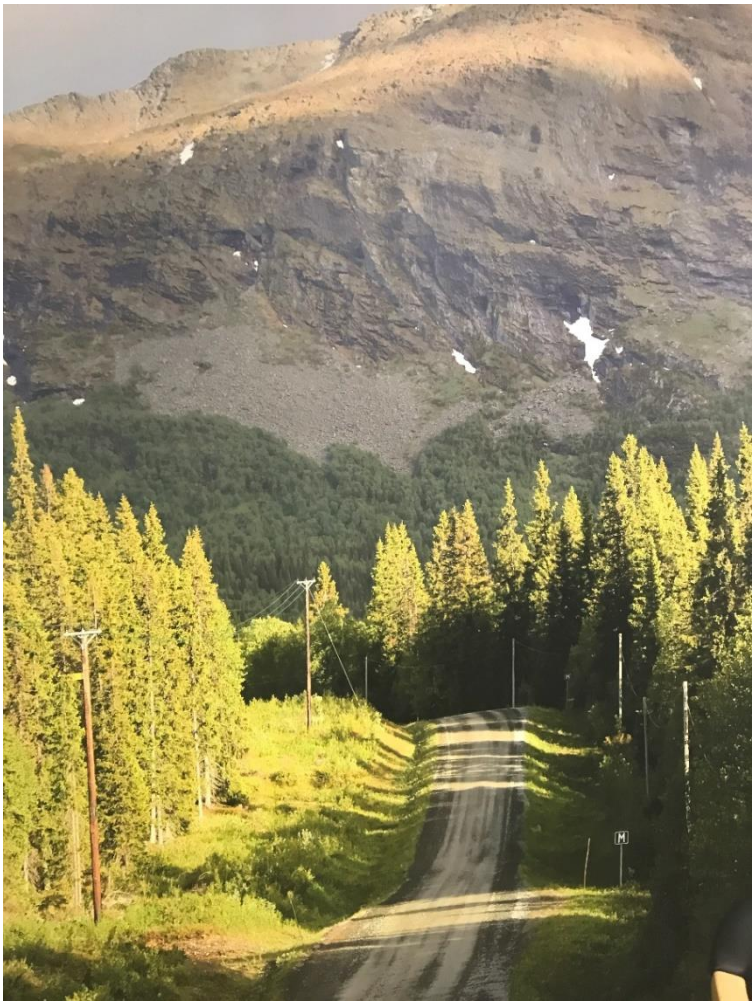
Resituating the Local in Cohesion and Territorial Development



Case Study Report

Digital Västerbotten

Promoting Equal Standards of Living for Inland Municipalities through Digital Technologies, Sweden

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RELOCAL
Resituating the Local in Cohesion & Territorial Development

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Abbreviations

EC	European Commission
EFRD	European Fund for Regional Development
EGTC	European Grouping of Territorial Cooperation
EU	European Union
GDP	Gross Domestic Product
GMC	Centre for Rural Medicine
ICT	Information and Communication Technology
LAU	Local Administrative Unit
NUTS	Nomenclature of Territorial Units for Statistics
NSPA	Northern Sparsely Populated Area
PRO	The Swedish National Pensioners' Organisation
R&D	Research and Development
SKL	Swedish Association of Local Authorities and Regions
SME	Small and Medium-Sized Enterprises
SPA	Sparsely Populated Areas
VHR	Virtual Health Room

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Executive Summary

Background

In Västerbotten County in northern Sweden, the population is largely concentrated along the coast. Inland communities are becoming depopulated and the municipalities struggle to provide basic service because of long travel distances and limited resources. There is concern that the large rural portions of Sweden are being "left behind". The increasing digitalization of society has opened new opportunities for many Västerbotten communities. The action *Digital Västerbotten* is an attempt by the regional authority, Region Västerbotten, to use existing and emerging digital technologies to provide services and equal standard of living for people in all municipalities.

The action *Digital Västerbotten* is one of several projects that emanates from the *Digital Agenda för Västerbotten 2014-2020.* The agenda is agreed upon and signed by the County Council, the County Administrative Board and Region Västerbotten. It is part of the regional development work and produced in parallel and in cooperation with the Regional Development Strategy and follows both the national (Digital Sverige) and EU digital strategies (Digital Europa). The aim of the action is to spread digital competence within the administration of the municipalities in the region and create digital services for the citizens.

Findings

Since the project Digital Västerbotten was only recently completed, it is somewhat difficult to fully access the impacts in terms of delivering spatial justice. What can be said is that the project managed to spread digital competence and through that increase the spatial justice in terms of more equal digital skills within the municipal administrations and more equal access to digital services for the citizens. The action also strengthened the platform for cooperation between the municipalities, both within Region 10 and the whole region. The cooperation between municipalities is a way to share resources and knowledge and can therefore be considered a driver for spatial justice. People in the region are in general positive towards digitalization but civil organisations and public authorities working with digital education and training are worried that the implementation of digital services without sufficient training will create a digital divide between generations but also possibly expand the difference between urban and rural areas.

Outlook

After the project *Digital Västerbotten*, more focus needs to be placed on the citizens. Even though some projects addressing digital competence already exist, such as the "digital service center", more education is needed to avoid a backlash that might increase the digital divide both on a regional and national scale. The relatively good broadband expansion in Västerbotten has been necessary for the implementation of this action but for digitalization to really reach all over Västerbotten and create more spatial justice it needs to be further expanded. The cooperation between municipalities in all different sectors also need to continue and expand for municipalities to be able to provide more equal services in the region in the future.

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1. Introduction

Of the 33 case studies examined in the RELOCAL project, *Digital Västerbotten* covers the largest area. The 55 000 km2 consist of 15 municipalities and 268 000 people, of which almost 80 percent live in the four coastal municipalities. Västerbotten is in several ways an interesting arena to investigate and discuss spatial justice. While the area follows the same trend as many European rural areas, possibly to a bigger extent, with aging population and young and skilled people leaving the inland, the long distances adds another important dimension in Västerbotten. It takes approximately six hours to drive across the region and public transport as well as trains and flights are only available to a limited extent.

Västerbotten is one of 14 northern counties in Norway, Sweden, and Finland, which make up the distinct Northern Sparsely Populated Areas (NSPA), which was established in 2004 (NSPA, 2019). The NSPA share a similar natural environment – a harsh climate, abundant natural resources, relative lack of agriculture, a strong potential for renewable energy, long distances from markets, and high cost of land transport (OECD, 2017). They are also specifically affected by globalisation, energy-supply, climate change and demographic change. The Accession Treaty for Sweden and Finland to join the EU in 1995 included a special provision to promote the development and structural adjustment for these regions.

Because of a high outflow of people, public authorities in the inland are struggling to provide the same services within health care, education, and other areas as given in the rest of the country. Also private actors are affected by the trend of centralisation and many banks offices and shops have left the inland. To solve the loss of physical service offices around the region and to overcome the long distances, digital solutions are being used in various ways. Västerbotten has a long history of advanced broad band connectivity and a focus on digitalisation, which is shown by the region's *digital agenda* (Region Västerbotten, 2014) and the Centre for Rural Medicine (GMC) that has been a forerunner in telemedicine for 25 years. During recent years this has expanded and many people in Västerbotten use these digital services on a regular basis.

This case study is focusing on Region Västerbotten's work with digitalisation and in particularly **how and if the project "Digital Västerbotten" have had effect on "spatial injustice" in the inland municipalities**. It is a three-year project that started in 2015 with funding from European Regional Development Fund (ERDF). The aim is to spread competence about digitalisation in the Region and to help the municipalities provide eServices to their citizens and to give them tools to lead the digital transformation in general. The project derives from Västerbotten's Regional Strategy and Digital agenda that follows both national (Digital Sverige) and EU digital strategies (Digital Europa).

The project is focusing on the cooperation between municipalities in the region and not solely targeting the inland municipalities. Since the inland municipalities are more at risk to experience spatial injustice this study is concentrating on the eight inland municipalities that since 2012 cooperates as the organisation "Region 10" (includes two municipalities from Norrbotten). Region 10 is an organisation and platform that cooperate around and highlight common problems of the inland.

Among citizens, politicians and media from rural areas there is a general concern that large rural portions of Sweden are being "left behind". Digital solutions are aspects highlighted in Sweden's new rural policy passed in 2018 to create "equal conditions for

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people to work, stay and live in the rural areas". This speaks directly to the issue of spatial justice in a rural region such as the inland municipalities of Västerbotten.

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2. Methodological Reflection

The case studies in the RELOCAL project all follow the same methodology and structure (see WP 6.1). A large part of the analysis of this study is done through interviews with regional and local stakeholders, both project leaders, chief administrative officers in the municipalities, civil society and citizens. Nineteen interviews were conducted and two seminars, one at the University of Umeå and one with the chief administrative officers of Region 10. In addition, information has also been gathered from strategic- and policy documents as well as public seminars and media. In total 44 people have been engaged in the case study (for full list see annex 8.1). All interviews are anonymized except for quotes taken from media and from open seminars available at Region Västerbotten's web site.

Several methodological issues were encountered during the case study research. Regarding terminology, we apply a definition of digitalization used in a newly release report about digitalisation in the Nordic countries that states that: *"Digitalisation is the transformation of all sectors of our economy, government and society based on the large-scale adoption of existing and emerging digital technologies."* (Randall & Berlina , 2019). The advantage of this definition is that it includes the public sector which is central in the Nordic context and in this study.

As in all academic texts some words are difficult to translate into practitioner's language. During this study we discussed the translation of the central term "spatial justice. The direct translation "rumslig rättvisa" was explained to our interviewees and if clarification was needed the broader translation "regional differences" was used. However, we found that many of our interviews appreciated the term "spatial justice" since it gave greater emphasis on the distances that exist in Västerbotten. The implications of the geographical and figurative distance between the inland of Västerbotten and the bigger cities such as Umeå or Stockholm is a discussion that is very much alive in the region, for example how most meetings are held in the bigger cities or that media report more from bigger cities.

Another practical issue when conducting this study was the long distances, both within Västerbotten County but also to Västerbotten from Stockholm, where the office of Nordregio is located. Västerbotten Country is the same size as Croatia (map 1) and public transport is limited within the region and between the regional centre of Umeå and the inland communities. It is a one-hour flight or eight-hour train ride between Stockholm, and Västerbotten which created some logistical problems. Travelling across this large region however gave us valuable insights to the spatial justice challenges encountered by the regional authority. It also how showed the big differences between municipalities in the region and how future case studies focusing only on one municipality is of importance to truly understand the local setting.

Access to relevant stakeholders in form of citizens and people from civil society was something we struggled with throughout the process of this study. This since very few citizens and people from civil society have been involved in this specific action. The implications of that will be discussed further on in the study.

