

May-Britt Öhman

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On Visible Places and Invisibilized Peoples:

Swedish state-supported hydropower exploitation of indigenous peoples' territories¹

“When the water came closer to the village, some of the villagers tried to write to the government to protest. But it was already too late. The water was already there. We had to move.”²

Mr. Magomba Meshack, a married man and father of seven children, is one of the displaced inhabitants of the “Great Ruaha Power Project”. He and his family lived in the (Old) Mtera village, submerged since the early 1980s by the Mtera Dam. The Mtera Dam became the largest artificial lake in Tanzania when it was finalized and reached its full supply level for the first time in 1984.³ The dam was constructed with the objective of giving the downstream Kidatu hydropower plant a capacity to produce 200 MW.

Before the era of the Mtera Dam, Mr. Meshack was a farmer cultivating the fertile land surrounding the old village. Once the water threatened his village, Mr. Meshack was one of the fortunate few. As he could show proof of his land tenure, the family was paid one of the highest amounts of compensation that any of the displaced villagers could receive. Even so, the 5000 Tanzanian shillings they received was not enough to pay the cost of constructing a new house for the family. Since then his wife and the children have lived in the “Italian camp”, a housing area within the Mtera Dam construction site. After construction was finalized, the consulting firm Sweco handed over control of the regulation reservoir to the Tanzanian electricity company, Tanesco. Mr. Meshack then was one of five lucky villagers who managed to obtain employment at the dam.⁴

The fates of Mr. Meshack and his co-villagers of the (Old) Mtera village are similar to those of many people living close to large-scale hydropower projects around the world. Nevertheless, there are differences in the power relations between the different affected riparians, depending on the historical and societal context. The Mtera Dam, and the whole Great Ruaha Power Project, was a state project, with massive financial support from

development assistance donors, the Swedish Development Assistance Agency, Sida, and the World Bank. The local inhabitants seem to have been unable to exert any influence whatever, and attempts at resistance were futile. When the water came, they had to move.



[Fig 1] The large Suorva regulation dam, on the Lule River in Sapmi, turning five small lakes into one inland sea. The tour boat takes tourists from the village Vaisa to the Ritsem tourist station. When water is low in the dam, people can cross over by foot. Photo: May-Britt Öhman, July 2004.

The Swedish development assistance participation in the financing of the Great Ruaha Power project is not too surprising. Sweden is a major hydropower nation. Early in the 20th century the Swedish State Power Board became the main actor within the sector, which it has remained ever since. Unlike the initiators of the Great Ruaha Power Project, the power companies, whether private or state enterprises, have in many cases been forced to enter into

extensive negotiations and have had to pay compensation to landowners.⁵ Yet, the state-supported hydropower exploitation in Sapmi, in the northern parts of the Swedish territory - shows many similarities to the project on the Great Ruaha River. Sapmi stretches across the borders of Sweden, Norway, Finland and Russia, and has been inhabited by the Sami ethnic group for many thousands of years. When Sweden and the neighbouring states colonized the territory, and the borders were demarcated, the Sami became citizens of different nation states. Then, as hydropower construction began in the area, any land and water not judicially proved to belong to a private person was considered to belong to the Swedish state, which was free to initiate industrial activity.⁶ The inhabitants, many of them belonging to the Sami ethnic group, descendants of Sami or mixed with Sami, suffered severe losses. A particularly severe blow was inflicted on a traditional Sami economic activity, reindeer-herding, an activity already under heavy pressure from industrial mining and forestry.⁷

