing tourist industry (Einarsson, 2009; Huijbens and Einarsson, 2018).

Prior to the late-nineteenth century, farming was the most important economic activity in Iceland, although fishing was always a secondary subsistence occupation, as well as an important export item (Ogilvie and Jónsdóttir, 2000; Júlíusson and Jónsson, 2013; Júlíusson, 2018). From that time onwards to the 1990s fishing has been the mainstay of the Icelandic economy. This was overtaken by tourism in recent years and since 2010 tourist arrivals in Iceland have increased by 378% ([https://en.wikipedia.org/wiki/Economy\\_of\\_Iceland](https://en.wikipedia.org/wiki/Economy_of_Iceland)). As recently as the late-nineteenth century, Norway's economy was largely based on agriculture and timber. As with Iceland, fishing was an extremely important addition to farming. Also, as with Iceland, living conditions were extremely harsh, in particular when viewed in comparison with current high standards of living. Although the traditional economic combination noted above is still of great importance, the discovery of petroleum in the North Sea revolutionised Norway's economy.

#### **4. Current Arctic Issues, Concerns and Regional Development**

As noted above, for the purpose of this paper the primary communities and focus areas are the town of Húsavík and the surrounding area of Skjálfandi Bay for Iceland. For Greenland, the focus is the Disko Bay area (in Greenlandic *Qeqertarsuup tunua*), primarily the island of Qeqertarsuaq (Disko Island). For northern Norway, the main focus is on the island of Skjervøya in the vicinity of Tromsø, and the surrounding seas. See Figure 2 for these locations.

The town of Húsavík (population 2,307) has traditionally had an economy focused primarily on fisheries. In the past 25 years whale watching has become a major industry (Einarsson, 2009) and there has been significant emphasis on alternative economic enterprises with considerable success. With a focus on whale watching, it has come to be called the “whale watching capital of Europe”. This can be interpreted as a sign of constructive adaptability and cultural flexibility



(Einarsson, 2009; 2011a,b). A rival for this title is the Andenes area of northern Norway, close to Tromsø. The focus here is on nearby Skjervøya (population 2,881), a stopping point on the well-known Hurtigruten coastal steamer which sails between Bergen in the south and Kirkenes in the north. Skjervøya is a maritime centre with a focus on both fisheries and tourism and was chosen partly because of its similarity to Húsavík—small towns focusing on whale watching that are experiencing increasing numbers of marine traffic with possible impacts on the marine mammals. These are also regions that have not been studied previously in regard to the ecosystem services provided by whales, such as primary productivity and carbon sequestration.

For Skjervøya, humpback and killer whales are the most frequently seen cetaceans, primarily because of the herring shoals currently to be found there during the winter months. When the herring move (as they frequently do), the whales will also move, which could jeopardize the current whale-watching operations and affect Skjervøya as a tourist destination. These study areas are of particular interest due to changes in fishing practices and the boom in marine tourism, which may become the new economic backbone for such coastal communities as long as the whales and their food sources remain. These locations also share common denominators regarding general human ecology. They are small resource-dependent communities, in particular with regard to access to fish stocks. They are potentially vulnerable to the health of the environment they exploit, so issues of pollution and overexploitation are key.

Both Norway and Iceland have seen significant increases in whale-watching tourism in recent years and associated marine traffic. Skjálfandi Bay has more than 100,000 tourists taking part in whale-watching tours from Húsavík every summer, with an increase of about 20% per year in the last few years (Rögnvaldsdóttir, 2016). The most common cetaceans seen in the bay are humpback whales, white-beaked dolphins, minke whales, harbour porpoises, and blue whales (Rasmussen, M. University of Iceland, unpublished data). Skjervøya in northern Norway has become a whale-watching destination during the winter months when the whales are most in evidence. Four whale-watching companies are currently running from Húsavík, which has 50 daily departures in the peak season. More than 20 whale-watching boats may be present at one time around Skjervøya (M. Rasmussen, pers. comm.). Regional planning for Skjervøya is focused on the fishing industry but with tourism on the increase it is likely that the focus on whale watching will continue.

The town of Húsavík seems representative of a success story in terms of how to adapt new economic activities to traditional cultural and economic structures. However, reasons for concern are emerging due to fast increasing multiple marine activity and disturbances linked to industrial projects, uncontrolled whale-watching activities, cruise tourism and fishing in an area internationally known for whale-watching tourism (Einarsson, 2009; Rasmussen, 2014). An additional convergent development is that there is currently a slow move toward promotion of a Marine Protected Area or similar regulatory arrangement in Skjálfandi Bay because of concerns about the intense and unregulated use of the bay's seascape. To be successful, however, the conservation process needs to be grounded in local grassroots and bottom-up activities (e.g., Draheim *et al.*, 2015).

Of the three locations considered here, it is perhaps Qeqertarsuaq (population 845) with the very rich marine life in Disko Bay that should have the title of "whale watching capital" as whales, most commonly humpback, minke and Greenland whales, are easy to spot without even leaving the shore. Previously known as Godhavn ("Good harbour") Qeqertarsuaq was founded in 1773 and from 1782 to 1950 was the capital of northern Greenland. From 1950 the entire Greenlandic administration was centralised in Nuuk (then known as Godthåb - "Good Hope"). Qeqertarsuaq, formerly named Disko Island, was an important administrative centre for the Royal Greenlandic Whaling Company from around 1774 to 1916. It is possible that the name "Disko" is a corruption of the Dutch "Dusko" which appears on a map of 1663 and which in turn comes from "Duke's Cove" (originally "Duckes Coue") named for Thomas Marmaduke, a whaling skipper and explorer from Hull (Conway, 1906, p.9). Qeqertarsuaq is also home to an Arctic Station founded in 1906. The establishment of this station by the botanist Morten Petersen Porsild was supported by leading explorers of the time such as Knud Rasmussen and Fridtjof Nansen. In 1953 the Station became the property of the University of Copenhagen and is now a frequent focus and base for study tours and scientists.

Like other Greenlandic communities, the community of Qeqertarsuaq is experiencing the common twenty-first century Greenlandic experience of a rapid transformation from scattered settlements based on hunting to an urbanizing post-industrial economy (van Voorst, 2009; Nuttall, 2019). Common characteristics include economic and cultural reliance on marine resources for subsistence, along with transfer payments from the Greenlandic government. Seal and other marine-mammal hunting remain an important part of mixed-economy subsistence activities, together with growing tourism, including whale watching.