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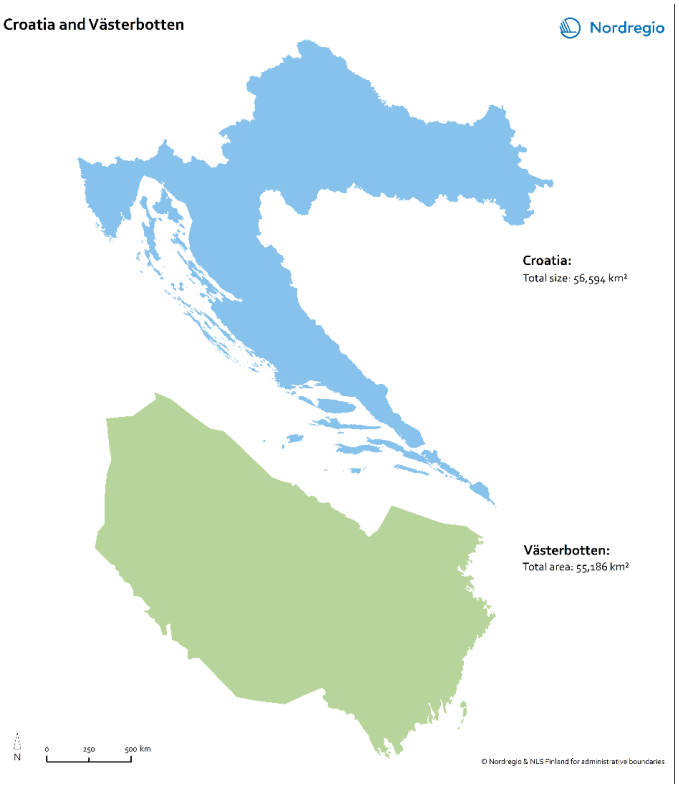

Map 1: Västerbotten and Croatia

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3. The Locality: Västerbotten, a Northern Sparsely Populated Area

3.1 Territorial Context and Characteristics of the Locality

In the RELOCAL-project, the Västerbotten case is one of two in Sweden and one of four in northern Europe along with two in Finland (map 2). The welfare regimes in the Nordic countries are society-based under what have been largely social-democratic regimes. Specifically, the proposal to the RELOCAL project stated that: *"this case will focus on sparsely-populated periphery regions where population decline and concentration of the population into larger settlements has made service delivery and economic growth difficult in smaller towns. Rural type of location: periphery regions in northern Sweden."*

Map 2: Sweden with Västerbotten marked in darker blue to the left. Västerbotten County with its capital Umeå to the right.

Thus, the case was problematized from a spatial justice perspective. The trends of population decline and aging, and concentration into larger urban centres along the coast would make the provision of services difficult across such vast region (the largest of the RELOCAL cases, table 1). Economic growth is also difficult because of the long distances to markets and lack of population and economic concentrations. Therefore, in our case we look at how digital solutions (digital solutions include a broad range of eServices e.g. eHealth, eLearning, eTaxation etc.) can facilitate access to public services and thereby lead to more spatial justice.

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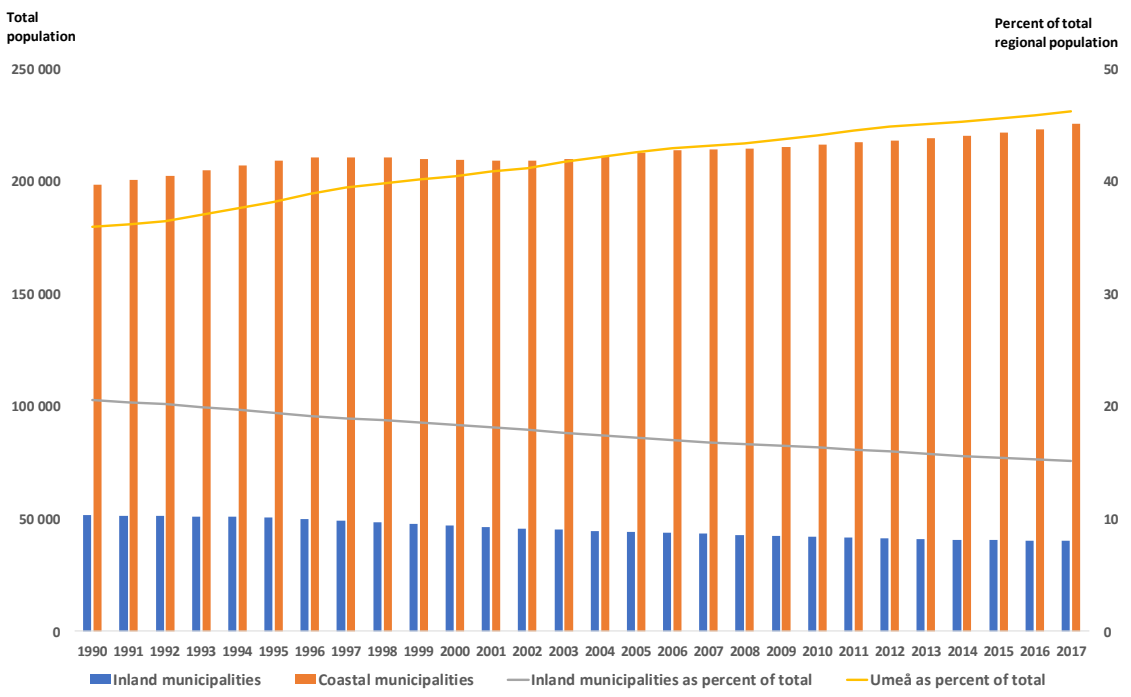

Figure 1: Population change in inland coastal municipalities in Västerbotten, 1990-2017

Map 4 (annex 8.3) shows the population size of regions in the Nordic countries and the population change over the past decade. A large percent of the population is concentrated in the regional centre of Umeå, which is located on the coast (figure 1). The regional centre of Umeå has increased its share of the region's population from 36 to 46 percent over the time period 1990-2017. Meanwhile, the eight inland municipalities have declined from 21 to 15 percent of the region's total. Umeå is the location of a large university, several large companies, and it is well-connected with the rest of Sweden via numerous daily flights and trains.

Among the recommendations by the OECD towards NSPA is to extend eServices initiatives for rural communities and share good practices such as the provision of eHealth services in the region of Västerbotten. As is shown, this is exactly what the region is doing in order to provide uniform access to services across all municipalities. The increasing digitalization of society has opened new opportunities for many (particularly inland) municipalities to provide services despite low resources, challenging at the same time participation, connectivity and skills availability in these areas. The main objective of the Digital Agenda for Västerbotten is to 'reduce distances' (create balance) and facilitate cooperation between Västerbotten municipalities and the County Council around digital solutions.

Name of Case Study Area	Region 10 (Part of Region Västerbotten)
Size	54 664,6 km2 (Region Västerbotten); 56 771,88 (Region 10)
Total population (2016)	262 362 (Region Västerbotten); 49 857 (Region 10)
Population density (2016)	4.8 persons/km2 (Region Västerbotten); 0.9 persons/km2 (Region 10)
Level of development in relation to wider	• Disadvantaged within a developed re-

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socio-economic context • Disadvantaged within a developed region/city? • Disadvantaged within a wider underdeveloped region?	gion (Region 10)
Type of the region (NUTS3-Eurostat) • Predominantly urban? • Intermediate? Predominantly rural?	Predominantly rural region, close to a city
Name and Identification Code of the NUTS-3 area, in which the locality is situated (NUTS 3 Code(s) as of 2013)	SE 331 Västerbotten County (Västerbottens län)
Name and Identification Code of the NUTS-2 area, in which the locality is situated (NUTS 2 Code(s) as of 2013)	SE 33 Upper Norrland (Övre Norrland)

Table 1: Basic socio-economic characteristics of the area

Main actors in the locality:

Region Västerbotten
Until January 2019 Region Västerbotten was a co-operative body responsible for questions about regional development and growth in the county. The organisation was politically governed by its members which were the 15 municipalities in Västerbotten as well as the County Council of Västerbotten. In January 2019 Region Västerbotten and the County Council of Västerbotten were merged into one organisation as has happened to all regions in Sweden. Since the project "Digital Västerbotten ended in December 2018 the former organisation Region Västerbotten was the main coordinator and project leader of the action and one of the actors involved in signing the regional agenda together with the County Council and The County Administrative Board. In this report we will therefore refer to the organisational structure as is was before January 2019.

The County Council of Västerbotten
The County Council is a politically governed organisations foremost responsible for health care and public transport in the county. The representatives in the County Council are directly elected every four years by the people in the county. From January 2019 the County Council merged with Region Västerbotten and together became Region Västerbotten. They then took over the responsibility of regional development.

County Administrative Board of Västerbotten
The County Administrative Board is a government authority responsible for ensuring parliament and government policy at the regional level and coordinate government authorities. The work is led by the County governor and the County board who are appointed by the government. Their mission is to work for development where different areas of environment, economic growth, and good living conditions interact.

Region 10
Region 10 is a collaboration of the inland municipalities, Arjeplog, Arvidsjaur, Dorotea, Lycksele, Malå, Norsjö, Sorsele, Storuman, Vilhelmina and Åsele, in the regions Västerbotten and Norrbotten (figure 5 and map 3). It started in 2012 with the 8 inland

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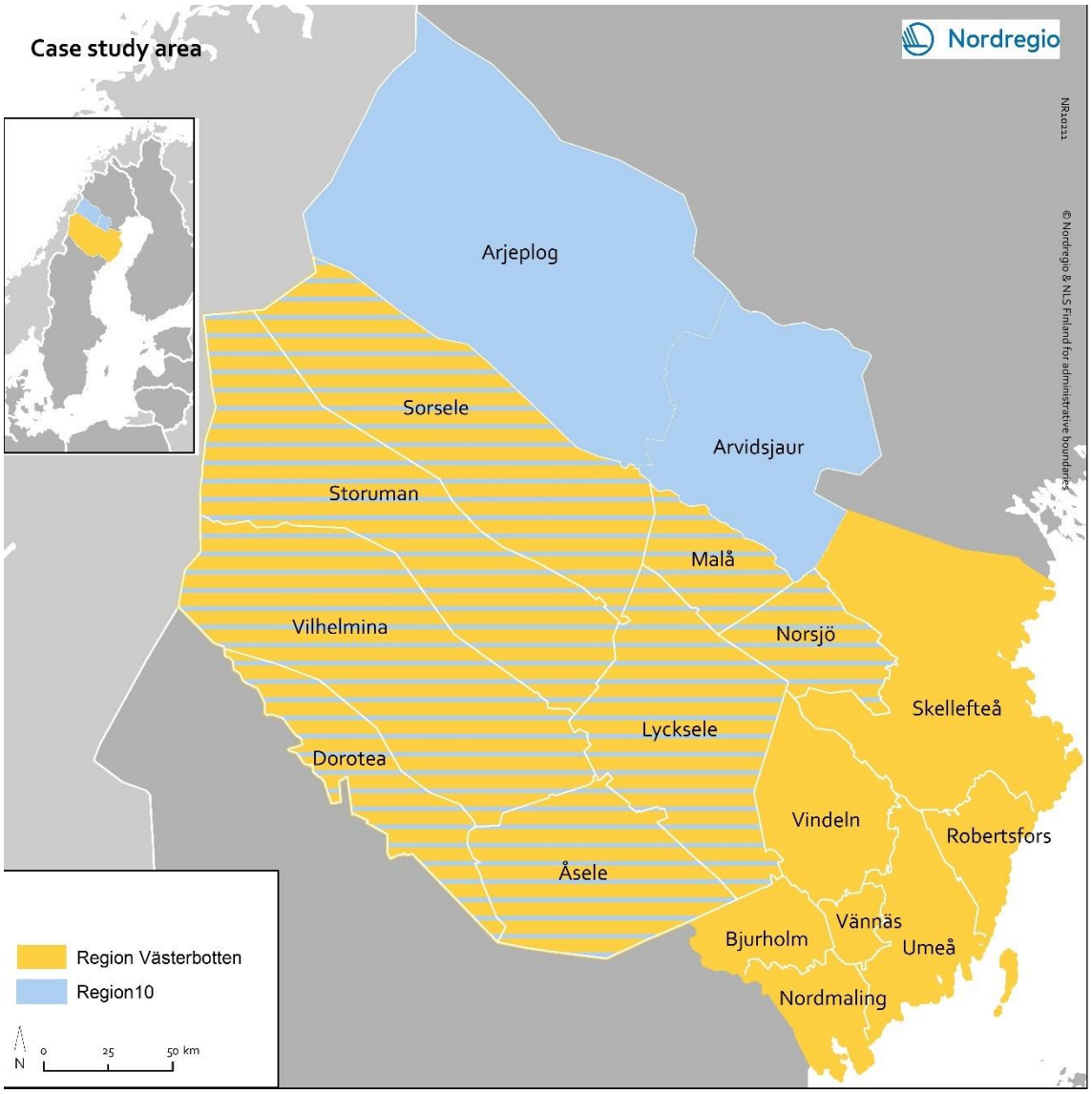
municipalities in Västerbotten (at the start called Region 8) and was extended with two neighbouring municipalities in Norrbotten (Arjeplog and Arvidsjaur) in 2018. The aim of Region 10 is to strengthen the role and development of the inland municipalities and to express their similar challenges with a joint voice towards coastal areas and the rest of the country. The choice to focus the study on Region 10 had both a **functional approach** in terms of it being an area with similar challenges and characteristics, a **territorial logic** based on them being inland municipalities and that they had a previous history of cooperation when they were known as "the forest municipalities".



