

Infrastructural Developments in the Arctic

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The Arctic is a vast, sparsely populated area, with unique geophysical conditions. Historically, it has always been, and continues to be, a challenging environment for infrastructure development both technically and economically. Infrastructure development has often been delayed - or it has never taken place. Technological solutions implemented in the Arctic may have differed from the southern areas, while, due to its characteristics, the Arctic has also been an early adopter of new technologies in some fields such as early forms wireless communication.

Much like everywhere else, infrastructural development in the Arctic divides opinions. For example, central governments (in different times and places) have been criticized for not investing enough in infrastructure development or for promoting infrastructure that (some) locals do not want. Various stakeholders have different views and often the needs and preferences of different industries and sources of livelihoods collide. While the desire for benefits connected to the infrastructure may be shared (e.g., green energy based on renewable energy production), disagreement concerning the location, size, costs, and environmental impact of the infrastructure, for example, can be insurmountable.

Infrastructure development in the Arctic has often been tightly connected to the development of industrial activities that utilize local resources, such as mining, forestry, fishery and more recently, tourism. Besides the infrastructure and facilities that are directly related to the production and service provision (for instance, mines or factories), there is indirect infrastructure needed to enable the industrial activity, such as roads, railways or telecommunications.

The traditional reasoning behind the development of transport and telecommunications infrastructure in the Arctic has been to enable the flow of people, goods, and information: a) between the Arctic communities and b) between the Arctic and national/international centers of administration, production, and consumption. However, recent decades have witnessed unforeseen interest in developing the Arctic also a gateway/transition region

between the global metropolises. Climate change is opening the prospects of new infrastructure development, for instance the possible evolution of Northern Sea Route (NSR) as a new international shipping route between East Asia and Europe, or calls to install trans-Arctic submarine communication cables shortening the latency between Asia, Europe and North America.

Diverse opinions on these projects generate a strong social dialogue, including who has the right to decide (or veto), how local and often conflicting voices are heard, or how their views are seen in the final implementation. Arctic communities are often uninterested in seeing themselves as areas through which global and national supply chains and transportation routes are built through if they do not provide prosperity to the host communities. The construction phase typically creates short-term employment opportunities, but a railway line without a station or a shipping line without a port of call leave all the harm without any long-term benefit. For a long time, this has characterized the connection between Arctic economic infrastructures and Arctic communities. Similar kinds of debates may also be ahead when new types of projects, such as those related to the development of space infrastructure, are promoted in the Arctic. A comparatively strong public sector, including defense, is often a driver of local development. Infrastructure that has been built for corporate or public actors often serves civilian users but can also have negative impacts on local communities through environmental harm.

With infrastructure come also the people who build the infrastructure. While the construction phase may be short, the improved accessibility can also bring in new people, or motivate people to leave the region. At the same time, modern telecommunications infrastructure makes it possible to work remotely, access and develop digital services (e.g., e-healthcare and e-education), or to participate in online social activities. These kinds of improvements may help the Arctic communities to attract new (possibly younger) inhabitants or at least motivate the current residents to stay. The failure to develop telecommunications would be a major risk to people living in societies that are increasingly dependent on fast and flawlessly functioning digital infrastructure.

Arctic Indigenous people must be taken into consideration. Many cases show that infrastructure development can impact Indigenous livelihoods and therefore Indigenous culture. Here, different types of rights can come into conflict with one another (Free, Prior and Informed Consent, See Chapter 7), providing challenges for different legal and regulatory frameworks. For example, the Supreme Court of Norway ruled in 2021 that some wind energy farms had been constructed illegally, as the rights of the local Indigenous reindeer herders had not been considered sufficiently. In Finland, plans for the construction of a railway connecting the Finnish railway network with the Arctic Ocean coast in Norway, that would have gone through the Indigenous home area in the northernmost part of Finland, were halted partly due to objections by the Sami Parliament of Finland. Here, international law norms that safeguard Indigenous rights are applied in the practice of infrastructure developments, balancing competing interests. There is no single overarching institution in charge of the economic and infrastructural development of the Arctic. The regulation of infrastructure projects is usually based on national legislation, which may differ significantly between the Arctic states. Therefore, it is up to decision-makers and stakeholders at different levels to utilize existing governance standards to ensure that development is sustainable and takes into account all relevant rights and interests.

For more on this, read...

Kirchner S, 'Indigenous Rights and Livelihoods as Concerns in the Decision-Making on Extractive Industries in Finland' in K Hossain, A Petretei, and J M Roncero, (eds) *Human and Social Security in the Circumpolar Arctic: Local and Indigenous Communities*. (Brill Nijhoff 2018), pages 263-280

Povoroznyuk O and Others, 'Arctic roads and railways: social and environmental consequences of transport infrastructure in the circumpolar North' [2022] *Arctic Science*. <https://doi.org/10.1139/AS-2021-0033>

Saunavaara J, R Kylli, and M Salminen, 'Telecommunication line infrastructure and the Arctic environment: past, present and future' (2021) 57 *Polar Record* <https://doi.org/10.1017/S0032247421000036>