Drawing on the experiences of the Sami minority in Sweden, and specifically along the Lule River, this essay is an attempt to argue that the Swedish state has established a “technoscientific paradigm” in relation to large-scale hydropower. The term is related to the notion of the “big dam era” described by, amongst others, Sanjeev Khagram.⁸ The term “technoscientific paradigm” is used in an attempt to describe the basis for the big dam era, being an elaboration of Thomas Kuhn’s “scientific paradigm”. According to Kuhn, scientific thinking and performance are predestined by a historical social context. The scientific paradigm gives the framework for the interpretation of an examined object, as well as the methods and theories to be used in the interpretation and the definition of “good science”.⁹ Kuhn describes how a crisis may appear within a paradigm, when discoveries show an anomaly between the existing theory and the nature. The crisis may be resolved in three different ways – “normal science” may prove capable of handling the problem – and then everything reverts to ‘normal’. The problem may persist, and be labelled, but is then perceived as a result of a failure within the scientific field and is set aside for future generations to deal with. In a few cases, the anomaly may lead to the paradigm being overthrown after a period of paradigm war.¹⁰

Dealing with large-scale hydropower, which raises a complex mixture of social, economic, technological and scientific issues, I have opted to use the term “technoscience” as it signals the non-existent boundaries between science and technology, and furthermore allows a closer look at the design of the artifacts produced. The term also indicates the multitude of actors involved in the making and is inspired by the work of Donna Haraway.¹¹

The main pillar in the technoscientific paradigm, in relation to hydropower, I define as the view that equates large-scale hydropower plants with progress. This view sets the basis for related science and technology – technoscience performed – and helps to exclude opposing views and knowledge. One precondition of the persistence of this specific technoscientific paradigm is access to land areas for reservoirs and rivers. In order to achieve this, the state makes use of territory inhabited by peoples (often indigenous and/or ethnic minorities) without a strong voice. In the process of planning the large-scale hydropower project, these peoples are “invisibilized”, which can be seen as a kind of problem-solving within the paradigm. There are, as the term “technoscience” indicates, other important components of the paradigm, in terms of technoscience as well as of social and economic factors. However, my main focus in this essay is on the land question and related issues. This technoscientific paradigm, with its inherent view of the land, I argue, has been exported to Swedish-funded development assistance projects in Tanzania.¹² This essay, however, will concentrate on the Sapmi case.

Taking and inundating the land of indigenous peoples

In the 20th century, large-scale hydropower construction and electricity became a model for energy supply, a symbol of progress and of modernization.¹³ Hydropower is, as the name indicates, energy taken from water. Electricity is provided by using the potential energy of falling water, from a higher level to a lower one. A problem within hydropower production is that electricity has to be consumed immediately; it cannot be stored. The consumption of electricity varies over 24 hours, over the year and over long periods, depending on a number of climatic, economic and political factors. The demand does not correspond to the natural flow of a river. All rivers have their own unique flow of water, depending on climatic and environmental context. The solution to the problem is to save the water in reservoirs, and to release it according to the need for electricity.¹⁴ The larger the hydropower plant, i.e. the greater its capacity measured in megawatts, the larger the water storage facility – the regulating reservoir – has to be. In consequence, hydropower plants with a high capacity demand large reservoirs. Or at least, this is the technical solution that has come to prevail throughout the 20th century.¹⁵

The creation of the reservoirs has a number of serious negative impacts on the local inhabitants. Land is inundated, to various degrees. The inundation results not only in a loss of land for agricultural and pastoral activities, but also in chemical pollution, and, depending on the environmental context, often in fatal waterborne diseases.¹⁶ The regulation of the water is

in itself troublesome to local inhabitants. In Sweden, with its cold climate, water regulation in winter affects snow and ice tracks on frozen lakes and rivers. Furthermore, the change of the exploited landscape may also lead to gender-related changes in economic activities.¹⁷

Large-scale hydropower generation thus causes numerous kinds of environmental, social and health hazards to those in the area where it takes place. Yet, when it comes to large-scale hydropower exploitation in “remote areas”, i.e. areas far from the central decision-making institutions and inhabited by people that have few opportunities to make themselves heard in political arenas, the hazards are easily disregarded, invisibilized, as are the affected people themselves.