Map 3: Map showing Västerbotten County in yellow. The eight inland municipalities (striped) and the two extended municipalities from Norrbotten County (blue) make up Region 10.

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3.2 The Locality with regards to Dimensions 1 & 2

Analytical Dimension 1: Perception of spatial (in-)justice within the locality

In this section we discuss stakeholder's perceptions on spatial justice as well as the three identified layers of spatial boundaries. In the end of the section possible vulnerable groups in the region are also discussed.

The term **spatial injustice** is not commonly used by civil servants in Västerbotten since it has political connotations, usually connected with the left of the political spectrum. That the civil servants emphasise interregional differences and the aim to reduce them can however be interpreted as an awareness of a dimension of inequality, a digital strategist says:

"I think the argument of "spatial injustice" is always present, even though we might not use the word "injustice". We instead say there are different preconditions." (Digital strategist, Digital Västerbotten, interview 4)

Another regional project leader talks about spatial justice in relation to the libraries in the region:

"I really like the word "spatial justice, and I feel that the concept fits in very well. Today there is no infrastructure similar to the libraries where activities are prescribed by law and without any requirement of consumption. That infrastructure is very important to have in mind when discussing digital participation, competence and democracy."(Project leader, digital service centre, interview 9)

A developer at the Competence Centre for Multilingualism in Umeå municipality working with remote teaching argues that digital solutions in teaching were a pragmatic answer to the lack of language teachers in the inland, rather than based on an argument of justice. After a few years the main argument has changed:

"The work we do is not really connected to digitalisation, it is just a logistical solution to a problem […] Since a few years back we talk about equality as our main argument. With remote teaching we can offer more students education in their native language […] the children befriend people from other villages who speak the same language and they get a cultural identity." (Developer, Competence Centre for Multilingualism, interview 10).

The concept of "spatial justice" is not known to the interviewed chief administrative officers in the municipalities. But when discussing **regional differences**, or even **inequalities** between the inland and the coast many aspects were mentioned. High municipal taxes, centralisation of services, lack of resources, lack of skilled work force and limited work opportunities are a few that was mentioned. Structural inequalities were also brought forward in form of a low education level which in turn influence youths not to apply for higher education or gender inequality that appear when men work away from the home during the weekdays which ties women to the house and children.

An interesting aspect not mentioned by the project leaders in the region but brought forward by the chief administrative officers in the municipalities is the many benefits of living in the rural inland. It raises the question of who defines the concept of inequality in the inland, the people living there or people working in public authorities in Umeå:

"Now you're talking to somebody who lives outside a small municipality, and I have chosen to live here and move from Stockholm because I see the benefits." (Chief administrative officer in Region 10, interview, 15).

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The perception of Västerbotten being a region which is "left behind" is common in policy discussions (OECD, 2017). However, in discussions and interviews, many of the informants living in the inland municipalities did not view the area as being disadvantaged and were actively working to find pragmatic solutions to the small population sizes and distances. These issues are not new and people have been actively working on various solutions to overcome distances and provide quality of life to people in Swedish rural areas for a long time. In general people living in the inland municipalities recognize the difficulties of keeping the same service supply in rural areas as in urban areas. But when public services are downsizing and the last offices relocating there is a feeling of being treated unjustly and a feeling of it having "gone too far". A digital supervisor training citizen to use digital services in Storuman gives his impressions from the citizens:

"It is a nice idea that all should have the same preconditions, but I think people that live here, including me, understand that it cannot be the case. I think people have accepted that. However, when the last public offices or stores move people fight to keep them. People get especially frustrated when they don't know how to use the only remaining solution, the digital services." (Digital supervisor, interview 18).

Important to note is that all villages and municipalities are not losing population. In Fredrika, a village in Åsele municipality they are experiencing an inflow of people and the school has doubled the amount of kids the last 4 years (from 8 to 19). One explanation given from a person living in the village is the importance of community. The civil organisation "Fredrikas Framtid" (The future of Fredrika) are on voluntary basis building playgrounds, rebuilding beach decks and beach walks. A member of the organisation says to Swedish radio:

"We came up with the idea that we have to do something to show that we believe in the future of Fredrika and that we believe in the children and young people here […] and we see effects. People and companies are moving here" (Erik Karlsson, Fredrikas Framtid (P4 Västerbotten, 2019a)

A researcher from Umeå University, also on Swedish radio, means that there are signs of changes in the perception about rural areas. They are to a smaller extent perceived as "dead places" and more people are rejecting the stressful and expensive life in cities (Madeleine Eriksson, Umeå University) (P4 Västerbotten, 2019b)

Urbanisation and depopulation of rural areas have occurred during a long time in Europe and Sweden (ESPON, 2018). The interviewed chief administrative officers of region 10 are aware of macro forces influencing the locality. **The global forces** are more abstract, which can reduce **accountability** and **transparency** as well as the concept of justice. Some chief administrative officers however mean that the government can hinder or at least not work towards accelerating these global forces:

"The decline in population is because of a global trend that also is accelerated by Swedish policies. It regards centralisation which in turns means that people are moving. From surveys in our municipality "work opportunity" or "studies" are by far the biggest reasons for leaving the municipality. There are existing policies that encourage and rewards life in cities, one example is the access to public transport. Another policy to consider implementing is some sort of taxation in the municipality where you have a summer or winter house. Many summer guests expect service when they are here, but the municipality do not receive extra resources. Another proposal is interest deduction on housing in the inland, since it is difficult to get loans in the inland because the low market value. There are many things you could do I would say." (Chief administrative officer in Region 10, interview 15).

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From interviews we can identify three different **layers of spatial boundaries**. All actors make a similar distinction between the **inland and coastal** municipalities. Since the Region 10 cooperation started in 2012, a concrete geographic and political divide prevail between the inland and the coast, a divide that existed before but was not established. The distances and limited public infrastructure also divide the coastal areas and the inland.

There is a general perception in the inland that most people move to the big coastal city Umeå. Politicians in Region 10 mean that this is not the case according to their local studies. A chief administrative officer from region 10 says:

"We thought everyone moved to Umeå, but that was not the case. Surprisingly many moved between the municipalities and also outside the county." (Åsele meeting, interview 16)

The three identified spatial boundaries are very similar to each other. The quote below shows the two other identified spatial layers. The **urban-rural** layer also exists within the inland municipalities, here exemplified by the different perceptions between Lycksele town and the rural areas of Lycksele municipality. The third layer is on the national scale and shows the spatial boundaries of **north vs south** of Sweden (south often referred to as Stockholm):

"I think it is a common problem feeling that people in bigger cities don't understand. We here in our village feel that the politicians in Lycksele don't understand our situation here. In Lycksele they feel that the regional politicians in Umeå don't understand how it is in the inland, and in Region Västerbotten (office in Umeå) they feel that the national parliament and the people in Stockholm don't realise the situation in the north." (Man in Lycksele, interview 20).

There is also a sense of being excluded from the media and the national debate which also presents itself as a **power imbalance** or lack of understanding.

When discussing **vulnerable groups** most interviewees emphasise the older generation, especially in terms of using digital services. Immigrants or refugees, especially those with limited reading skills, are also mentioned. The dimension of space become apparent here since most refugees in Sweden cannot choose where to live but are placed in a municipality, who all are obliged to take refugees according to law (SFS, 2016:38).

Another mentioned vulnerable group is the group unable to travel by car. In Sweden rural areas 19 percent of the adult population does not have a car in the household and 27 percent are without a driver's licence (Swedish National Road and Transport Research Institute, 2017). This also creates a social exclusion and a dependency on a social network which would not be the case in the city where better public transport exists.

The Sami population, who are spread over Västerbotten and manage their reindeer in the area, is not mentioned by the Region or the municipalities as a vulnerable group when discussion regional differences or digitalisation. The Sami population is one out of five minority groups in Sweden and their rights to the land for reindeer management is defined as "prescription from time immemorial" and is regulated in the law (SFS, 1971:437). According to a report from the Swedish Agency for Economic and Regional Growth digitalisation has provided the Sami reindeer management with Reindeer GIS (RenGIS) which has enabled effectivity and communication in their operative business (Swedish Agency of Economic and Regional Growth, 2017).

Analytical Dimension 2: Tools and policies for development and cohesion

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This section discusses the tools and policies that exist at the local, regional and national level to promote spatial justice and digitalization. When it comes to digitalization and the specific action it seems very few citizens and civil society groups have been engaged. This will be discussed further in dimension 4.

After considerable debate and discussion, a new **rural policy** was passed in 2018 with support from all political parties in Sweden (Government of Sweden, 2018). The overarching goal is *"a sustainable rural area with equal opportunities to business development, work, housing and welfare, which will lead to a long-term sustainable development all over the country".* There are three sub goals mentioned that relate to the goals in Agenda 2030. The third, *"equal conditions for people to work, stay and live in the rural areas",* speaks directly to the issue of spatial justice in a rural region and the inland municipalities of Västerbotten.

The new policy rests on two parts: The first part is the overarching goals that is now decided upon in a longer perspective. The second is the concrete investments that governments will continue to decide upon. They should be based on the areas that the parliamentarian rural committee advised on. The policy is not an unfunded mandate to improve conditions in rural areas but has substantial investment behind it for private sector and business enterprise, innovation and knowledge development, education, housing and transport, and culture. The policy has however received critique from the Region 10 cooperation that meant that the policy will have little effect on the rural areas because it is "weak" in form of political direction and resources (Dagens samhälle, 2018).