The municipal plan for Qeqertarsuaq is that it will continue to develop as a local town with a primary supply of public and private service. It is suggested that it has potential with regard to further development of raw material production as well as water resources, fishing, new agricultural opportunities and tourism ([http://qaasuitsup.kp.cowi.webhouse.dk/en/plans\\_for\\_towns\\_and\\_settlements/qqeqertarsuaq/](http://qaasuitsup.kp.cowi.webhouse.dk/en/plans_for_towns_and_settlements/qqeqertarsuaq/)). Discussions between the author and local residents in May 2019 raised their concerns about climate change and effects, particularly on fisheries. It has been said that Greenlanders have been phlegmatic concerning climate change, but this tide seems to be turning [https://www.theguardian.com/world/2019/aug/12/greenland-residents-traumatised-by-climate-emergency?utm\\_term=RWRpdG9yaWFsX0dyZWVuTGlnaHQtMTkwODE2](https://www.theguardian.com/world/2019/aug/12/greenland-residents-traumatised-by-climate-emergency?utm_term=RWRpdG9yaWFsX0dyZWVuTGlnaHQtMTkwODE2)

Changes in climate, particularly ocean temperatures, as well as fisheries governance systems, are having a profound effect on coastal communities. A further emphasis in the ARCPATH project is on marine governance, security and rapid social and environmental change. In particular, work has concentrated on field research on fisheries governance issues, including investigating social and economic impacts of Individual Transferable Quota (ITQ) systems in coastal communities. The project research is finding serious flaws in the design of this form of marine resource governance due to significant social, economic and ecological externalities that are not sufficiently dealt with in policy design, implementations and assessments. A major publication (Young *et al.*, 2018) shows that ITQs are panacea solutions to fisheries governance that need to be reviewed due to a range of negative social equity issues as well as a lack of flexibility and sophisticated ecosystem understanding. In fisheries management—as in environmental governance more generally—regulatory arrangements that are thought to be helpful in some contexts frequently become panaceas or, in other words, simple formulaic policy prescriptions believed to solve a given problem in a wide range of contexts, regardless of their actual consequences. When this happens, management is likely to fail, and negative side effects are common.

The ARCPATH project is finding that fisheries policy is a key driver of change in fisheries-dependent coastal communities. The project is thus focusing on the social, cultural, environmental and economic externalities related to the introduction of the ITQ system, concentrating on Icelandic fisheries (but also considering Norway) and how this management model continues to impact people's livelihoods and human development in fishing villages, especially in terms of opportunities of small-scale and local

actors regarding fishing rights. One common outcome of ITQ systems is the consolidation of quotas in large companies and away from small communities. This can lead to decreased access for newcomers, reduced training opportunities for youth on the remaining vessels, and increased cost of quota as a limited commodity. The lack of job opportunities in the fishing sector causes increased rates of outmigration by youth and women, which threatens the resilience of those communities. At the same time, it appears that there continues to be an interest from youth in partaking in fisheries' livelihoods and local governments are looking for options for the renewal of the fisheries workforce.

Iceland, like many other fishing nations, has mostly focused on the ecological and the economic aspect of sustainable fisheries, overlooking other ecosystem services of ocean environments such as heritage, cultural value of food items, recreation, and education. Research here is leading towards a critical investigation of the definition of sustainable fisheries. Small-scale fisheries in particular can provide locally-sourced food with reduced food miles, fuel costs and greenhouse gas emissions. These fisheries offer not only flexible use of ecosystem services and diverse employment but also a sense of local fate control, belonging, cultural identity and pride in the community. These are all core aspects of Arctic human development. Such environmental and social aspects of energy efficiency and quality of life are seldom considered in definitions of sustainable fisheries but may in fact be some of the more important factors in future climate change mitigation.

## **5. Conclusions**

Responsible development and the resilience of Arctic coastal communities are under growing stress in the face of the cumulative impacts of changes in climate, increasing exploitation of northern resources and new governance systems. Cetaceans are a significant source of food security and income in some Arctic regions, and thus support cultural survival, but are also increasingly important for tourism and non-consumptive values. However, trade-offs between different ecosystem services derived from cetaceans are expected to become more apparent as, for example, tourism continues to increase. Both whale and human populations are under threat from climate change, and their fortunes are interlinked (Einarsson, 2009). It is important to assess the challenges these predators face on their feeding grounds to aid in conservation efforts and to understand changes in population size and range. Other significant management factors may be at play. Thus, for example, there is considerable unease among both scientists and local people regarding the impacts of tourist-vessel traffic (see e.g.,

<https://www.arctictoday.com/arctic-cruises-accused-of-leaving-indigenous-people-in-the-cold/> from 14 August 2019). Furthermore, it is ironic that a further potential threat to whales and hence to whale-watching activities is the noise caused by marine vessels. These are a major contributor to anthropogenic noise in the ocean (Hildebrand, 2005). It seems clear that this has deleterious behavioural, physiological, and acoustic effects on many cetaceans (Nowacek *et al.*, 2007), including the blue whale (Goldbogen *et al.*, 2013). Increased whale watching, as well as increased marine traffic due to retreating sea ice and opening sea routes, may also increase whale exposure to negative impacts of anthropogenic sound in Arctic waters.

Although higher sea temperatures lead to increased biological productivity and higher biomass, certain fish stocks, such as herring, have started to behave unpredictably and may be straying away from traditional fishing grounds. This is particularly relevant as humpback and killer whales feed on herring. If the herring leave the region of Skjervøya, for example, the whale-watching industry there will decline. Climate change is also currently affecting fish stocks in a dramatic way with new commercially valuable fish species becoming more prominent, in particular mackerel. In Iceland, some local municipalities welcome plans for the developing of harbour facilities for trans-Arctic ocean shipping. Such opportunities may benefit communities and regions, for example by creating work opportunities, but also pose challenges and risks for vulnerable coastal marine ecosystems and rural fishing communities, not least due to the risk of oil spills (Emmerson and Lahn, 2012; Karlsen, 2013).

In short, climate change, new governance systems, tourism, and industrial development will put cetaceans, fish stocks and human societies dependent on their use under increasing pressure. It will remain to be seen, through empirical case studies and co-production of knowledge, whether regional development policies can contribute to a pragmatic understanding and dialogue regarding public controversies concerning different uses and human relationships with marine mammals and fisheries in the Arctic. This will require analyses of the complex social ecological interactions between community resilience, climate and global change, together with cetacean and fish stock distribution and ecology. While this paper has focused on marine mammals and fisheries as examples it is clear from this case study that the main challenge for the entire Nordic Arctic region lies in developing new forms of sustainable development consistent with new forms of livelihoods and in the context of the myriad forms of change currently occurring.

## Acknowledgements

The work in this paper is supported by, and contributes to, the NordForsk-funded Nordic Centre of Excellence project (Award 766654) *Arctic Climate Predictions: Pathways to Resilient, Sustainable Societies (ARCPATH)*. I thank my ARCPATH colleagues for their collaboration and contribution to the ideas expressed here, in particular Dr Niels Einarsson, Director of the Stefansson Arctic Institute and Dr Marianne Rasmussen, Director of the University of Iceland Research Centre in Húsavík, as well as Dr Yongqi Gao of the Nansen Environmental and Remote Sensing Centre, in Bergen, Norway, Professor Noel Keenlyside of the University of Bergen and Professor Joe Roman, University of Vermont.

