Presentations of Hydropower: a Comparative Study of Heritage- and Memory Making in Southern and Arctic Sweden

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Introduction

In Norrbotten county in Arctic Sweden lies the municipality of Jokkmokk – a municipality known for the many large hydropower producing facilities built within its borders. The power produced here makes up a significant part of Swedish electric power generation. The northern part of Sweden came to possess larger and more large-scale projects of this kind throughout the 20th century compared to the south. Hydropower significantly affects the environment in which it is developed, therefore often affecting local practices and livelihoods. Sweden has had several phases of hydropower development and facilities were constructed based on different architectural ideas and notions. Akkats (1973) is an example of a post-World War II facility - a time period when hydropower facilities were built in arctic Sweden in particular. It features the more “brutal” and function-oriented architecture of the mid-20th century. Only later, in 1999/2000, would the facility be decorated with large paintings referencing the local Sámi cultures. This occurred at a time of emerging critique against hydropower for its environmental impacts and for how the State had been treating indigenous Sámi populations. A southward facility like Laholm (1932) contrasts this in that it was constructed during the inter-war period, in design also retaining the classical focus on Greek and Roman symmetrical patterns in an area void of indigenous lands.

This paper is based on the core premise and aims of an ongoing PhD project in history at Luleå University of Technology. The project looks beyond the scope of previous research, which has focused on the overall process and system of Swedish hydropower development. The project looks to encompass the story of effects of hydropower development and to offer a comparative perspective of different hydropower contexts where none has been given before through a case study comparison.

This paper explores the role of representations of hydropower in the Akkats and Laholm cases through their architecture, painted art and heritagization. How were the facilities designed? Re-designed? How were they represented, and why? By comparing an arctic and southern example of Swedish hydropower, the aim is to further explain the impact of hydropower in local communities by exploring how hydropower impacted environments and actor networks.
of residents, landowners and other land-users in two different geographical and historical contexts.

**Making Sense of Swedish Hydropower Development**

To make sense of the large-scale hydropower development within the Swedish context, an overview of and explanation as to why this even occurred is beneficial. The root causes can be found in the industrialisation and energy demand of the 19th and 20th centuries. The industries were largely dependent on energy resources, of which coal was predominant in western Europe during the 19th century. Countries which desired to undergo industrial development thus had to secure reliable and affordable energy resources for development to proceed. Sweden, however, did not possess any useable coal resources for this purpose and therefore had to rely on imports. At the end of the 19th century, industry was growing at the same time as the population, and coal prices, energy consumption and demand were also increasing.

The State then launched a large-scale hydropower development project which would last from the beginning of the 20th century to the 1970s. Private actors and companies began some years earlier, and the 20th century would see, at least in the beginning, a parallel effort to develop the Swedish rivers for hydroelectric power supply. The 1950s and 60s, commonly referred to as a “great hydropower development period”, saw massive hydropower projects taking place in especially northern Sweden in the wake of the expansion and energy needs following World War II. The result being that almost all Swedish rivers are today integrated into a large-scale hydroelectric power producing system.

As northern Sweden features larger distances, more difficult terrain and climate and a relatively small population, hydropower development in this region was a challenging endeavour. The first large-scale State hydropower facility was Olida in Trollhättan in southern Sweden. This project was finished in 1910 – a year after the formation of the Swedish state-owned power company known today as Vattenfall – a company then tasked with managing hydropower development for State energy supply. In 1915 – the first large-scale State project in arctic Sweden was finished, namely Porjus hydropower facility. The project was possible due to the fact that technological improvements along with economic and political interests aligned for the transportation of iron ore and the powering of industrial infrastructure.

During the development period, hydropower development projects were among the largest employers. Many people have ties to or a history in working with hydropower. Societies’ populations boomed in local settlements whenever development found its way nearby.
Afterwards, they dropped again. This resulted in dynamic population trends. Today hydropower companies continue to employ in these areas. While the hydropower development period is over, the facilities still require maintenance. Hydropower facilities are through this part of places in terms of their identities, as they have a part and history in relation to the area in which they were built. Not just for all the good hydropower has given, but also for what was changed and lost in the process.

The Controversy of Swedish Hydropower Development

To understand why this is the case one has to understand the impact on natural and societal environments. Hydropower development, together with other extractive industries such as forestry and mining, significantly impact the environment and alters the landscape. These practices also compete for space.

Logging had meant that rivers had already been altered to make transportation of timber easier in some areas, including the Lule river. Hydropower meant even further impacts. A dam effectively blocks the river for wandering species of fish, often making it impossible for them to spread and reproduce on their own. Water levels and rivers change, which affects the conditions for fish, fauna, farming, fishing, residents by the river and ice sheets covering rivers during winter. People working and living alongside the developed rivers could therefore be in a situation where their homes were to be put under water or the conditions for their practices changed altogether.