In the region we also here critique towards national policies in the region. After the Swedish public employment service in 2019 decided that 130 out of 242 offices should be closed a person I Vilhelmina municipality created the non-political "inlands-upproret" (an inland action) on facebook. The action had 5000 members within a week of its creation in March 2019 and is a critique to how politicians on the national level handle rural issues. The action has a focus on equality and bottom-up initiatives. To a Swedish newspaper the founder says: *"our current parties in parliament don't care. All seem to agree that it is fine to promise a lot and deliver nothing when it comes to rural and remote rural areas"* (Inez Abrahamzon, 11th of March) (Landin, 2019).

The Västerbotten **Regional Development Strategy** from 2014-2020 is called *"An attractive region from coast to mountains"* (Region Västerbotten, 2014) and has "*the aim of establishing attractive living conditions regardless of town or municipality in the region*". Even though the concept spatial justice is not mentioned directly, the strategy points to the differences between municipalities when it comes to demographics, education level, attractiveness and competence. It emphasises the need to reduce differences through local knowledge while taking the characteristics of the municipality into consideration. Digital solutions such as eLearning and eHealth is mentioned to reduce distances and overcome missing competence but also to expand the coverage and strength of broad band connectivity.

The **digital agenda** operates to reach the goals stated in the Regional Development Strategy. In a hierarchal line it derives from the Swedish digital agenda (SOU, 2014:13) and the Digital Agenda for Europe. The last focal area of the agenda has clearest connections to the concept of spatial justice. In the text describing the focal area *"A sustainable and smart society"* digital services are put forward as a possible solution to regional differences:

"the preconditions for the county's municipalities are substantially different when it comes to resources and competence to be able to provide digital services for their citizens, business and visitors.

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There is great potential for collaboration and coordination. Except for making public service more accessible and effective it would also make the democratic processes more open, transparent and effective." (Region Västerbotten, 2014).

On the local level some municipalities have their own strategic documents on how to work with digitalisation. In Vilhelmina municipality for example they have a digital vision to "digitalize what can be digitalized" which means that digitalization is not a purpose of its own, but measures should be implemented on request from citizens.

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4. The Action: Digital Västerbotten

4.1 Basic Characteristics of the Action

Västerbotten's *Digital Agenda* was created in 2014. Since then all work with digitalisation emanates from the goals stated in it and the action "Digital Västerbotten" is one of several projects. The agenda is agreed upon and signed by the County Council, the County Administrative Board and Region Västerbotten. It is part of the regional development work and produced in parallel with the Regional Development Strategy. The integrated processes of the strategy and the agenda enables the digital research areas in the agenda to be closely tied to the regional development goals and thereby establish a good foundation for project funding. According to the project leaders the direct connection from the Digital Agenda for Europe through the national and regional level and to the local implementation is vital for the formation of projects that grows around the agenda (see figure 3). The Nordic countries are widely accepted as digital frontrunners in a European and even a global context (Randall, et al., 2018). Thus, perhaps unsurprisingly, all Nordic countries are in the process of implementing national strategies related to digitalisation. In Sweden, each region has developed a digital agenda based on the 2011 National Digital Agenda.

The digital agenda for Västerbotten emphasise seven strategic areas where digitalisation is said to have highest effect. They are: increase broadband capacity; develop digital competence; develop digital learning; increase participation; increase quality and efficiency in health and care; strengthen research and innovation from a digital perspective, strengthen digital entrepreneurship and business development and work for a sustainable and smart digital society.

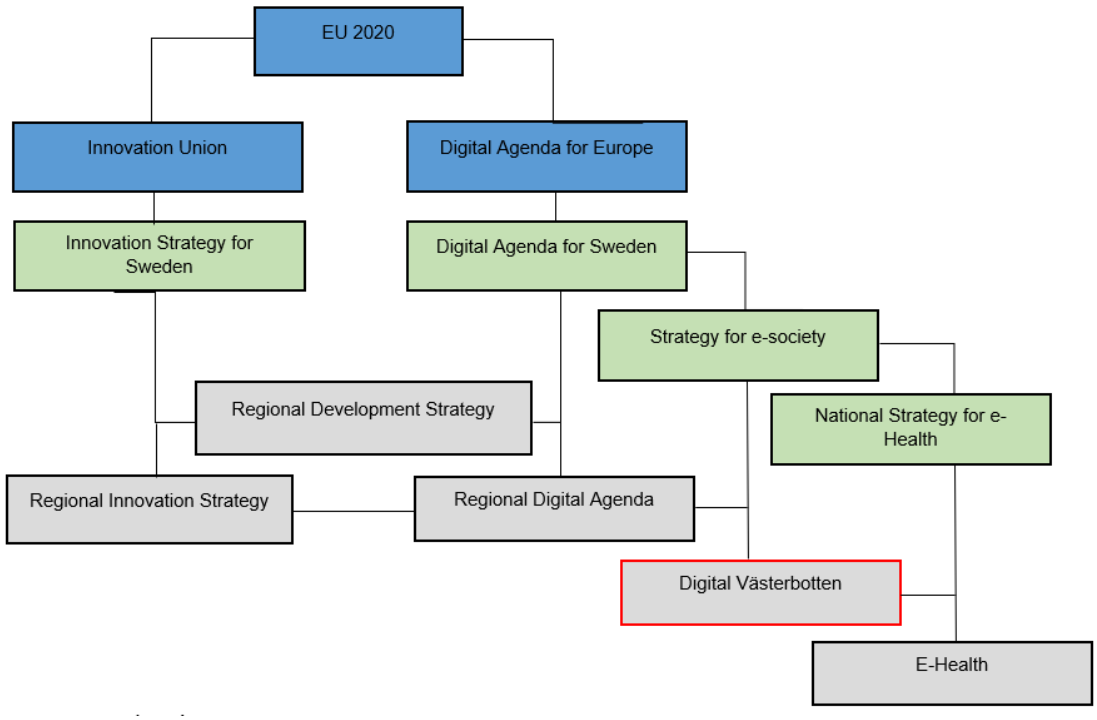

Figure 2: Digital Västerbotten in relation to other regional, national and international projects.

Source: Region Västerbotten, modified by authors

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The action "Digital Västerbotten" is one of the projects created as a tool to implement the digital agenda. The project is formed to solve problems that appeared when trying to implement previous digital services and projects in the municipalities. The preceding projects had a "bottom up" approach and tried to introduce digital solutions through the IT personnel in the municipalities. In time it became clear that the IT-personnel did not have the necessary resources nor power to make decisions or prioritize any digital changes.

The main goal of the project is to implement eServices for citizens, businesses and visitors in Västerbotten's municipalities. This is done by strengthening the cooperation and increasing the digital competence between and within the municipalities. Though the end goal is to create as many eServices as possible the project has an overarching goal of a more extensive digital transformation. As one of the project leaders said, "*The digital part in digital transformation is actually the easy part, we work with the transformation* (Project leader, interview 6)". The stakeholders affected by this action can be divided into two groups, the leaders in the municipalities in Region 10 who are directly affected through training and workshops and the citizens in the municipalities who are indirectly affected when the municipal leaders are implementing digital solutions because of the action (see figure 3).

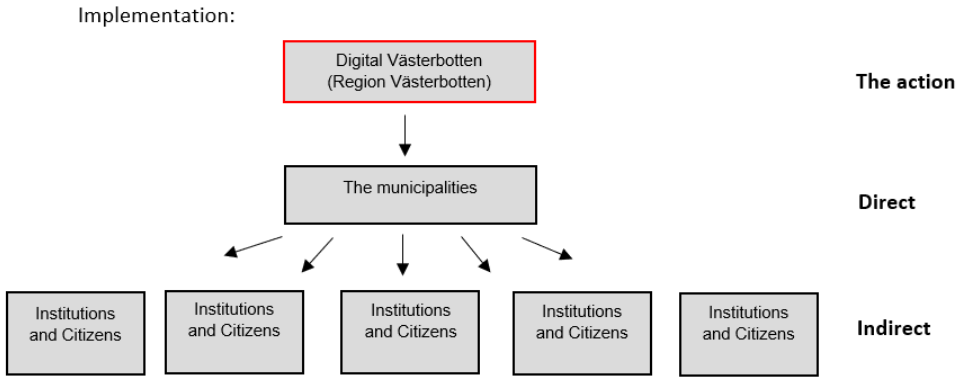

Figure 3: Relationship between Digital Västerbotten, municipalities, and citizens

Source: Created by authors

Other co-operative projects:

"Digital Västerbotten" is part of a bigger digital transformation in the region where several projects and actors interact both on a local, municipal and regional level (see list in Table 3). One of these projects is the "Virtual health room". A virtual health room is a place where citizens can receive simpler tests or speak to a doctor remotely without having to travel long distances to a hospital (see map 5). Since the County Council is responsible for health care in Sweden they are funding the project through the Centre for Rural Medicine (GMC) and in cooperation with the concerned municipality. This includes healthcare and care through distance-spanning technologies, including ePrescriptions across country borders. As part of the Swedish Presidency of Nordic Council of Ministers there is a priority project forming focusing on health care and care with distance-spanning

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technologies and another pilot project focusing on developing methods for coordinating interdisciplinary regional work for equal public health (Government of Sweden, 2019). (Interestingly, this pilot project applies to both Swedish RELOCAL case study sites- Stockholm and Västerbotten).

When digital services are implemented and institutions and services are digitalizing faster than its citizens you risk a creation of a "digital divide". This will be discussed more in detailed further on. A parallel project created to minimize the digital divide is "Digital service centre". The project is formed by the County Library, part of Region Västerbotten, and consist of four centres with the aim at providing help and assistance to citizens about digital questions. Private actors such as banks and food stores have also been invited to teach citizens how to use their eServices.

Another project to reduce the digital divide is "IT for elderly" started by The Swedish National Pensioners' Organisation (PRO) in Västerbotten through funding from Region Västerbotten. In 2016 the leaders of the project visited all 52 PRO organisations in Västerbotten and held motivational lectures trying to increase the interest in digitalisation among the members and thereby reduce the digital divide. As a result, 105 different "digital study circles" were created.

Cooperation/coordination	Overarching actions in all focal areas
Digital Competence	"Leading digital change"- workshops and training for leaders within municipalities in region 10 in Västerbotten (Region Västerbotten is responsible)
Digital Competence	"Digi-Journey". A digital working group with representatives from municipalities in Region 10 (non IT-personnel).
eArchiving and IT architecture	A regional working group has worked during three years to find a common regional solution for eArchiving.
eArchiving and IT architecture	How can the municipalities prepare for a common process of handling eArchiving? Will result in guidelines for the smaller municipalities to use. (Lycksele Municipality is responsible)
eArchiving and IT architecture	A group is formed to investigate how to implement IT architecture in the normal public sector work
eServices	42 eServices delivered and ongoing (28/11 2018). (Skellefteå municipality is responsible)
eServices	A common platform for all municipalities in the region (except Umeå) to share the eServices.
eLearning	Mapping to provide a better picture of how eLearning is used in the participating municipalities. (Skellefteå municipality and Region Västerbotten are responsible)
eLearning	Videos and instructions to the other municipalities about how to use the eServices. As a way to spread competence.
eHealth (focused on welfare technology for elderly people)	A baseline study has been created to evaluate the competence and equipment of welfare technology within the municipalities.
eHealth (focused on welfare technology for elderly people)	A network has been set up between the people responsible for welfare technology in the municipalities. The idea is to share and exchange knowledge.