## References

- ACIA, Arctic Climate Impact Assessment. (2005). *Impacts of a Warming Arctic: Arctic Climate Impact Assessment*. Cambridge and New York: Cambridge University Press.
- AHDR, Arctic Human Development Report. (2004). Einarsson, N., Nymand Larsen, J., Nilsson, A., Young, O.R. (Eds.) Stefansson Arctic Institute, Akureyri.
- AHDR, *Arctic Human Development Report: Regional Processes and Global Linkages*. (2014). Nymand Larsen, J. and Fondahl, G. (Eds.) Nordic Council of Ministers, Copenhagen.
- Andersen, J.K., Fausto, R.S., Hansen, K., Box, J.E. and the PROMICE project team. (2019). Annual calving front lines for the 47 largest Greenland ice sheet tidewater glaciers. *Geological Survey of Denmark and Greenland Bulletin*, submitted 20 February 2019.
- Arctic Report Card. (2018). Retrieved 9 August 2019 from <https://arctic.noaa.gov/Report-Card/Report-Card-2018>.
- Barlow, L.K., Sadler, J.P., Ogilvie, A.E.J., Buckland, P.C., Amorosi, T., Ingimundarson, J.H., Skidmore, P., Dugmore, A.J. and McGovern, T.H. (1997). Interdisciplinary investigations of the end of the Norse Western Settlement in Greenland, *Holocene*, 7, 4, 489–499.
- Born, E.W., Heilmann, A., Kielsen Holm, L., Laidre, K. and Iversen, M. (2017). *Walrus and the Walrus Hunt in West and Northwest Greenland: An Interview Survey about the Catch and the Climate*. Museum Tusulanum Press.
- Box, J.E., Colgan, W.T. Brown, R. Wang, M. Overland, J., Walsh, J., Bhatt, U., Christensen, T., Schmidt, N., Lund, M., Parmentier, F.-J., Euskirchen, E., Romanovsky, V., Corell, R. Meier, W., Wouters, B., Mernild, S., Mård, J. Pawlak, J. and Olsen, M. (2019). Key indicators of Arctic climate change: 1971–2017, *Environ. Res. Lett.* (2019) 045010 <https://doi.org/10.1088/1748-9326/aafc1b>
- Bravo, M.T. (2010). The humanism of sea ice. (2010). In I. Krupnik, C. Aporto, S. Gearheard, G. Laidler, L. Kielsen Holm, (2010). *SIKU: Knowing Our Ice: Documenting Inuit Sea Ice Knowledge and Use*. Dordrecht: Springer, Netherlands.

- Bravo, M.T. (2017). A Cryopolitics to Reclaim our Frozen Material States. In E. Kowal and J. Radin (Eds.), *Cryopolitics: Frozen Life in a Melting World*, Cambridge, MA: MIT Press.
- Bravo, M.T. (2019). *North Pole Nature and Culture*, London: Reaktion Books, 255pp.
- Bravo, M.T. and Rees, G. (2006). Cryo-politics: Environmental security and the Future of Arctic Navigation, *Brown Journal of World Affairs*, 13, 205-215.
- Bukve, O., Halkier, H. and de Souza, P. (editors). (2008). *Towards New Nordic Regions: Politics, Administration and Regional Development*, Ålborg: Ålborg University Press.
- Conway, W. M. (1906). *No Man's Land: A History of Spitsbergen from Its Discovery in 1596 to the Beginning of the Scientific Exploration of the Country*. Cambridge: At the University Press.
- Cooke, P. (2009). Towards new Nordic regions: politics, administration and regional development, *European Planning Studies*, 17(2), 341-343, DOI: [10.1080/09654310802553654](https://doi.org/10.1080/09654310802553654)
- Draheim, M., Madden, F., MacCarthy, J.B., Parsons, E.C.M. 2015. Human-Wildlife Conflict: Complexity in the Marine Environment. Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780199687145.001.0001
- Einarsson, N. (2009). From good to eat to good to watch: whale watching, adaptation and change in Icelandic fishing communities, *Polar Research* 1, 129–138.
- Einarsson, N. (2011a). *Culture, Conflict and Crises in the Icelandic Fisheries. An Anthropological Study of People, Policy and Marine Resources in the North Atlantic Arctic*. Uppsala: University of Uppsala Press.
- Einarsson, N. (2011b). Fisheries Governance and Social Discourse in Post-Crisis Iceland: Responses to the UN Human Rights Committee's Views in Case 1306/2004, *The Yearbook of Polar Law*, 3, 479–515.
- Emmerson, C. and Lahn, G. (2012) *Arctic opening: Opportunity and Risk in the High North*. <https://www.lloyds.com>. arctic risk report webview.
- Forbes, D.L. (editor) (2011). *State of the Arctic Coast 2010. Scientific Review and Outlook*. International Arctic Science Committee, Land-Ocean Interactions in the Coastal Zone, Arctic Monitoring and Assessment Programme, International Permafrost Association, Helmholtz Zentrum, Geesthacht, Germany, 178 pp. <http://arcticcoasts.org>.
- Frei, K.M., Coutu, A.N., Smiarowski, K., Harrison, R. Madsen, C.K., Arneborg, J., Frei, R. Guðmundsson, G., Sindbæk, S.M., Woollett, J., Hartman, S., Hicks, M. and McGovern, T.H. (2015). Was it for walrus? Viking Age settlement and medieval walrus ivory trade in Iceland and Greenland, *World Archaeology*, 47(3), 439-466, doi: [10.1080/00438243.2015.1025912](https://doi.org/10.1080/00438243.2015.1025912)
- Gearheard, S., Kielsen Holm, L., Huntington, H., Leavitt, J.M., Mahoney, A.R., Opie, M., Oshima, T. and Sanguya, J. (2011). 2011. The Meaning of Ice: People and Sea Ice in Three Arctic Communities. International Polar Institute.
- Goldbogen, J.A., Calambokidis, J., Friedlaender, A.S., Francis, J., DeRuiter, S.L., Stimpert, A.K., Falcone, E. and Southall, B.L. (2013). Underwater acrobatics by the world's largest predator: 360° rolling manoeuvres by lunge-feeding blue whales, *Biology Letters*, 9: 20120986. doi:10.1098/rsbl.2012.0986
- Hildebrand, J.A. (2005). Impacts of anthropogenic sound. In J.E. Reynolds III, W.F. Perrin, R.R. Reeves, S. Montgomery and T.J. Ragan (Eds.), *Marine Mammal Research: Conservation Beyond Crisis (101-124)*. Baltimore, Maryland: The John Hopkins University Press.
- Huijbens, E. and Einarsson, N. (2018). Feasting on friends: Whales, puffins and tourism in Iceland. In C. Cline (Ed.), *Tourism Experiences and Animal Consumption-Contested Values, Morality and Ethics (10-27)*. London: Routledge. <https://doi.org/10.4324/9781315265186>

