RESULTS AND RECOMMENDATIONS 08/2022

Sustainable land use in low population municipalities

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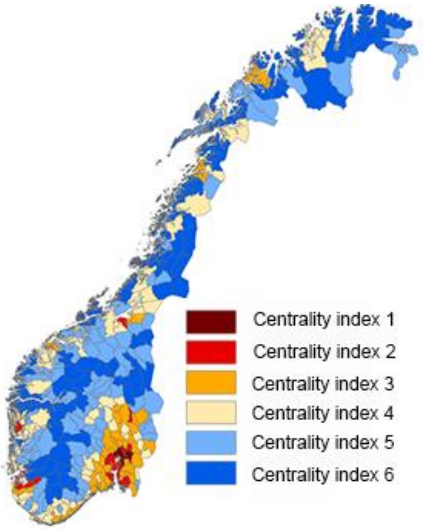
Purpose of the research

In this project, we study land use in low-population municipalities. The starting point is in-depth research in the four municipalities *Åfjord, Frøya, Sigdal* and *Flakstad*. While much research has been conducted on the potential for sustainable land use in larger cities, there are far fewer studies of sparsely populated municipalities. In Norway, the most rural municipalities represent only 14 % of the national population, but as much as 72 % of the country's land area (marked in blue in the figure).[1]

In order to address the combined nature and climate crisis, we must therefore understand the factors that play a role in local land-use policy. In this study, we have focused on how land management is included in the municipalities' strategies to attract residents, jobs and capital investment. We thus analyse land-use policy in light of the municipality's own strategies for business and population development.



Facsimile: Ministry of Local Government and Modernisation 2019, modified by Include.

This research project is relevant for the transition to a low-emission society for several reasons:

- How development and construction takes place in rural municipalities has an impact on land take and degradation of nature qualities, which in turn affects both local transport patterns and nature's ability to store carbon. Scattered localisation of homes, workplaces and services that are visitor-intensive will, as in cities, promote car use. In addition, changes in water supply to marshlands as a result of development will alter their ability to store carbon.

- Land use and development in rural municipalities not only serves local needs, but must also be seen in the context of national needs. The use of land for holiday homes and renewable energy in the form of wind power illustrates how land needs within a municipality are driven by actors and processes outside the municipality. The construction of holiday homes in rural municipalities also illustrates how development in one place generates car use across

[1] Adapted from *Ministry of Local Government and Modernisation, 2019. White Paper 5 (2019-2020). Levende Lokalsamfunn for Fremtiden. Distriktsmeldingen. Ministry of Local Government and Modernisation, Oslo*

municipal boundaries. The terms *recreational sprawl* and *recreational commuting* describe how dispersed development structure and commuting is not only an urban phenomenon.

Research questions and project design

The main research question for this study is:

- *Which key factors shape sustainable land use in municipalities with low populations?*

The choice of municipalities for in-depth research was based on a mix of site-based characteristics and social conditions considered relevant to the project's theme. The four municipalities are some of Norway's most rural municipalities (categories 5 and 6 on the national centrality index). In addition, in each of the municipalities there are factors that are considered relevant for understanding local land management – *the high population growth and construction activity on Frøya, the establishment of Norway's largest wind farm in Åfjord, the extensive construction of holiday homes and the state mandated protection of natural areas in Sigdal and the 2019 political decision in Flakstad to introduce land use neutrality as a management principle*. The latter entails a decision not to build on land that has not been developed previously.

In the project, we have conducted document analysis and in-depth interviews with political and administrative officials at municipal, regional and state level, as well as interviews with representatives of local businesses. All of the informants have either been involved in land management or are influenced by how land is managed in their work. In addition, we have used publicly available statistics from Statistics Norway.

Who has participated in the research group?

CICERO Centre for Climate Research with Anders Tønnesen has led the study. Other researchers involved in the study have been Monica Guillen-Royo at CICERO and Sindre Cottis Hoff at the Centre for Development and the Environment (SUM). The research project is part of Include's Work Package 3, which focuses on the role of municipalities as change agents.

What have we found out?

The main findings from the study are summarised in the following points:

- For the rural municipalities in the study, the opportunity to offer significant land areas is perceived as an important advantage over more densely populated areas in the competition to attract new residents, jobs and investments. Business and property owners have clear expectations that development plans should not be delayed or halted by extensive case processing or strict land-use principles. Politicians and administrative staff at local, regional and national administrative levels wish to avoid being perceived as hostile to business in their dealings with these actors.

- Transport and infrastructure is a development category that accounts for a great deal of degradation of natural areas. In Sigdal, much of this is linked to the extensive development of holiday homes, while in Åfjord and Frøya it is linked to the development of wind power. The figure below clearly shows the spatial consequences of the construction of 208 wind turbines in Åfjord in recent years. The last municipality in the study, Flakstad, has very little development and little land take in nature areas. Land management here is thus largely in line with the municipality's management principle of area neutrality.