Table 2: Activities in Digital Västerbotten

County Council and concerned municipality	Virtual Health Rooms
Region Västerbotten – County Library	"Digital Service Centre"
Umeå municipality – Competence Centre for Multilingualism	Remote teaching (not a project but a mission from the preschool board from 2014)

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PRO (The Swedish National Pensioners' Organisation	IT for Elderly

Table 3: Interrelated projects and activities within digitalisation in Västerbotten

4.2 The Action with regards to Dimensions 3-5

Analytical Dimension 3: Coordination and implementation of the action in the locality under consideration

The **direct implementation** of the action proceeds from the project leaders at Region Västerbotten out to the chief administrative officers, eHealth responsible personnel and other personnel in the municipalities. The action is organized through different activities but mostly through workshops and training held by the project leaders from Region Västerbotten within the different municipality. Working groups and networks have then been established and the work has continued locally within and between the people working in the municipalities.

When Region Västerbotten negotiated and signed the digital agenda, the 15 municipalities, as the owners of the organisation, also agreed to work towards the established goals. The political process of creating the agenda resulted in a less sharp document, more of a "*paper product",* than initially was planned. According to the project leaders, a written action plan was removed when the process failed to ascribe money to the activities in the agenda. This shows the strong autonomy of the Swedish municipalities, who's local self-governance is protected in the Swedish constitution (SFS , 1974:152). Sweden's multi-level governance structure has been described as an "hourglass", with a strong central government, considerable autonomy for the 290 municipalities, and rather limited responsibilities granted to regional authorities (OECD, 2017). The municipalities can therefore not be forced to implement any action why the absence of tied money to the digital agenda made the Region more eager to convince the local politicians and chief administrative officers to be brave and make difficult prioritizations in their budgets.

Even though **formal hierarchical structures are** reduced by the autonomy of the municipalities and the fact that the region and the municipalities have different focal responsibilities, there can still exist an **informal power imbalance** when the region tries to influence the municipalities. This can be exemplified by a statement from some project leaders of the Digital service centre who explained the relationship between the regional office in Umeå and the inland municipalities as complicated:

"It's always difficult to work in a big organisation and especially since we work and live in Umeå. It's the same thing as between Stockholm and the rest of Sweden, some kind of inferiority complex, and therefore it can be difficult to find the right levels sometimes." (Project leader, Digital service centre, interview 8)

Also between the smaller inland municipalities and the two extensively bigger coastal municipalities Skellefteå and Umeå we detect a power imbalance**.** The **uneven distribution of power** is mentioned as an integral reason for the extended cooperation within Region 10:

"The Region 10 cooperation has created a situation where the coastal municipalities also have to take us into consideration in different ways then before." (Region 10 meeting, interview 16).

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From the project leader's point of view the project is therefore also aimed at establishing and intensifying the mutual beneficial relationship between the smaller municipalities with limited resources and deficiency of skilled personnel and the bigger municipalities:

"The small municipalities had a self-image of not being able to change anything themselves because they had no resources. They felt that they are depending on the big municipalities. But now I think more people understand it they say "now we understand it, not we can own it, now we can lead it". Their self-image has been changed during this project. The municipalities now better understand that the relationship implies mutual benefits, and that Skellefteå (big municipality) for example also gains from cooperating with smaller municipalities." (Project leader Digital Västerbotten, Interview 6).

Especially the relationship between Skellefteå municipality and Region 10 has been strengthened during the time period of the project Digital Västerbotten. Skellefteå has been responsible for developing eServices, which are accessible also for the region 10 municipalities. A chief administrative officer for a region 10 municipality explains:

"they (Skellefteå) have been very humble and nice towards us (the small municipalities) […] We have been able to buy their concept, they develop eServices and we can use it and put it at on our platforms…" (Chief administrative officer in Region 10, interview 15).

Region Västerbotten's mission is to coordinate the regional development and make sure the elected politicians and appointed administrative personnel within the municipality and County Council can lead it. It is however clear that the involved project leaders have worked hard towards actualizing a digital agenda and thereby also a digital transformation in the municipalities. A project leader describes the plan to get the politicians on board the agenda: *"I knew that if I could get the minister Anna-Karin Hatt here, the politicians would also come. Because they want to be in the paper with the minister" (Digital strategists, Interview 4).*

The **indirect implementation** of the project refers to the fact that a large part of the outcome of this project is invisible for the citizens in the municipalities. The methods for cooperation, motivation and increased digital competence issue from the project leaders in the Region to the people working within the municipalities. The action however has indirect impact on the citizens since it gives the municipalities more tools to work locally with digitalisation:

*"The action has contributed to an overarching understanding of our position within the digital transformation and made us understand what we should prioritize first, but what really contributed to where we are today is the local work we did ourselves". (*Chief administrative officer *in Region 10, interview 15).*

Some of the implemented digital changes in the municipalities will however have more direct effect in the lives of citizens. In one municipality for example, they have implemented nine new digital services, and are in the process of implementing 30 more. This means that people for example no longer need to take a half day off from work to drive 100 km to reach the municipal office in office hours to fill in a building permit or to place your child in the queue for kindergarten. The chief administrative officer says:

"*The project has proceeded very well, in the beginning we fumbled in the dark but after a while it took form and it has generated very positive outcomes. It has given us the possibility to progress hand in hand in Västerbotten, no municipality has been left behind […] We definitely had not been where we are today without the project, and I think that is the same for all the municipalities." (Chief administrative officer in Region 10, Interview 14).*

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The project leaders mean that they encountered very little resistance from the stakeholders during this project. Especially the municipal leaders were very positive. This could be due to the fact that the action is voluntary with a mission to educate, motivate and create collaboration platforms for the municipalities.

How well the action is perceived by, and adapted by, the municipality seem to be dependent on the leadership of the of the chief administrative officers. The chiefs that have been able to motivate their own local politicians have also been most successful in implementing new digital changes. In one municipality a local politician describes their relationship with the chief administrative officer as a two way-communication built on trust:

"*We trust and listen to what our chief administrative officer has learned when he's been travelling around the county." (Head of County Council in Vilhelmina, Annika Andersson (C), from open seminar available at Region Västerbotten's web site,* (Region Västerbotten, 2018a).

Analytical Dimension 4: Autonomy, participation and engagement

From a RELOCAL perspective, about resituating the local in territorial development, it is problematic that the action has been invisible for citizens and civil society. No civil group engaged in the action "Digital Västerbotten" and very few seem to be active regarding questions about digitalisation in Västerbotten. How the action would have been different with more citizen participation is difficult to say but will be discussed further down.

One civil organisation that has been active regarding questions about digitalisation in Västerbotten is PRO, the Swedish National Pensioners' Organisation. PRO is one of Sweden's largest and most active social movements with aim of influencing societal issues and improving quality of life for pensioners. They also try to reduce the digital divide among elderly people in Västerbotten. The rapid pace of digitisation is transforming society, as a result, a large group of people are "left behind". This is especially true for those that are 80+, referred to as "the lost generation" by a PRO employee (interview 1) since some don't master digital solutions such as electronic payments or apps, etc. The "digitalisation of society" according to the PRO employee "*should take place on terms of different groups of society and not forced on them from national level." (PRO employee,* Interview 2). This points to the problematic aspects of the low collaboration between public authorities and from civil society regarding these questions.

PRO received money from Region Västerboten for their project "IT for elderly" and organised a fair together with Region Västerbotten to show older people how digital tools can be used to facilitate daily life. PRO argue that it is important to take the problem of a digital divide seriously, but still they do not seem to believe that Västerbotten can nor should avoid implementing digital measures. Instead they emphasise the possible benefits for older people using eHealth rooms, welfare technology, social communication, or other eServices, if also education for older people continues to exist and preferably extend even more. Those who are getting retired today are using, and will use, internet to a much higher extent when they become older than those who are 80+ today.

Some interviewees working to reduce the digital divide mean the **accountability** is lost. Who is responsible to make sure people know how to use digital services when public offices, banks and store relocate? An argument presented is that the funding for education or training should be a shared by the different institutions. As is it now the region is for example paying for the "digital service centres", to support people with limited digital

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experience, but after the three-year project is over the operation will be shut down or transferred into the budget of the already struggling municipalities.

There are other civil organisations working for the development of rural areas in Västerbotten. One is "Rural Sweden" (Hela Sverige ska leva). In their development plan for 2018 they state that one of their goals is infrastructure and digitalisation:

"Digitalisation is an important part of the development of society, not least in the rural areas. Everyone should be able to participate in the digital community and have access to functioning connectivity." (Hela sverige ska leva, 2018).

Rural Sweden works to strengthen local initiatives and have national impact through meetings with decision makers, agencies and local communities. They have been active pushing to improve the connectivity in the region but not within this specific action.

It is perhaps too early to fully understand the perceptions of citizens towards the recently implemented digital actions. But there has been a study on attitudes towards virtual health rooms. A study made by Näverlo, Carson, Edin-Liljegren and Ekstedt (Näverlo, et al., 2016) examines perceptions from users of the Virtual health room in Slussfors, Storuman municipality. The research focuses on the extent to which patients feel safe, secure and confident with the VHR. The study evaluated responses from 19 out of the 25 users that visited the VHR in Slussfors during 2014-2015. The overall satisfaction of the visits was rated a 2,9 out of 4, while the responses to all questions varied between 2,5-3. The same study also found that while older people liked the technical aspects, they did not think that it was a substitute for face-to-face services (Näverlo, et al., 2016). More research about user perception is needed in general to evaluate the consequences of implementation of digital services.

During the development of the virtual health rooms citizen participation played a role, according to the project leader from Centre for Rural Medicine (GMC). The contact started between the GMC (owned by the County Council) and the chief administrative officers in the potential home municipalities for the rooms. The citizens became involved through local meetings where they discussed where to place the room and how the rooms should be used. The idea is to create citizen groups to be the owner and developer of the rooms. According to the project leader:

"The people have been very involved and engaged in this project, so it is almost a kind of grass root movement, they have been very eager to get the technical equipment to start using the room." (Project leader, interview 13).

There are different views on how active the citizens have been in different municipalities. A chief administrative officer states that the citizens in her municipality have been to meetings about the virtual health rooms, even though she would not consider them the driving force in the process (Chief administrative officer in Region 10, Interview 15).

When it comes to ways of gather thoughts and viewpoints from the citizens the degree of institutionalisation and routine varies between the municipalities. One chief administrative officer exemplifies with meetings at a municipal school where the students were invited to pizza in exchange for giving their opinions about the development of the municipality. Other municipalities states that they usually ask what the citizens feel about digitalisation when they are "out meeting the citizens" (Chief administrative officer in Region 10, Interview 14). He continues:

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*We've been very **transparent** and open to the citizens during all phases, so everybody has probably felt safe on this journey. I think that is why no one has questioned or tried to hinder the development, instead we have been cheered on." (*Chief administrative officer in *Region 10, interview 14).*

The big municipality Skellefteå have an extensive process of gathering information. For 10 years all viewpoints sent in by email or made with telephone to all municipal institutions have been registered, this information is open on the web page Open North (Open North, u.d.). In addition to the collection of data from support services a number of service design projects have been completed. They have revolved around school food, apps for youths in contacts with teachers, contact between citizens and politicians, youth municipal councils, support to enable seniors to stay longer at home, applications for holiday from school, waste management, app for people with disabilities in care and building permits. In the development of eServices, Skellefteå municipality have been keen to involve the citizens and highlight the citizen's perspective as one of the success factors. The project leader says:

"All development of digital services should proceed from documented user needs and have high documented usability. To find out the needs of the user, the end-user (the citizen) must be close during the entire process and it's important that the development continuously adopt user tests and user types." (Project Leader, Lena Plym Forshell, Skellefteå municipality, open seminar available at Västerbotten Region's web site, (Västerbotten, 2018b).