- IPCC. (2013). *Climate Change. The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climatic Change*. 1535. Cambridge, UK and New York, USA: Cambridge University Press.
- IPCC. (2018). *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (Eds.), <https://www.ipcc.ch/sr15/>
- Isaksen, K., Nordli, Ø., Førland, E. J., Łupikasza, E., Eastwood, S. and Niedźwiedź, T. (2016). Recent warming on Spitsbergen – Influence of atmospheric circulation and sea ice cover. *Journal of Geophysical Research Atmospheres*, (121), 11,913–11,931.
- Júlíusson, Á.D., (2018). *Af hverju strái: saga af byggð, grasi og bændum 1300-1700*. Reykjavík: Háskólaútgáfan.
- Júlíusson, Á.D. and Jónsson, J., (2013). *Landbúnaðarsagan Íslands*. Vols. 1-4. Reykjavík: Skrudda.
- Kahn, M. (2016). The climate change adaptation literature. *Review of Environmental Economics and Policy* 10(1), 166-178. doi: <https://doi.org/10.1093/leep/rev023>
- Karlsen, E. (2013). How to Prevent Oil Pollution from Foreign Ship Traffic in Transit. PhD thesis, Faculty of Law, University of Tromsø.
- Kristjánsson, Luðvik (1980). *Íslenzkir sjávarhættir 1*, Reykjavík: Bókaútgáfa Menningarsjóðs.
- Lind, S., Ingvaldsen, R.B. and Furevik, T. (2018). Arctic warming hotspot in the northern Barents Sea linked to declining sea-ice import, *Nature Climate Change*, (8), 634–639.
- Miles, M.W., Divine, D.V., Furevik, T., Jansen E., Moros, M. and Ogilvie, A.E.J. (2014). A signal of persistent Atlantic multidecadal variability in Arctic sea ice. *Geophysical Research Letters*, (41), doi:10.1002/2013GL058084.
- Nordic Council of Ministers. (2017). *Nordic Co-operation Programme for Regional Development and Planning 2017–2020*. <http://dx.doi.org/10.6027/ANP2017-723>.
- Nowacek, D.P., Thorne, L.H., Johnston, D.W. and Tyacks, P.L. (2007). Responses of cetaceans to anthropogenic noise, *Mammal Review*, 37(2), 81-115. doi: 10.1111/j.1365-2907.2007.00104.x
- Nuttall, M. (2019). *Climate, Society and Subsurface Politics in Greenland: Under the Great Ice*. London: Taylor and Francis.
- Ogilvie, A.E.J. (2010). Historical climatology, *Climatic Change*, and implications for climate science in the 21st century, *Climatic Change*, (100), 33–47.
- Ogilvie, A.E.J. (2016). The Norse in Greenland. In *A Fortunate Land* by William Stewart, Offsetdruckerei Karl Gramlich GmbH, Pliezhausen, Germany, 114–126.
- Ogilvie, A.E.J. and Jónsdóttir, I. (2000.) Sea ice, climate and Icelandic fisheries in historical times, *Arctic* 53(4), 383–394.
- Ogilvie, A.E.J., Woollett, J.M., Smiarowski, K., Arneborg, J., Troelstra, S., Pálsdóttir, A. and McGovern, T.H. (2009). Seals and sea ice in medieval Greenland, *Journal of the North Atlantic*, 2, 60–80.



- Ogilvie, A.E.J., Hill, B.T. and Demarée, G.R. (2019). A Fleet of Silver: Local Knowledge Perceptions of Sea Ice from Iceland and Labrador/Nunatsiavut. In Eva Panagiotakopulu and Jon Sadler (Eds.), *North Atlantic Island Biota: Aspects of the Past, Choices for the Future*. Wiley-Blackwell, In press.
- Onarheim, I.H., Smedsrud, L.H., Ingvaldsen, R.B. and Nilsen, F. (2014). Loss of sea ice during winter north of Svalbard, *Tellus A Dynamic Meteorology and Oceanography*, 66,(1) 23–933, doi: [10.3402/tellusa.v66.23933](https://doi.org/10.3402/tellusa.v66.23933)
- Overland, J.E., Wang, M. and Box, J.E. (2018a). An Integrated Analysis of Pan-Arctic Climate Change, *Environmental Research Letters*, 14(3). doi: 10.1088/1748-9326/aaf665
- Overland, J., Dunlea, E., Box, J.E., Corell, R., Forsius, M., Kattsov, V., Skovgård Olsen, M., Pawlak, J., Reiersen, L.O. and Wang, M. (2018b.) The urgency of Arctic change, *Polar Science*, <https://doi.org/10.1016/j.polar.2018.11.008>
- Perdikaris, S., and McGovern, T.H. (2008). Codfish and kings, seals and subsistence: Norse marine resource use in the North Atlantic. In T. Rick and J. Erlandson (Eds.), *Human Impacts on Marine Environments*, UCLA Press Historical Ecology Series, 157–190.
- Polyakov, I.V., Pnyushkov, A.V., Alkire, M.B., Ashik, I.M., Baumann, T.M., Carmack, E.C., Goszczko, I., Guthrie, J., Ivanov, V.V., Kanzow, T., Krishfield, R., Kwok, R., Sundfjord, A., Morison, J., Rember, R., and Yulin, A. (2017). Greater role for Atlantic inflows on sea-ice loss in the Eurasian Basin of the Arctic Ocean. *Science*, 356, 285–291.
- Rasmussen, M.H. (2014). The whaling versus whale-watching debate. In J. Higham and L. Bejder (Eds.), *Whale-watching: Sustainable Tourism and Ecological Management*, (81-94). Cambridge: Cambridge University Press. doi: <https://doi.org/10.1017/CBO9781139018166.009>
- Rocha, J., Peterson, G., Godin O., and Levin S. (2018). Cascading regime shifts within and across scales. *Science*, 362, 1379-1383. doi: <https://doi.org/10.1126/science.aat7850>
- Rögnvaldsdóttir, R. (2016). *Economic effects of tourism in Þingeyjarsýslur. Analysis at the sub-national level in Iceland*. Icelandic Tourism Research Centre, 109 pp.
- Seaver, K.A. (1996). *The Frozen Echo - Greenland and the Exploration of North America ca. A.D. 1000-1500*. Stanford: Stanford University Press.
- Semenov, V.A. and Latif, M. (2012). The early-twentieth century warming and winter Arctic sea ice. *The Cryosphere*, 6, 1231-1237.
- Stroeve, J.C., Kattsov, V., Barrett, A., Serreze, M., Pavlova, T., Holland, M. and Meier, W.N. (2014). Trends in Arctic sea ice extent from CMIP5, CMIP3 and observations, *Geophysical Research Letters*, 39, L16502, doi:10.1029/2012GL053676.
- Tedesco, M., Box, J.E., Cappelen, J., Fausto, R.S., Fettweis, X., Hansen, K., Mote, T., Sasgen, I., Smeets, C.J. P.P., vanAs, D., van de Wal, R.S.W. and Velicogna, I. (2017). Greenland Ice Sheet. Retrieved 12 August (2019). <https://arctic.noaa.gov/Report-Card/Report-Card-2017/ArtMID/7798/ArticleID/697/Greenland-Ice-Sheet>.
- van Vorst, R. (2009). "I work all the time- he just waits for the animals to come back": social impacts of climate changes: a Greenlandic case study, *Jàmbá Journal of Disaster Risk Studies*, 2(3), 235-252.
- Young, O.R., Webster, D.G., Cox, M.E., Raakjær, J., Blaxekjær, L. Ø., Einarsson, N., Virginia, R.A., Acheson, J., Bromley, D., Cardwell, E., Carothers, C., Eythórsson, E., Howarth, R. B., Jentoft, S., McCay, B.J., McCormack, F., Osherenko, G., Pinkerton, E., van Ginkel, R., Wilson, J.A., Rivers, L. III and Wilson, R.S. (2018). *Proceedings of the National Academy of Sciences* Sep 2018, 115 (37) 9065-9073; doi: 10.1073/pnas.1716545115.