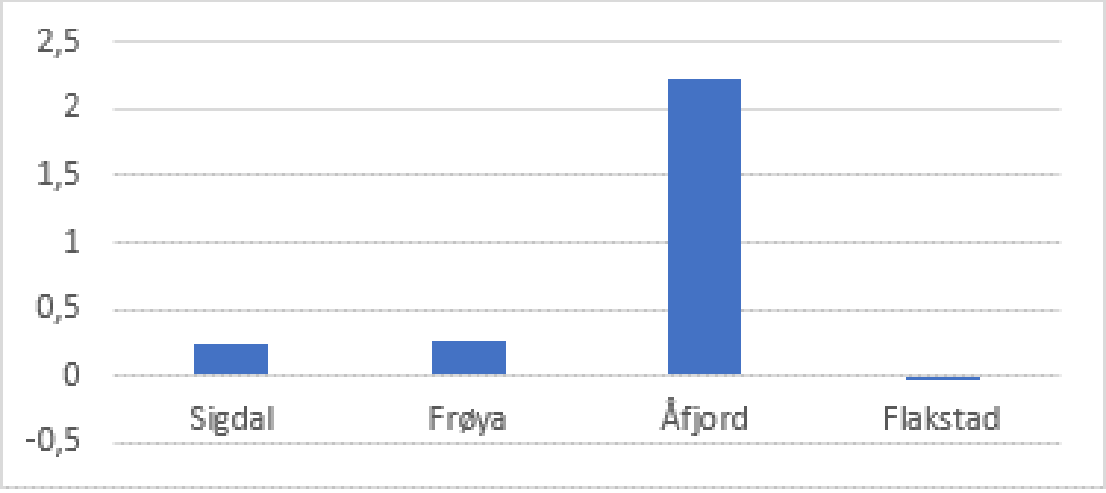


Figure: New land area used for transport and infrastructure between 2018 and 2022 (km²)

- Land is not only set aside for use by the municipality's own residents, but also serves society at large. It is therefore important to see land use policy in rural municipalities in the context of the needs of the entire country. For example, the extensive development of holiday properties in Sigdal serves the needs of the Oslo region, just as the development of wind power on Frøya and in Åfjord is of national interest.
- A shared finding in the three municipalities that have had some development (Åfjord, Sigdal and Frøya) is that several of the people that we interviewed question what the local community receives in return for ceding large land areas. While various elements were addressed, such as income, job opportunities and access to energy, disappointment was expressed in the limited ripple effects that resulted from having set aside land for national interests.

Implications

There is a need for increased focus on land use in rural municipalities

The nature and climate crises must be addressed jointly. In Norway, there is a rapid increase in built-up areas, with consequences for both greenhouse gas emissions and ecosystems. Most of the

country's land resources are found in rural municipalities, which requires increased focus, both in research and public administration, on these kinds of municipalities.

Sustainable land use – more than buildings

The study shows that transport and infrastructure as a development category is a significant consumer of land. In addition to assessing the land-use and transport consequences of new buildings, sustainable management must therefore also take into account how road connections between these buildings contribute to the degradation of nature qualities. Similarly, it is important to consider how infrastructure for digitalisation and electrification of energy production has clear spatial consequences in rural municipalities.

Relationships of trust across administrative levels

There is a mutual dependence between the administrative levels in climate policy. Good cooperation between the national, regional and local levels is essential to support sustainable land use. We found the greatest tensions between the administrative levels in the municipality of Sigdal, which had extensive development of holiday homes, where in 2008 state mandated protection of a large natural area (Trillemarka) was implemented. In Flakstad, where the ambitious principle of area neutrality has been adopted and appears to be practised to a large degree, we found less tension and fewer references to larger cases of multi-level conflict.

Local land use is more than just local

Research, political leadership and public administration must take into account how land use in a given location is not only local, but also linked to interests and processes outside the municipality. Land management is part of an exchange between urban and rural areas, and this study shows that the local level partly questions the fairness of this exchange. If rural municipalities feel locked in an unfair exchange structure with larger cities or the wider community at large, this will be a barrier to their mobilization for sustainable land use.

Sustainability and lack of sustainability can be interconnected

In Flakstad, the principle of land use neutrality was intertwined with both nature conservation and an economic growth strategy. It is a tool for safeguarding nature, which also helps to maintain the municipality's attractiveness as a tourist destination. Thus, the restrictive land use is rooted both in a nature conservation perspective and an entrepreneurial strategy to attract international tourists – which in itself is not sustainable. The study thus shows how sustainability at the local level can be linked to practices that are not sustainable at a higher geographical level. As such, there is a need to look beyond the local as a frame of reference for analysing land use and local sustainability strategies. The same can be shown in the opposite direction, by showing how a national commitment to renewable wind power has unsustainable land-use consequences in rural municipalities. Strategies for sustainable land use must take a holistic view of the implications of national and local actions and needs.