The viewpoints gathered from citizens by Skellefteå municipality are also used in the inland municipalities, where this kind of extensive data collection has not been possible in most municipalities. The idea is that the citizens in this first stage of digitalisation have similar wishes in the different municipalities. Some municipalities state that they in the future will gather more information about digital services from their own municipality. It seems to be question about resources and prioritization.

The perception from the chief administrative officer is not that the action provides more **local autonomy**, at least not yet. One chief explains that if the development continues in the direction where "space" becomes less important, we can find more possibilities of living in a rural area and working remotely, which can increase the autonomy for the individual person living here (Chief administrative officer in Region 10, interview 15). Another chief instead argues that increased autonomy is not desired:

"I think we want to make the county smaller by cooperating more, we don't want more autonomy, I think that is the solution. Long term it is not sustainable that all municipalities should have their own IT-departments or HR-department. We want to go the opposite way and erase the municipal borders, instead of enhancing them." (Chief administrative officer in Region 10, interview 14).

The already high autonomy of the Swedish municipalities could be why this argument is not mentioned more.

Analytical Dimension 5: Expression and mobilisation of place-based knowledge and adaptability

Information and methods about digitalisation to the municipalities is provided from the Region but also from SKL (Swedish Association of Local Authorities and Regions), which is an interest organisation for all municipalities and regions in Sweden. Activities and services are thereafter discussed in the region 10 cooperation where municipalities have similar conditions and challenges. Since the action is built around the autonomy of the municipalities they themselves have implemented the activities that they found suited for

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their local setting. In this way the action has increased the **placed-based knowledge** about how to work with digitalisation in these municipalities. The Region 10 cooperation has also created a platform for local inland knowledge in discussions with bigger coastal municipalities in the county.

The question about the **digital divide** has arisen many times when discussing the action. A report from 2018 shows that 500 000 Swedish people never use the internet (Internetstiftelsen, 2018). Most of them are older and 42 % of people over 76 years never use the internet. Additionally, 600 000 Swedish people are not using the internet on a daily basis and also here older people are overrepresented. The reluctance to widen the digital divide when expanding digital solutions is a concern put forward both from local politicians, the region, municipal leaders and civil society, especially since Västerbotten has a large population of older citizens. How much emphasise we should place on the possible problem of a digital divide and its solutions however differ in opinion.

We see no clear divisions between the different levels or organisations regarding who are most concerned about the digital divide but instead the opinions seem to differ on an individual basis. Perhaps with exception from PRO who very strongly advocates for closing the digital divide. It is therefore difficult to say what place-based knowledge regarding the digital divide that has been adapted in the action. The parallel project Digital service centres started by the County library places big emphasis on the democratic aspect of reducing the digital divide. They talk about a *"double exclusion from society"* if you live in a rural area with little knowledge about or access to internet.

We see a division between how eService developers in the Region and the chief administrative officers in Region 10 view the time perspective of removing the old analogue services and replacing them with digital ones. The Region wants to limit the amount of double work for the municipalities by switching to digital services while chief administrative officers express the need for a much slower process and argue that the analogue services should exist as long as people use them.

For some people the question has a **temporal dimension**. Some mean that the digital divide will decrease extensively in 20-30 years when the concerned generation is gone. All actors do not agree with his prediction and for example a digital supervisor at the digital service centre says:

"I have heard people say that the digital divide will grow away as a result of the older generation dying. I am convinced this is not the case. I myself, working with these issues, sometimes have trouble following the development. It goes so fast." (Supervisor Digital services, Interview 18).

This argument is also weak when reflecting on the group of people with neurocognitive dysfunctions, also mentioned by the project leaders from the region as a group part of the digital divide. Important to note is that there off course are people from all formulated "vulnerable groups" that use digital services everyday with no problem.

According to a digital advisor working at a "digital service centre" the older generation feel frustrated and bitter. They have worked their whole life, often with physical work and now they want to relax. The same person means that the issue we are dealing with can best be explained with the word "**digital exclusion**". He means that there are strong reactions from the public using the digital service centre over the possible closing of the centres next year when the three-year project is over. The people are very happy with the service, even though he himself feel it came 10 years too late:

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"I have noticed a growing worry from elderly people who have managed to get a foot in the digital door and now are afraid that the door will close completely if the support services are removed. People have lived a very physical life, unafraid, but they are afraid of the digital world. Since they are very afraid of failing or destroying something just a little support can do a lot of good. When they see the benefits of digital services, such as skyping with grand children or paying bills online people are easily turned positive." (Supervisor Digital services, Interview 18).

A coordinator from PRO Västerbotten agree with this image and explains that they tried to solve the problem of fear with individual help sessions instead:

"There is an initial fear, "will I destroy the machine?". Therefore, we have to get over this first hurdle and make people start to use the computers. In our group sessions we had lap tops set up in the room, but no one wanted to touch them. I think it is because you don't want to show yourself week in the group. Therefore, we thought this individual work will help with that. Maybe we can save some souls." (PRO coordinator, Interview 2).

To initiate the necessary changes towards a digital transformation within the municipalities, organisational learning is central. A project leader explains the need to change organisational structures:

"Then we realised that to come about this change we needed a way to provide digital services without working with technology and instead working with organisation and see HOW we should produce digital services together." (Digital strategist, interview 4).

A chief administrative officer also describes how the **knowledge** sustained in the project trickles down into the municipal organisation:

"I think the project was good for the expressed purpose, but off course it didn't solve the work that needed to be done locally. We municipalities need to accumulate strength and dare to reprioritize to find resources. […] The project has contributed to an overall understanding on where we are at in this question and that we cannot do everything at the same time. But the reason we reached another level in the digital transformation in our municipality is our local work." (Chief administrative officer in Region 10, interview 15).

Individual learning can be said to take place when the municipal leaders gain understanding of the necessary changes towards a digital transformation, but it is also a result of the before mentioned parallel projects. The PRO project, funded by Region Västerbotten, "IT for elderly" has educated PRO members in digital questions. Also, the project "Digital services centres" revolves around educating the public. But more needs to be done in forms of information. A parent of young children in Lycksele talks about the newly implemented app for school where there is no institutionalised form of information:

"The information has been so-so, in school there is an app that takes a lot of time to understand. And when they update it you have to relearn all over again. There is no institutionalised template on how to use it" (woman in Lycksele municipality, interview 21).

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5. Final Assessment: Capacities for Change

Synthesising Dimension A: Assessment of promoters and inhibitors

The geographic, demographic and economic structures of Västerbotten have for a long time added to the difficulty of upholding **spatial justice** in the region. For at least the last 25 years practical solutions to those structures have made way for digitalisation. The well expanded broadband, that was put in to enable industries and companies to stay in the region, was the starting point. In a longer perspective the centralisation of offices and the limited resources within the municipalities is a driver for digitalisation. It is stated that digital solutions were first implemented as necessary solution to survive in rural areas.

The implementation of digital services is presented by Region Västerbotten as a way of overcoming distances and reducing differences within the region. In that sense digitalisation can work to reduce spatial injustice. Implementation of digital services such as e-services, e-health, remote teaching etc will make it easier for people in the inland to get more equal supply of services without having to travel far. But as of now it runs a risk of creating a digital divide where those that can not use digital services will be even more excluded from society. Depending on how this challenge is met digitalisation can be both a **driver** and an **inhibitor** of spatial justice in the region.

The cooperation Region 10 is a clear driver for spatial justice. By sharing resources and learning from each other the inland municipalities can reduce costs and find innovative ideas to overcome some of the demographical and economic challenges and thereby provide their citizens with more equal services.

Even though we don't yet know the extent of the effects implementation of digital services can have on spatial justice, the action itself seem to have worked in terms of **spreading knowledge** about digitalisation and **empowering** the municipalities to be brave and start a digital transition. Drivers that have pushed the creation of the action are to some extent the **engaged and motivated project leaders** working for Region Västerbotten. Because of motivated people the Regional Digital Agenda was tied to the Regional Development Strategy, which has been mentioned as important for all work with digitalisation in the region.

When it comes to the implementation of digital services in the municipalities, **trust** between the chief administrative officer and the politicians and a **strong and transparent leadership** of the chef administer officer have been important. The training was here prominent since it gave the chief administrative officers the knowledge and confidence to be brave and make necessary prioritizations.

Among the inhibitors are that Digital Västerbotten was financed only on project basis, as most of the projects about digitalisation, which leads to the question of what happens when the money runs out. In some cases, the municipalities have to decide whether they can transfer the project to the municipal budget. Even though citizens seem to be positive towards digital solutions the project is **top-down** and not approved by the people in the municipalities, why people can react badly if the services provide problems in the future.

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Synthesising Dimension B: Competences and capacities of stakeholders

The main mechanisms producing spatial injustice in the inland municipalities are the delocalisation of service offices and stores, lack of jobs, lack of skilled personnel and limited resources within the municipality to provide public services. It is a vicious circle where relocation of companies and stores leads to outmigration which in turn leads to lower tax revenues for the municipalities. According to chief administrative officers there are policies that could halter the circle, but these decisions need to happen on a state level.

A large part of the action is focused on the leaders in the municipalities. The educational aspects and the cooperation between the municipalities is therefore not visible for the citizens. Citizens were aware of the implementation of new digital services but had a hard time distinguishing from what project they derived. Both the project leaders from the Region and the interviewed leaders of the municipalities say that no civil group or citizens have criticised the project and in general, it seems that the citizens are positive towards digitalisation in their municipalities. However, there have been very little room for citizens to engage in this action because of the invisibility and the **top down approach**. Even though the municipalities in different ways have had communication with the citizens in form of surveys and meetings this has been as part of the normal procedures of the municipalities' work and not related to the specific action. The chief administrative officers in the study say that extensive citizen participation is difficult because of limited resources.

The implementation of digital services without sufficient training for citizens can lead to an increased digital divide and in turn increased spatial injustice. These insights could have been further highlighted with more **citizen participation**. In the relationship with the Region the chief administrative officers have been the ones arguing to keep the analogue services as long as people need them, even though it would lead to extra work for the municipality.

The action was developed by the Region and transferred into the municipalities through joint meetings where training and **sharing of knowledge** took place. The municipalities, both the politicians and the chief administrative officer thereafter implemented the action as they thought was most beneficial in their local setting. This assurance **of local ownership** was important since the municipalities are very different from each other. The limited resources in the inland municipalities in terms of lack of knowledge about digitalization, lack of skilled people as well as lack of money reduced the ability to prioritize digitalisation. By providing education and sharing of resources the action reduced the difference in capacity between the municipalities and gave a more equal starting ground.

The **creation of a platform** where coastal municipalities and inland municipalities with less resources can meet has been important both in terms of practically dividing tasks as when Skellefteå developed around 40 digital services which all included municipalities could use but also in terms of learning from each other and discussing best practices. Chief administrative officers of Region 10 all seem to agree that the future survival of their municipalities lay in the ability to cooperate and share resources with other municipalities, even more than they already do today.

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Synthesising Dimension C: Connecting the action to procedural and distributive justice

There are policies in place at the national and regional levels to ensure equitable and inclusive rural areas throughout the country, thus enabling **procedural justice**. The policies and programmes however receive critique for being futile and weak and for many citizens the situation is not perceived as just even though the process can be considered to be so.