Zhang, R., Delworth, T.L. and Held, I.M. 2007. Can the Atlantic Ocean drive the observed multidecadal variability in Northern Hemisphere mean temperature? *Geophysical Research Letters* 34, L02709, doi: <https://doi.org/10.1029/2006GL028683>

Thomas Gaarde Madsen<sup>22</sup>: *Comments on the draft version of Opportunities and Challenges for Nordic Arctic and Subarctic Regions: A Case Study Approach* by Astrid E.J. Ogilvie

Greenland is a large country in the Arctic with a very extensive geography and a relatively small population of around 56.000 people who live in cities and settlements scattered along the coast. The Arctic cities is typically situated quite remote from other cities and therefore is deeply dependent upon an efficient infrastructure (airport) that make the cities accessible to reach by airplane.

Grønland og Europa - en sammenligning



Greenland existing infrastructure is largely defined by historic decisions that are not based on present and future challenges. It is therefore important that the planning and deciding of future infrastructure investment also have to support future development potential and not only historical and contemporary patterns. A better infrastructure can in some cases also pave the way for new business opportunities, particularly in tourism and mining areas.

**Infrastructure and accessibility:** *But how do we know where to invest and what data are needed to point out new opportunities? On what ground can the Arctic communities and cities attract investments in infrastructure and thus increase productivity and competitiveness. And how can a regional and national planning support a more balanced development? How can research and science contribute here?*

Migration and urbanisation pose a real challenge for the cities in Greenland. As younger members of the population drift towards the more urban areas and larger cities rising old age ratios are putting pressure on the more rural and remote municipalities and smaller cities. At the same time, Regions are also struggling with gender balance with men out- numbering women everywhere but in urban areas. With a relatively small population of only around 56.000 people these demographic changes pose a challenge not only to the migration in Greenland but also the migration of younger people leaving Greenland – and not coming back.

**Demographic changes:** *Can the Arctic cities and new investment in infrastructure somehow contribute to minimize the effects of migration? How can future regional planning of the arctic communities and cities help to attract new citizens and make sure that the younger members of our society are coming back?*

The planning legislation in Greenland also stresses that the municipalities involve the citizens in a local dialogue and consultation in question and decisions about the future cityplanning. The difficult

---

<sup>22</sup> Ministry of Finance, Government of Greenland. Email: thga@nanoq.gl

choices to be made along the way between short-term benefits and long-term sustainable development must be taken on a common understanding, and it is important that the local society can make their contribution to the discussions to be undertaken. Digitalisation can be seen as a mean to modernize society and tie it closer together despite the large physical distances between the cities. The National Strategy of Geodata 2018 – 2021 focus on how the potential in geodata and new digital solutions can be fulfilled. How can a more systematic use of basic data, new topographical maps and geodata become a tool for sustainable development and promote growth?

***Involvement of the citizens:*** *How can the Arctic cities with its remote settlement explore the possibilities in digitalization so that their citizens and stakeholders can take part in, contribute to and have ownership to the local development? How do we across science-projects, local - and national government get an overview of and coordinate the involvement of the local citizens?*

In the Arctic climate changes brings both new opportunities and new challenges. We are already experiencing new options in areas like agriculture and fisheries. New climate data (DMI) aims to analyze the consequences of climate change for selected sectors in Greenland and is distributed on the National geodata platform NunaGIS. From a national perspective it seems that lot of good research on climate related issues and climate adaption is going on in the arctic:

<https://www.amap.no/adaptation-actions-for-a-changing-arctic-part-c>

But very difficult to get an overview of the different research project and therefore a risk of repeating studies unintentionally e.g.

***Climate changes:*** *How do we ensure that the planning, development and investment in the Arctic cities takes into account future climate changes so that we as a society address the negative effects but also ensure the utilization of the positive effects of climate change? How can we better communicate the research actually going on and operationalize it into the national and regional planning processes?*

The cities of Greenland have a certain character and identity that significantly differentiate the cities in Greenland from other cities around the world. This is also due to the fact that we don't have cadaster or private ownership to the land in Greenland. You cannot buy or sell land - only obtain an area-allotment. The space in-between building in the Greenlandic cities is public and therefore it is often a very open city plan where it is possible to move very freely around the cities from a to b. With the launch of the planning of several new airports in Greenland the Government of Greenland is very focused on creating the best opportunities for a growing tourism industry in Greenland. As a travel destination Greenland can first and foremost offer some unique nature experiences - but also the meeting with Greenland's unique culture and cultural building heritage is something that impresses and can attract future tourists.

***Character and identity of Arctic cities:*** *How can the Arctic cities keep their identity, essence and character and become even more liveable and attractive for both inhabitants as well as tourist?*

- thank you for your contribution, it was very interesting perspectives that you pointed out, although not so surprising, we all know change is coming and there are many ways to address this
- the two main subjects: fisheries and tourism are spot on the biggest challenges right now in the Faroe Islands
- we had an election 2 weeks ago, and these two issues were at the top of the campaigns and were probably the two deciding issues, especially fisheries (determining the outcome of the election)
- previous government made a huge fisheries reform, which has been very unpopular with the biggest players in the industry and although the Faroese economy is stronger than ever, it cost them the election
- now the new government has said they will make some substantial changes in the fisheries legislation
- Tourism: here we touch upon maybe one of few actual rural-cities dividers: assess to the tourism sights and how to regulate regarding the very rapidly growing tourism
- we in the Faroes are trying to keep up with the growth and are lagging a bit behind. We look to our Nordic neighbors for the best solutions and try not to repeat the mistakes that we also see have been made
- the challenge is the dilemma between seeing change as an evil or as an opportunity. We have very little actual farming in the Faroes, so it should be an easy choice to persuade the farmers to embrace tourism, but it is not! It's a sensitive issue
- the paper does point to a way forward and it's the need for research and new knowledge and new ways to co-produce knowledge across disciplines and borders
- regarding this, keep an eye out for the coming Danish chairmanship for NMR next year.