With the big dam era that started in the 20th century, power companies, construction companies, governments and financiers within the development assistance area tended to share a common view of the land where the projects were to take place: the land belongs to the state. In most cases, indigenous people/ethnic minorities living in an area for centuries or even thousands of years have been treated as though they do not have a right to stop or influence major hydropower projects. Nor have they been acknowledged the right to generous financial compensation. Inga Lill Aronsson has in her thesis on the negotiations preceding displacement of indigenous people for the construction of a hydropower dam in Mexico described the land inhabited by indigenous people as being considered “empty” by the dam developers.¹⁸

The main issue discussed in this paper is thus the relations between the state and the people living in the land to be inundated. The state in this case is represented mainly by the State Power Board, but other state authorities are also mentioned.¹⁹ As a model for understanding how opposition from the affected people in Sapmi was met by the Swedish state, I use the term “invisibilization”. States may make use of violent measures to stop any opposition to a state project – such as torture and imprisonment of opponents, but “softer” measures may also be used. One “soft” strategy is to deny affected people access to a national political agenda, moving the cases to different courts and thus depoliticizing the issue.²⁰ A further step is to belittle and play down the damage inflicted upon a certain groups of people within a framework of official rhetoric and historiography. The term “invisibilization” has mainly been developed within theories on gender, to refer to the phenomenon of social and economic activities performed by women being neglected, declared unimportant or even ridiculed.²¹ However, the concept can also be used to define peoples of (internally) colonized territories,

as well as people without strong voices or influence.²² Using the term “invisibilization” reflects how the affected people are turned into “non-actors” by the decision-makers. One important connotation of the term “invisibilization” is that the peoples affected by hydropower development are not actually invisible – they are “invisibilized”. That is, the failure to see the affected people is a matter of choice, not a miscalculation. There is, furthermore, an attempt to avoid meeting the affected peoples on their own terms, designed to reduce and/or make it possible to ignore their demands.

The NIMBY (Not In My Back Yard) syndrome is a term used to describe the often fierce local opposition to environmentally hazardous industrial activities, considered necessary for the public good or for the benefit of a whole nation.²³ Opposition to hydropower exploitation conducted by a state company in the name of progress and for the alleged benefit of a whole nation could be cited as a perfect illustration of the NIMBY syndrome. However, the NIMBY syndrome assumes a state in which there is space for opposition. It also assumes that affected people are informed of the project plans and their consequences, have enough skills to deal with judicial processes, and have the time and organization to make their voices heard. Finally, and maybe most importantly, for the resistance to be successful, the people affected have to be considered the rightful owners of the land to be inundated and damaged. When it comes to large-scale hydropower exploitation, or other industrial exploitation, in “remote areas”, it seems appropriate to describe these areas as a sort of “nobody’s back yard”. The ones objecting and protesting are unimportant, they are “nobodies”.²⁴

A Swedish technoscientific paradigm for hydropower constructions in Sapmi

“We have not been able to avoid damages for the inhabitants along the river, for the Sami, for the conservation of nature nor for the interest of recreation. The issues raised have, however, to a large extent, been resolved through negotiation and one might even say on the best of terms.”²⁵

The above quotation is from the speech made by the then Swedish prime minister Mr. Tage Erlander, at the inauguration of the Messaure Dam on the Lule River in 1963.

The Lule River is today the most hydroelectrically developed river in Sweden. The first hydroelectric plant was inaugurated at Porjus in 1915.²⁶ Construction of the first stage of the great reservoir at Suorva, upstream from Porjus, took place between 1919 and 1923. Since

then the Suorva Dam has been enlarged three times, to its present level and size.²⁷ Over the years the Lule River has been made into an energy-producing factory, with fifteen hydropower plants and a total installed capacity of 4350 MW, or an annual output of 13.6 TWh. The Lule River alone now produces almost half of all the electricity from hydropower in Sweden.²⁸ Yet, over eighty years after the first hydropower constructions in Sapmi, there has still been very limited academic research into the effects of the displacement of the people, many of them Sami whose major economic activity and livelihood was reindeer-herding.²⁹



[Fig 2] The Lule River is no longer a river but a series of reservoirs, forming a staircase: Dry river bed downstream of the Ligga hydro power plant. Photo: May-Britt Öhman, July 2004.