Reindeer herding is a practice which was significantly altered in the Swedish northward contexts by among all hydropower development, as grazing lands and pathways were cut off. For this, the hydropower companies had to compensate the considered affected landowners by the means of practical solutions or economic compensation. The nature of this has been argued to not have been unproblematic due to the long-term impacts on the landscape and how Sámi were defined based on stereotypical notions of the indigenous populations.

Case Study Comparison

The impacts of hydropower in northern Sweden were situated in major parts on traditional Sámi lands. Akkats was built at the very end of the great development period of the 50s and 60s - between 1969 and 1973. Vattenfall had plans of developing the Lule river system, and a part of this plan was to develop the part of the system called Lilla Lule river. One of the facilities planned here was Akkats hydropower facility – the facility to be the closest to the town of Jokkmokk. The facility came to mean environmental changes in the area in the sense
that fishing was compromised even further, the river dried downstream the facility, land areas were put under water, winter pathways were affected and the river upstream the facility was turned into a lake. This further also impacted reindeer herding for the indigenous Sámi villages active in the areas. Akkats was here part of the extensive chain of hydropower facilities on mostly traditional Sámi lands which, while adding the to the energy production and welfare, also reportedly destroyed homes and made traditional practices and livelihoods in these areas increasingly difficult.

The need for energy and functionality can be argued to have shaped the appearance of the facility – which when built took the shape of an undecorated building. At the end of the 1990s, cultural profile Caj Enqvist proposed to adorn the facility with Sámi artworks in reference to the local Sámi cultures – an idea which Vattenfall quickly put into practice and famous artists were brought in.\textsuperscript{x} The artworks were inaugurated in the beginning of the year 2000.

When Akkats was decorated with traditional Sámi symbols, some Sámi actors saw it as if their symbols were now adorning that which had destroyed much of the very same culture. Other local and local Sámi actors instead saw it as a way of addressing the local indigenous Sámi cultures. One of the artists, Lars Pirak – Sámi himself, expressed the undertaking as “protecting the land”.

\begin{figure}[h]
\centering
\includegraphics[width=0.7\textwidth]{akkats.png}
\caption{Akkats hydropower facility. Photo taken by Felicia Söderqvist.}
\end{figure}

The critique against hydropower and the State treatment of Sámi factors into this not just in how the artworks were received, but also in the artworks happening in the first place. The
choice to accept the proposal to adorn the facility on Vattenfall’s part can be viewed to have added cultural capital not part of the visual vision of industrial development which applied at the time of construction.

As for Laholm, which was built in 1932 by the town Laholm close to the Swedish western coast, the story is different. While the State owned the waterfalls, the private company Sydkraft was given the task of managing and building the facility. Sydkraft, founded a couple of years before Vattenfall, was founded with the vision of developing Lagan – the river system which Laholm hydropower facility is a part of. The facility was to be built at Lagaholm – a place with medieval castle ruins. Compared to Akkats, this project featured consideration for an appealing visual appearance by the time of its construction. Architects were hired for this purpose\textsuperscript{xii} – the result being a stone structure whose design is often likened to that of a temple.\textsuperscript{xiii}

Compared to arctic cases like Akkats, Laholm, as is characteristic for southern facilities, is a smaller facility and is not located in an area featuring indigenous populations. While it is located in an area where fishing and land was affected as well as a culturally environment, this has not included indigenous actors. The affected pathways for the fish have instead come to be a more prominent factor. The facility has been part of a debate to remove the facility in order to let water move freely. The beauty of the facility has been part of the argument against removing it, as well as how it is testament, “a temple”, for the history of hydroelectric power in Lagan river. Industrial architectural heritage is hereby used as a counterargument against actors arguing for the benefit of the river ecosystem. The ecosystem proponents have adapted to this, stating that there is no need to remove the “beautiful building”, just the dam.

**Final Remarks**

The actors involved, construction and architecture and emphases are different for the two facilities. In the case of Akkats the indigenous cultural context has shaped the debate climate and appearance of the facility. In Laholm, the industrial history of the facility continues to be emphasized as part of the local culture, which it is not in the case Akkats. This paper has only scratched the surface of a continuing analysis within the project investigating these two cases. As more material is covered, a more in-depth analysis can be provided in the future.
Notes


vii See Österlin, 2020, for further reading on competing practices and how this affects reindeer herding.

viii See for instance Jakobsson’s, 1996, case study of the conflict of Skagern between developers and landowners


x See for instance Vattenfall’s booklet about their, back then, upcoming project – Vattenfall Informerar, 1957.

xi The facility and its artworks are briefly mentioned in relation to whether this is a part of exploitation or visualisation of Sámi heritage by Öhman, 2006.

xii This is stated in Sydkraft company monographies. See Åberg, A., 1956, Sydkraft: ett kraftföretags utveckling under femtio år, 2nd ed., Malmö.; and Bjurling, O, 1982, Sydkraft - samhälle: en berättelse i text och bild, Sydkraft, Malmö.

xiii A description like this is among all given in Jörgen Ulvsgärd’s, 2012, book Ålvens kraft, Stockholm, Statkraft – which is written much like a travel journal across the Swedish hydropower landscape.