---

<sup>23</sup> Ministry of Foreign Affairs and Trade, Government of the Faroe Islands. Email: hallap@uvmr.fo

## **Opportunities and challenges for regional development in the North Atlantic Region**

By Snorri Björn Sigurðsson<sup>24</sup>

It is fitting that these discussions are taking place here at the University of Akureyri. This institution, and the work undertaken here, provide great examples of good practice and successful outcomes in regional development in Iceland. The University provides people in the area with opportunities for education and development, through both on-site and distance learning. The University gives its students a wide range of new options in life, whether they choose to remain here in the north or seek careers elsewhere. It is very promising that surveys indicate that students from the University of Akureyri tend to settle in the area on completion of their studies, whether they are originally from the north or come from elsewhere – a clear confirmation of the value of having institutions of higher education located outside the principal growth areas.

### **Conditions in the North Atlantic area**

The North Atlantic covers a wide area, and conditions in the countries that lie around it are in many respects similar. They are all sparsely or very sparsely populated, and some of them contain large tracts of unpopulated wilderness. These are all small nations, often very much so. They are blessed with outstanding natural beauty, but this nature is sensitive and vulnerable. Distances are great, both within regions and between countries. Communications are therefore often difficult and the cost of travel high. The region is rich in natural resources, both at sea and on land, but these resources are not always easy to harness, and their benefits have not always gone in

---

<sup>24</sup> Bygdastoffnun, Icelandic Regional Development Institute. Email: [snorri@bygdastoffnun.is](mailto:snorri@bygdastoffnun.is)

proper measure to those who live closest to them. In addition to this, the climate is cold and weather conditions can be severe.

Most parts of the region have experienced a negative population trend in recent decades. Population has, to be sure, increased in the capitals and larger cities, but in many other areas there has been a major fall in population and the exodus from some areas has been so great that depopulation has exceeded that seen in war-torn countries. Birth rates have also fallen, meaning that the average age of residents is increasing rapidly, with all the costs that follows.

In smaller settlements and rural areas there have been significant cuts in public- and private-sector services, meaning, for instance, that people must travel farther to access medical services, schools, banks, post offices, grocery stores and so-on. The consequences are a reduced quality of life. Can we imagine living in a place where it costs you an hour's travel to buy a liter of milk?

Since the Second World War the North Atlantic and the countries round it have been viewed as areas of military importance. Priorities changed to some extent with the fall of the Soviet Union but strategic interest in the region is now once again increasing rapidly. Related activities have had and will affect development in the region.

The position of sparsely populated areas is thus in many places vulnerable.

We who live in the region ask ourselves, what does the future hold?

## **Preconditions for prosperity**

For society to be able to grow and prosper, certain conditions need to be in place.

I will now mention various points that I believe national authorities need to ensure if settlement is to develop and prosper in sparsely populated regions.

High on the list is a transport infrastructure that meets the demands of people and the industry, both within regions and between regions and countries. Here, depending on local conditions, we are talking about roads, harbours and airfields. Communications need to be secure throughout the year. Where this is not possible, technologically or due to cost, all-year settlement is likely to be abandoned. Also, transport costs must not become too high. This means that public-sector intervention through cost-equalisation measures will be required, where appropriate. The transport system will also need to be of a quality that meets the demands of technological innovation, e.g. in new vehicles incorporating self-driving features and electric cars.

Another requirement is a telecommunications infrastructure that guarantees fast, reliable data transfer at acceptable prices. Smooth connectivity with customers and clients is a basic precondition of a modern economy. People today can study many subjects at home, regardless of where their actual school is situated. The same applies to many kinds of jobs. And through the internet one can access entertainment, follow the news and be in contact with other people wherever they are in the world. It is the job of governments to ensure the rollout of this infrastructure. Special priority has been



given to this here in Iceland and we are now close to achieving our target of making optical fiber connection available to nearly everyone in the country, with 4G systems now extending over the vast majority of inhabited Iceland. It is now government policy that public-sector jobs should, wherever possible, be 'mobile', that is, not bound to any specific location. Work is under way on defining which jobs within ministries and public institutions may be possible to perform through telecommuting. For this to be a realistic option, good data transfer connections are essential. Technically, then, it will be possible to carry out jobs from any part of the country. In all probability the main obstacle here lies in the attitudes of managers and administrators. However, we have already seen a fair number of university-educated people moving into the country and taking their work with them. So far this has primarily been a matter of self-employed individuals leaving Reykjavík for rural areas. However, major companies have already moved millions of internet-based jobs from one continent to another. So why on earth should it then not be possible to do public-sector jobs regardless of location?

Furthermore, certain basic services need to be in place in the immediate community. Cuts in services in smaller settlements and rural areas have meant people having to travel farther to access basic services, and this has created fear and insecurity; people feel that the threat of more service cuts is constantly hanging over their heads. This has resulted in a vicious circle that is difficult to break. We need to draw up definitions of what constitutes acceptable travel times for accessing various types of basic services, such as health services, policing, education, and care for the elderly and the disabled. This is no simple matter in a sparsely populated country and there will always be a difference in the availability of facilities. Residents of rural areas understand this. But they expect some easing of the costs of accessing services over the greater distances involved.

## **New technology is an important factor**

A part of this problem can be resolved through modern technology and this will become an increasingly important factor in the coming years. Telemedicine is already established to some extent in Iceland. Similarly, in retail: people sit at home in their living rooms and order goods off the internet. Admittedly, it takes time for the goods to arrive and it is still not possible to order perishable foodstuffs for delivery to rural areas. But this will change rapidly over the next years with the use of drones. Surveys conducted by the Icelandic Regional Development Institute into people's service access behaviour, have shown that online shopping has reached significant proportions in particular classes of goods. This form of shopping is set to increase, and with it the quality of life.

## **Public services will change**

Obviously, social changes, and not least improved communications, call for a review of public-sector services with an eye to rationalisation and savings. It is, however, extremely important that residents be kept informed on the reasoning behind proposed reorganisations of public-sector services and the principles underlying the structures eventually selected. What will change and how and what will be the benefits and losses to the users and those who provide the services. People understand the need for change but want to know the whys and wherefores, and what will take the place of the systems they are used to. It is also essential to see that different programmes work together. Any plan to merge or shut down medical institutions that results in patients having to be moved over long distances must ensure, for instance, that this does not coincide with interruptions to transport facilities, such as the closure of medical airfields. Transport planning must therefore take account

of health planning and *vice versa*. All public-sector policymaking must be conducted with a clear emphasis on the integration of plans and collaboration between different sectors and interests.