Distributive justice is inhibited by the digital divide. Digital services are meant to reduce distance and create access to public services. But for those that cannot use the digital services it instead has the opposite effect. In general, it seems citizens are positive to digitalisation and digital services. However, the frustration starts when digital services are the only way to carry out necessary actions in everyday life. It is often mentioned how you cannot function in Sweden without a bank-id for example. The common denominator expressed in many of these questions about digitalisation is the fact that you are never able to speak with a real person. What is also mentioned is the **accountability**. Who is responsible to educate the public, is it the state, the region or the municipality? Or as mentioned earlier can some responsibility be placed also on private actors? How the education about digital services are done will determine the outcome of distributive justice in questions regarding digitalisation.

Because of the project Digital Västerbotten several digital services are available for citizens in inland areas which can facilitate everyday life. More equality has been created in terms of possibilities for municipalities to implement digital services as well as learn more about digitalisation. Something that the municipalities seem to view very positively. As for now the extent of the effect of the project is limited and some citizens may not even notice the difference. In terms of how digital solutions in the future may be the way to live in rural areas such a project is a good start to provide the municipalities in the region with an equal starting ground for the "digital journey".

When discussing the **transferability** of the action to other places is the broadband connectivity of importance. Another factor that needs to be considered is the Swedish system of strong and autonomous municipalities. In this case it seems that this particular action and the voluntary aspect of it worked well. The **autonomy** of the Swedish municipalities also established a relatively **place based** implementation of different digital solutions in different municipalities.

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6. Conclusions

What is being achieved in terms of delivering greater spatial justice?

There is a different social contract in Sweden and the other Nordic countries which differs from elsewhere in Europe regarding what people expect from the government. This is manifested in the government's commitment to equity and social inclusion, which combines high levels of per capita GDP and low levels of regional disparities (OECD, 2017). There is high overall perceived life satisfaction in the country and low overall disparity among regions. There has been a focus on equity among regions since the 1950s as part of regional development. A vibrant, living countryside is often described as an essential part of Swedish identity (Nilsson & Lundgren, 2018). In spite of this, there is persistent concern that Swedish rural areas are being left behind as the country's large metropolitan areas are the engines of innovation and growth. Population decline, aging, and out-migration of young educated people are both the cause and symptoms of the perceived rural decline. Poor broadband and lack of other necessary infrastructure in rural areas contribute to the growing gap between urban and rural areas.

Since the project Digital Västerbotten was only recently completed, it is somewhat difficult to fully access the impacts in terms of **delivering spatial justice**. What can be said is that the project managed to spread **digital competence** and through that increase the spatial justice in terms of more equal digital skill within the municipal administration and more **access to digital services** for the citizens. The project also **increased cooperation** between municipalities with limited resources. Since resource is a big part of why the inland municipalities are struggling with maintenance of public services **the sharing of resources** within the county increased the spatial justice, at least on a municipal level. We have also seen and heard that digital services have been implemented because of the project and that the competence and awareness about digitalisation has increased.

That digital services are a good tool to overcome distance and might be a solution that allows people to live in rural areas in the future, is agreed upon by most. If digital services today reduce spatial injustice is however more difficult. The question and consequences of the digital divide is for example one important aspect when evaluating the project's effect on spatial justice. If the digital divide is not dealt with, in terms of keeping analogue services or help centres such as "digital service centres", the implementation of digital services will instead have the opposite effect and increase the spatial injustice. And probably also increase the urban-rural differences.

Even though **procedural justice** exists in terms of policies to increase regional equality, many people working and living in rural areas would claim that they are insufficient and that more concrete action could be done to reward people staying in rural areas. The **distributive justice** is affected by the digital divide but also by the general exclusion of rural areas, especially northern rural areas, in politics and media.

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What are the policy changes ahead for bigger impact?

Rural places such as the inland municipalities of Västerbotten are often depicted as "dying places" based on a linear extrapolation of population trends which show that the peak size of a place was in the distant past and that if current trends continue, eventually the size will reach zero (Peters, et al., 2018). Population loss combined with an aging population, high rates of youth outmigration, and loss of businesses and services paint a bleak picture of many rural areas in Sweden and elsewhere. However, decline is not linear and many rural settlements such as those in Västerbotten continue to exist in smaller sizes and forms for quite some time.

Digital services can be one of the solutions that makes it possible to live in rural areas. For this to happen sufficient infrastructure and expanded broadband over the region are needed. As of 2017, 67 percent of the population of Sweden had access to broadband of this speed with the goal to expand to 90 percent by 2020. How the implementation of digital services is handled will determine whether it can reduce spatial injustice in the region. After the project digital Västerbotten with aim at spreading the digital competence within the administration of municipalities and starting the digital transformation, more focus needs to be placed on the citizens. Even though some project already exists, such as the "digital service center", more is needed to avoid a backlash that might increase the digital divide and because of the overrepresentation of older people in rural areas, also increase the urban-rural divide.

We also see that some villages are managing better than others and that a strong sense of community might be a contributing factor for that. The place-based knowledge and citizens participation is therefore not only important for navigating between different solutions but also to create and maintain a willingness to work to make your community better. This could in the end also lead to a more prosperous area with an inflow of people.

Also, the continuation of cooperation between municipalities is essential for spatial justice as well as for the survival of these municipalities. Not only is it necessary to share skilled personnel and economic expenses, but it also gives a sense of what is possible and create energy into administrations. How the cooperation works and has effect over county borders, as between Västerbotten and Norrbotten, is interesting and of relevance for future studies.

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8. Annexes

8.1 List of Interviewed Experts

	Organisation	Title	date
1.	Swedish National Pensioners' Organisation	Employee	November 2018
2.	Swedish National Pensioners' Organisation	Employee	August 2018
3.	Rural Sweden -Västerbotten	Employee	December 2018
4.	Region Västerbotten	Digital Strategist	November 2018
5.	Region Västerbotten	Project Leader 1. Digital Västerbotten	June 2018
v6.	Region Västerbotten	Project Leader 2. Digital Västerbotten	November 2018
7.	Region Västerbotten	Project Leader 3. Digital Västerbotten	November 2018
8.	Region Västerbotten	Project Leader 4. Digital Västerbotten	November 2018
9.	Region Västerbotten	Project Leader 5. Digital Västerbotten	November 2018
10.	Umeå Municipality	Developer (Competence Centre for Multilingualism)	November 2018
11.	Västerbotten County Council	Senior civil servant of digitalisation and technology	August 2018
12.	The Centre for Rural Medicine	Project Leader 1.	June 2018
13.	The Centre for Rural Medicine	Project Leader 2.	December 2018
14.	Region 10	Chief administrative officer in Region 10	December 2018
15.	Region 10	Chief administrative officer in Region 10	November 2018
16.	Region 10 (seminar)	10 chief administrative officers from Region 10 at meeting in Åsele	May 2018
17.	Umeå University	Professor – institution for geography and economic history	November 2018
18.	Digital service centre	Supervisor Digital services	February 2019
19.	Umeå University (Seminar)	14 employees from the Department of Geography	November 2018
20.	Lycksele Municipality	Man	February 2019
21	Lycksele Municipality	Woman	February 2019

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8.2 Stakeholder Interaction Table

Type of Stakeholders	**Most relevant 'territorial' level they operate at**	**Stakeholders' ways of involvement in the project (What do we gain, what do they gain)**
Project Leaders	Regional (Region Västerbotten)	Information about the action, how it started and why; what was important for it to be implemented and how was the interaction with the municipalities; what was the challenges both past and future ones.
Local administration/Chief administrative officers	Municipal level (Region 10)	Motivation to participate in the action; the local implementation and reactions from citizens; local challenges and discussion about spatial justice in the municipality; insight into the process and cooperation.
Non-profit/civil society organisations	Regional and local level	Information on their involvement in the action; additional ideas and perceptions than the ones from the region and the municipalities.
Other local community stakeholders/citizens	Local level	Perceptions of spatial justice and perceptions of the digitalisation and the specific action.
County administrative Board	Regional level	Information about process that led to the creation of the digital agenda; information about the cooperation between actors.
Other regional actors	Regional level	Information about parallel projects revolving digitalisation in the region; the participation from citizens in other projects.
Colleges and universities	National level (but regional knowledge)	Research about rural areas and knowledge about Västerbotten Region and actors in the area.
Media	National, regional and local level	Additional perceptions from local people and groups; discussions about the localities in the region.

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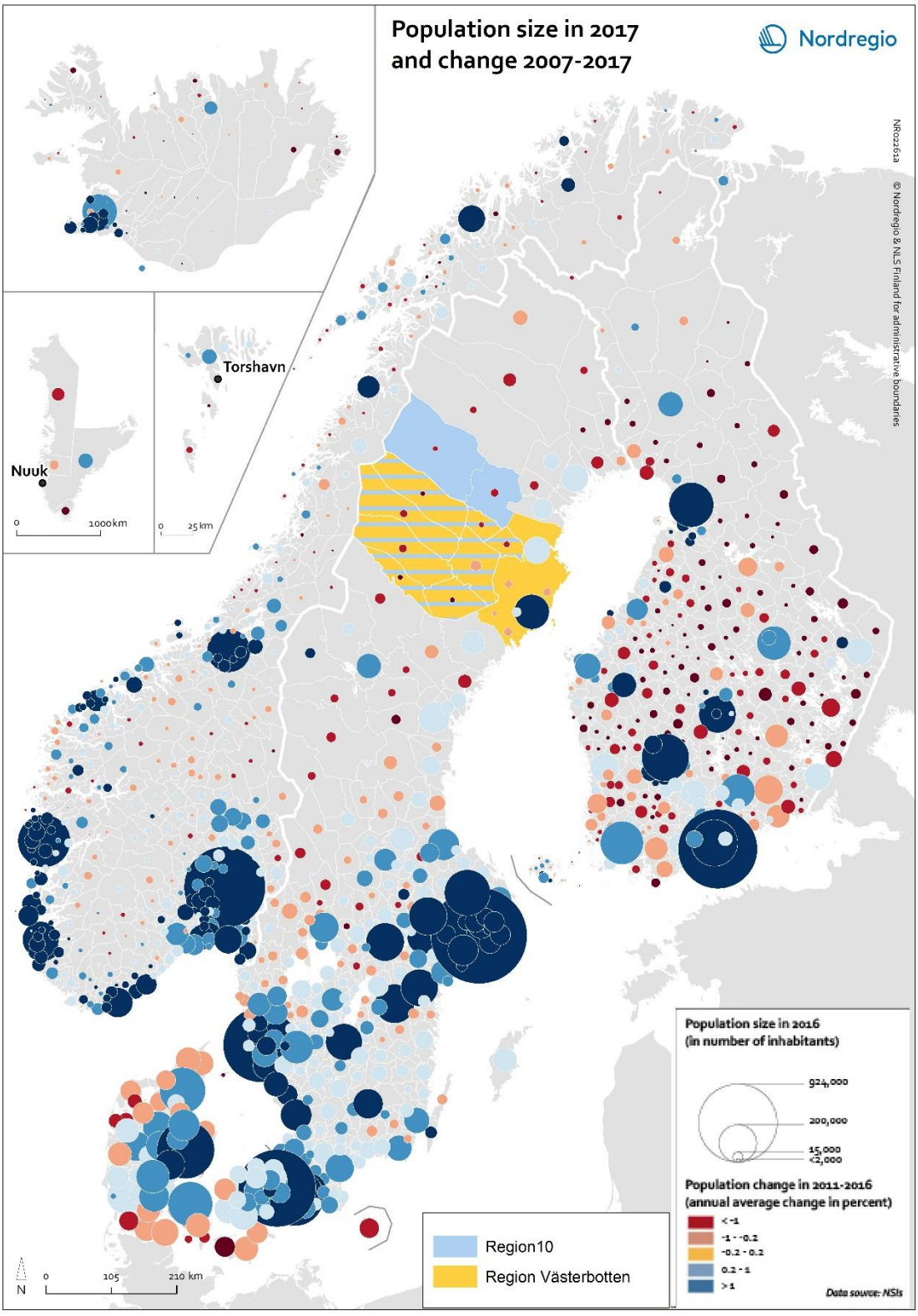
8.3 Map(s) and Photos



Map 4: Population size in 2017 and population change 2007-2017

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Figure 4. Main street in Storuman, Västerbotten.