### **Cultural activity and innovation are important**

Cultural activity is central to all societies and needs to be encouraged, nourished and resourced. An active and vibrant cultural life strengthens the self-image of residents and communities and increases self-confidence and quality of life. In communities where cultural activity stands on secure foundations, the self-image of the residents is markedly stronger, and the communities are more resilient in times of adversity. It also provides the basis for a wide variety of employment opportunities, for instance in the tourist industry.

Innovation in all areas requires support, not least to provide residents with an outlet for initiative and creativity. We need to expand training facilities and institutions of higher education in rural areas and facilitate collaboration between educational institutions, industry and the public sector on both national and local levels. We have clear examples of such collaboration yielding remarkable results, for example in the exploitation of raw materials that previously went to waste. Several highly valuable by-products are now manufactured out of fish skin – one example of this are medical plasters for use in the treatment of burns and bedsores. Fish skin is also tanned to produce fish leather. Similarly, prawn shells are processed into food supplements. Several companies around the country have been founded on such innovations and these now provide jobs for well-educated staff – the kinds of jobs that are so sorely needed if we are to give young people the opportunity to settle in rural areas when they finish their education.

## **The balance of preserving and exploit nature in a sustainable way**

Natural resources need to be used sustainably for the benefit of their local areas. This applies to all resources, including renewables such as clean energy. Regrettably, in their attitudes to the exploitation of natural resources, there appears increasingly to be a divide between the residents of larger urban centres and people in more rural areas. Rural communities often get the feeling that they are not allowed to do or change anything, that the wishes of those who have moved away are paramount. They feel that this attitude cripples all progress. Town dwellers on the other hand feel that residents in rural areas are prepared to sacrifice irreplaceable gems of nature for a quick profit. Clearly, there is little chance of pleasing everyone, but by taking great care in the working out of plans for the utilisation of resources it should be possible to ensure both the protection of the land and the economic interests of its residents.

Recent years have seen a massive increase in tourism and tourist services. In this, all the countries of the North Atlantic have much to offer – spectacular landscapes, unspoilt nature, bright summer nights, darkness and northern lights in the winter. Many places offer a unique fauna, and once you get outside the main tourist centres, there are vast open spaces where it is possible to be alone in the world. In some places, however, we are reaching a tolerance limit on the exploitation of nature due to the sheer number of tourists. Better controls are required over access to popular tourist destinations and work is currently well under way here in Iceland on the drafting of destination management plans. Tourist services represent a modern-day utilisation of natural resources, as it were – the opposite of heavy industry. The expansion of tourist services has led to the creation of large numbers of jobs throughout the country.

And in contrast to ‘mobile’ jobs, jobs in tourism, conservation and the like are tied to the natural wonders that attract the tourists; even if someone moves away, the job remains.

It remains to be seen whether raised awareness of the pollution inherent in air travel will result in reductions in the numbers visiting the region.

### **Ownership of land to be regulated**

There is a growing trend for outside parties – foreigners and city dwellers – to buy up land in rural areas, especially if the land carries extra benefits such as salmon fishing. This often comes down on conventional agriculture, as the new owners, who often control several holdings, do not live on site to farm their land. New restrictions are often placed on rights of access and passage over these landholdings. Such large-scale purchases of land have various consequences. They can undermine the social underpinning of the local community to such an extent that agriculture collapses. As things stand, there are no restrictions on the rights of individuals to own land in Iceland so long as the relevant party is a resident within the EEA. Given enough money, a single individual could buy up and put into private ownership every single farm in Iceland. This is a development that requires action through legislation. I leave it to others to decide whether such rules ought to be directed at residence qualification or restrictions on the amount of land any one individual may own. A related problem concerns housing – the buying up by non-residents of houses and flats, either as holiday homes or for rent. This leads to widespread housing shortages while much of the housing stock stands empty most of the year. This is by no means as serious a problem as the buying up of farmlands and it can even be argued that there are positive sides to this trend. In all

events, some villages now look markedly better for it and new life has been brought into them from outside over the summer at least.

### **We need to do better towards integration of migrant workers**

With the fall in birth rates we face the reality that in place of a natural increase in population there is now a natural decrease. So far this has not had significant consequences in Iceland, as in recent years the influx of foreign workers has more than compensated for the numbers leaving. The fact is that in most parts of the country there is net outmigration of Icelanders, set against a positive in migration of foreign nationals. In some villages foreigners now account for up to 40% of the population. This workforce fulfils an essential need. However, we, as yet, have no agreed policy on whether and how we can make it possible, or should I say easier, for these people to integrate into Icelandic society, for example through Icelandic language teaching and courses on how Icelandic society operates. Or do we possibly want to treat those people merely as migrant workers who labour from dawn to dusk and then leave without establishing any links to the local community? I am convinced that the former option is preferable on all counts; the more who establish roots the better. If the entire workforce of foreign origin in Iceland disappeared overnight, we would be faced with a severe labour crisis.

### **There is always room for improvement**

I have consciously passed over issues such as the devolvement of powers to local authorities. There have been ideas floating around for many years now for greater local influence by unifying local authorities and handing over powers to them. By such means, it would be possible to transfer projects from national government to local authorities, thereby strengthening basic services and hopefully

increasing people's involvement in the democratic process. In this, new communications technology offers a wide range of possibilities.

In the end though how things work out is down to us the inhabitants. Change is an opportunity to create a better society. And, let us not forget that we who live in the countries of the North, in rural as in urban areas, are among the most fortunate people on earth.

---

<sup>i</sup> "Convergence research is a means of solving vexing research problems, in particular, complex problems focusing on societal needs. It entails integrating knowledge, methods, and expertise from different disciplines and forming novel frameworks to catalyze scientific discovery and innovation" (Convergence Research at the National Science Foundation, <https://www.nsf.gov/od/oia/convergence/index.jsp>).

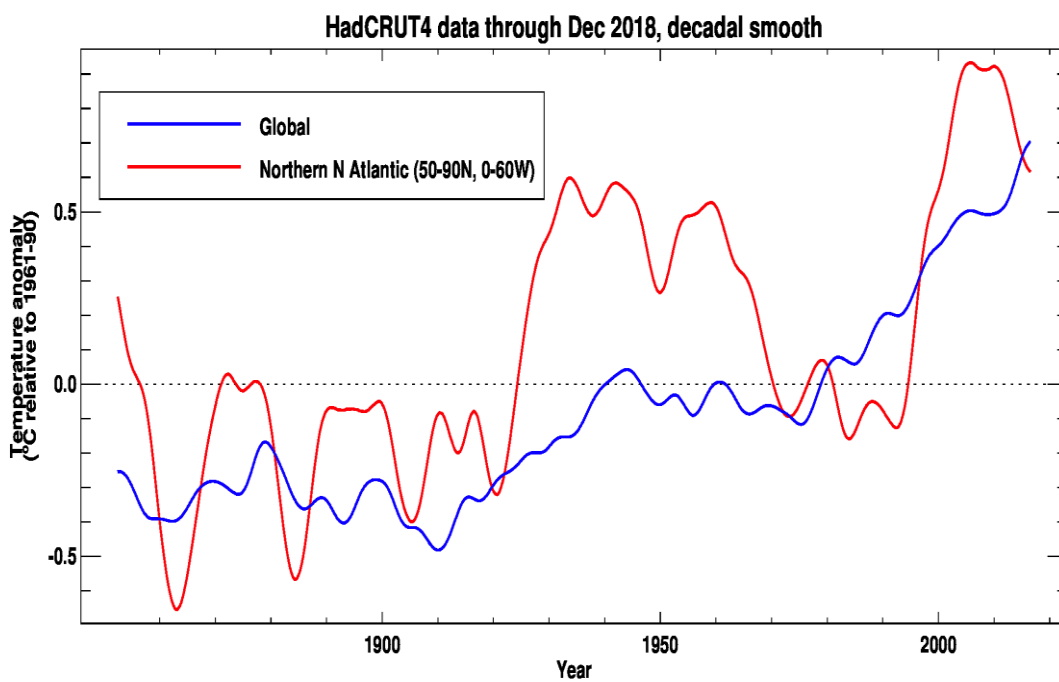


Fig. 1. Annual-mean temperature variations over the Atlantic Arctic compared with global-mean variations from 1850–2018. The data have been filtered with a low-pass filter to highlight changes on decadal and longer time-scales. The data are from the gridded HadCRUT3v land-plus-marine dataset (Brohan, *et al.*, 2006). Updated February 2019 courtesy of Professor Tim Osborn, Director, Climatic Research Unit, Norwich, UK.



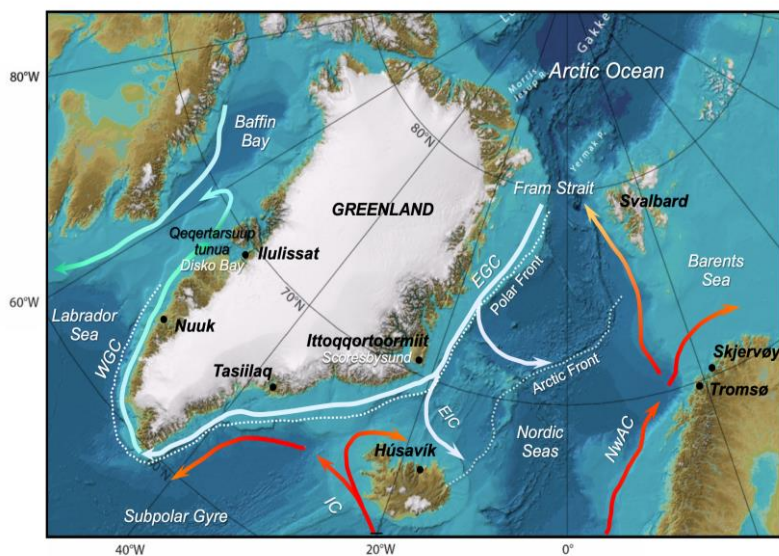


Fig. 2. Geographical setting and locations of primary focus areas. Major temperate (warm colours) and cold (cold colours) ocean currents are shown: East Greenland Current (EGC), West Greenland Current (WGC), East Icelandic Current (EIC), Irminger Current (IC), and Norwegian Atlantic Current (NwAC). The polar front indicates the modern mean limit of polar waters and sea ice of Arctic Ocean origin. Bathymetry from the International Bathymetry Chart of the Arctic Ocean (IBCAO). Figure courtesy of Dr Martin Miles, NORCE Norwegian Research Centre and University of Colorado-Boulder.

---

# Annex 1

## Opportunities and challenges for future regional development

Open seminar with EK-R (Nordic Committee of Senior Officials for Regional Policy) and Nordregio's Board of Directors on 12 September, 2019, at University of Akureyri  
Organised by Ministry of Transport and Local Government, Byggdastofnun and Nordregio

09:00-09:10	<i>Opening Adress Rector</i>	Eyjólfur Guðmundsson, Rector at the University of Akureyri
09:10-09:25	<i>Introduction: Nordic Cooperation on Regional Policy – What topics have been prioritized in the past and what's in the pipeline for the future?</i>	Kjell Nilsson, Director of Nordregio and Affiliated Professor at University of Copenhagen
09:25-09:45	<i>Opportunities and challenges for regional development in the North Atlantic Region</i>	Snorri Björn Sigurdsson, Head of Department, Icelandic Regional Development Institute
09:45-10:20	<i>What have been the key successes – and shortcomings – of regional development policy over the past 20 years, and what are the key lessons to be drawn?</i>	José Enrique Garcilazo, Head of Regional and Rural Unit, OECD
10:20-10:40	Coffee break	
10:40-11:00	<i>The Nordic Welfare State at the crossroads</i>	Joakim Palme, Professor of Political Science, Uppsala University (SE)
11:00-11:30	Discussants	Gerd Slinning & Katarina Fellman
11:30-11:50	<i>The sustainable Nordic city of tomorrow</i>	Ellen Braae & Henriette Steiner, Professor and Ass. Professor of Landscape Architecture, University of Copenhagen (DK)
11:50-12:30	Discussants	Holger Bisgaard & Kjell Nilsson
12:30-13:30	Lunch	
13:30-13:50	<i>Opportunities and challenges for future rural development policies in the Nordic Region</i>	Gro Marit Grimsrud, Senior Researcher, NORCE Norwegian Research Centre AS (NO)

13:50-14:30	Discussants	Hanna Maria Urjankangas & Eydun Christiansen & Isabella Palomba Rydén
14:30-14:50	<i>Green transition for resilient Nordic regions</i>	Markku Sotarauta, Professor of Regional Development Studies, University of Tampere (FI)
14:50-15:20	Discussants	Sara Aasted Paarup & Bjørn Barvik
15:20-15:50	Coffee break	
15:50-16:10	<i>Future opportunities and challenges for the Nordic Arctic Region</i>	Astrid Ogilvie, Senior Scientist, Stefansson Arctic Institute (IS), and former holder of the Nansen Professorship at University of Akureyri
16:10-16:40	Discussants	Thomas Gaarde Madsen & Halla Nolsøe Poulsen
16:40-17:00	Concluding remarks towards a new Nordic Cooperation Programme for Regional Policy	Hermann Sæmundsson, Director, Ministry of Transport and Local Government (IS)
17:00-19:00	Reception	