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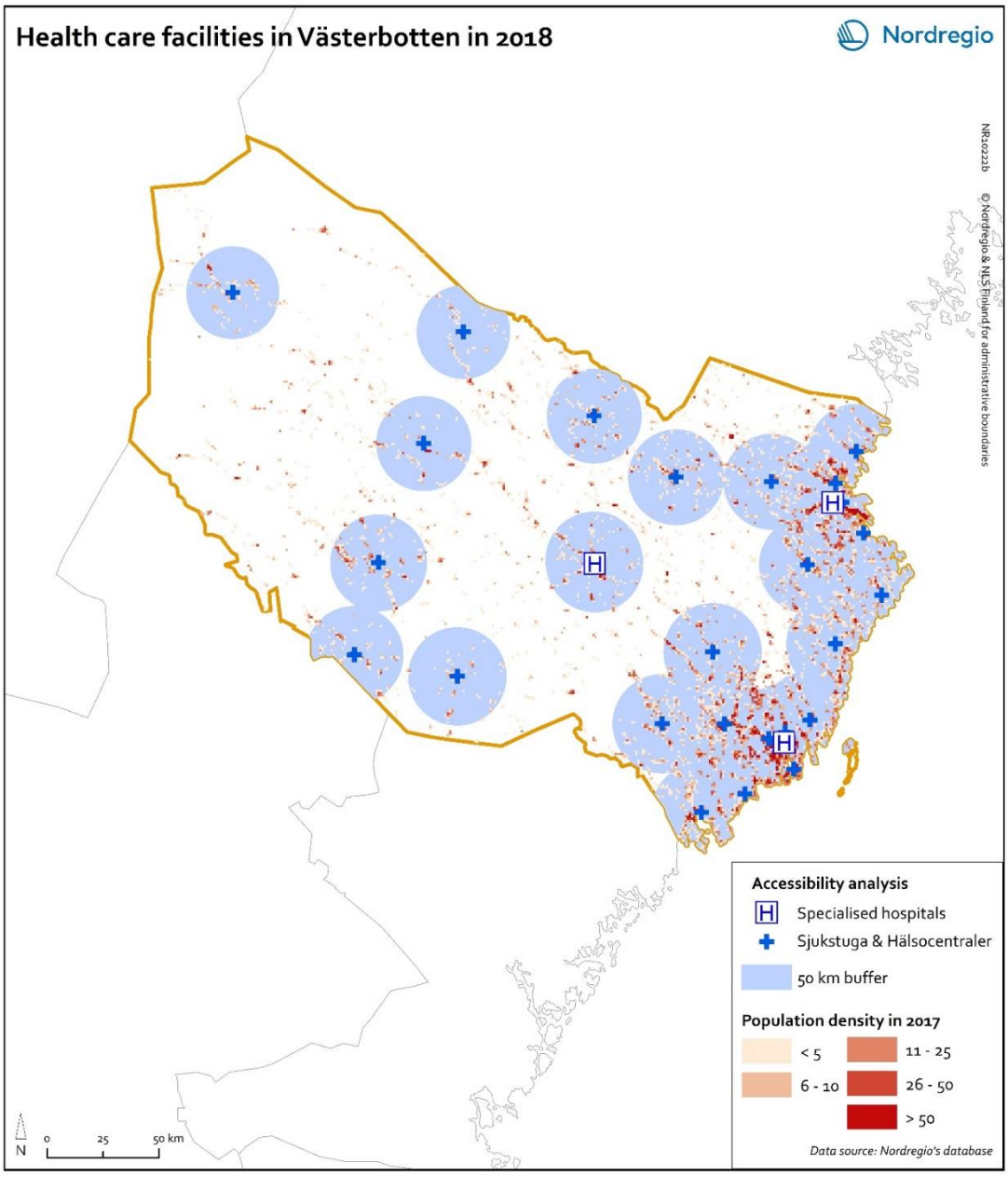

Map 5: Location of health facilities and population in Västerbotten

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	Municip-ality	Share (%) of popula-tion with tertiary educat-ion	GRP per capi-ta, index: EU28=100	Emp-loy-ment rate	Unem-ploy-ment rate	Youth unempl-oyment rate (15-24 years)	Broadba-nd: potential access to 1Gbit/s broadba-nd	Munic-ipal tax rates	Old-age depen-dency (65+ as share (%) of 15-64)
Coastal municipalities	Nordmal-ing	22.2	59	80.0	8.6	28.0	76.3	34.6	47.5
	Bjurholm	21.7	87	82.4	7.2	23.5	73.5	34.5	54.2
	Vindeln	23.6	180	84.7	5.4	19.3	77.9	35.0	50.6
	Robertsf-ors	26.1	57	83.6	5.8	20.0	68.3	34.5	44.8
	Vännäs	30.3	95	82.0	6.2	29.4	88.8	35.0	35.7
	Umeå	49.4	156	77.5	4.9	15.9	95.0	34.2	25.4
	Skellefteå	31.0	101	81.1	6.2	22.4	89.0	34.0	39.3
Inland municipalities	Storuman	24.1	95	81.6	6.0	22.9	79.8	34.5	50.2
	Sorsele	22.0	66	85.8	4.8	16.1	71.6	35.0	50.1
	Dorotea	17.5	105	82.2	7.9	27.2	71.4	35.2	57.5
	Vilhelmi-na	21.7	106	77.7	10.0	29.5	64.9	34.8	44.6
	Åsele	22.1	108	76.2	9.4	22.9	84.2	34.5	54.7
	Lycksele	25.8	87	82.1	6.9	21.8	87.1	34.4	42.2
	Norsjö	18.7	156	80.9	6.6	21.2	78.4	34.7	49.2
	Malå	19.9	117	87.5	5.7	21.4	87.2	34.7	48.5
	Swedish average	**37.7**	**124**	**78.9**	**6.9**	**18.9**	**87.2**	**33.0**	**31.9**

Table 4: Selected socio-economic indicators for Västerbotten and Sweden

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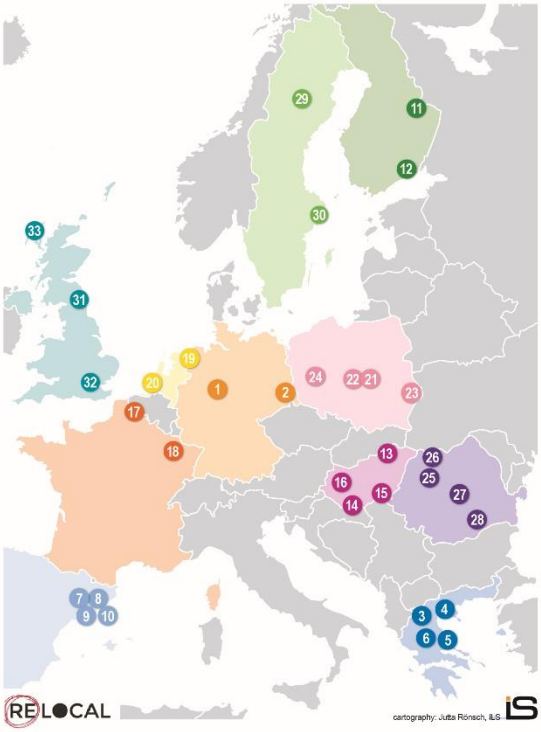
The RELOCAL Project

EU Horizon 2020 research project '**Resituating the local in cohesion and territorial development**' –**RELOCAL** aims to identify factors that condition local accessibility of European policies, local abilities to articulate needs and equality claims and local capacities for exploiting European opportunity structures.

In the past, especially since the economic and financial crisis, the European Social Model has proven to be challenged by the emergence of spatially unjust results. The RELOCAL hypothesis is that **processes of localisation and place-based public policy** can make a positive contribution to spatial justice and democratic empowerment.

The research is based on **33 case studies** in **13 different European** countries that exemplify development challenges in terms of spatial justice. The cases were chosen to allow for a balanced representation of different institutional contexts. Based on case study findings, project partners will draw out the factors that influence the impact of place-based approaches or actions from a comparative perspective. The results are intended to facilitate a greater local orientation of cohesion, territorial development and other EU policies.



	action location	action name	
1	Ostwestfalen-Lippe Region	Smart Country Side	D
2	Görlitz Town	Youth Centre	
3	Western Macedonia Region	Post-Mining Regional Strategy	GR
4	Thessaloniki Region	Alexander Innovation Zone	
5	Volos City	Overcoming Fragmentation	
6	Karditsa Region	Ecosystem of Collaboration	
7	Monistrol de Montserrat Town	Local Strategic Plan	ES
8	Neighbourhood of Premià de Dalt	Llei de Barris	
9	Neighbourhood of St Adrià de Besòs	La Mina Transformation Plan	
10	Eix Riera de Caldes Municipalities	Association of Municipalities	
11	Lieksa Town	Lieksa Development Strategy 2030	FI
12	Kotka Town	Activation of Youth	
13	Encs District	Give Kids a Chance	HU
14	György-telep, Neighbourhood of Pécs	Urban Regeneration	
15	Szentes Town and Szentes District	Production Organisation	
16	Balaton Uplands	Balaton LEADER	
17	Pas-de-Calais Mining Basin	Euralens	FR
18	Lorraine-Luxembourg Border Region	EPA Alzette-Belval	
19	Northeast Groningen Region	Induced Earthquakes	NL
20	Neighbourhood of Rotterdam	Rotterdam South on Course	
21	Łódź City	Participatory Budget for Łódź	PL
22	Brezeziny Town	Social Cooperative	
23	Maslomecz Village	Goth Village	
24	Domachowo, Potarzyce, Stara Krobia Villages	Rural Public Spaces	
25	Neighbourhood of Cluj	Pata Cluj Project	RO
26	Maramures County	Mara-Natur LEADER	
27	Neighbourhood of Codlea	Mălin-Codlea Project	
28	Neighbourhood of Bucharest	Plumbuita PIDU	
29	Västerbotten Region	Digital Västerbotten	SE
30	Stockholm City	Stockholm Commission	
31	Northumberland Uplands	NULAG LEADER	GB
32	Lewisham, Borough of London	Homelessness Project	
33	Isle of Lewis	Strengthening Communities	

The RELOCAL project runs from October 2016 until September 2020.

Read more at https://relocal.eu

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