The basis for the introduction of the big dam era, and thus the technoscientific paradigm, in Sweden has been described by the historian Eva Jakobsson.³⁰ Jakobsson has in her thesis identified a specific group of actors, whom she calls “hydropower developers”. They were

engineers who owned hydropower companies, leaders in the Swedish state hydropower production, consultant engineers in the water development area, and water rights lawyers who campaigned and won the battle that paved the way for large-scale hydropower construction in Sweden at the beginning of the 20th century. Prior to 1918, the complete harnessing of a river was prohibited by law, and thus no large-scale hydropower plant could make use of the water according to the demand for electricity. With the new Water Act, the principle of “reasonable use” was established. If the “benefit” of the regulation could be proved three times greater than the damage, engineering projects and water regulation would be allowed. One important tactic of the hydropower developers in achieving their objective was to depoliticize the controversial issue of water regulation. The hydropower developers managed to shift the decision-making process from the political agenda to special water courts. These water courts were staffed not only by lawyers, but also by technicians, and thus a highly political issue was handed over to technicians and bureaucrats. Against this background, large-scale hydropower construction could take off; the “industrialization” of the Swedish rivers, as Jakobsson describes it, could start.³¹

The industrialization of the rivers was dependent on another important factor, the financing of the hydropower projects. At the start of the 20th century, hydropower plants in Sweden were built mainly by private companies. As the potential of the rivers of the northern part of Sweden was discovered, the State Power Board, established in 1909, became the prominent player, and paved the way for far bigger investments, technological development of transmission lines and consequently large-scale projects.³² The hydropower exploitation of the northern parts, in Sapmi, took off with furious haste. It was part of a national strategy to make use of the dormant resources of northern Sweden.³³ Initially, exploitation did not meet with any serious protests, although the national conservationist organization, the SNF, and the national tourist organization, the STF, made their voices heard from time to time. Sami people protested, the first organized protest of any size starting in the 1950s, in the Sami national organization, SSR.³⁴

By the early 1960s, the opponents of large-scale hydropower construction managed to get themselves onto the national political agenda and to assemble political support to slow down the harnessing of certain rivers.³⁵ Still, they did not manage to completely stop further hydropower exploitation until the 1990s. Only in 1993 did the Swedish parliament pass a law which stopped further hydropower exploitation of a number of Swedish rivers.³⁶ All the

major rivers rising within and flowing through the land of Sapmi, except three, are now regulated.³⁷

Sapmi – a non-existent land ?

As mentioned above, protest and resistance against hydropower exploitation has come from the Sami people and the SSR, in particular. Yet, until today, there has been very little research into the impact of hydropower on Sami culture and livelihood. To understand why, it is important to recognize the depiction of Sapmi as a “remote area”, an “empty land”, a “terra nullius” or “nobody’s back yard”.

Sapmi is the Sami name for the area populated by the Sami people.³⁸ The area stretches over four states, Norway, Sweden, Finland and Russia. As ethnic categorization is not allowed in Sweden, Norway and Finland, and as it is difficult to establish who actually is a Sami, an exact number is impossible to give. The majority of Sami live in Norway, while in Sweden there are an estimated 20,000 – 40,000 Sami.³⁹ The term “Sapmi” has not gained official recognition. In the Swedish language the north-western part of Sapmi within the Swedish territory has been known as “Lapland”. The name dates back to the 16th century, while the demarcation on the western side, towards Norway, was settled in the 18th century. However, “Lapland” does not have any administrative function, merely a symbolic one. Nor does “Lapland” correspond to “Sapmi”. Neither does the area denoted by the other name that has become a Swedish designation for the vast Swedish territory north of the River Dal, “Norrland”, (corresponding to about 2/3 of the whole Sweden of today). Directly translated into English, this means “north land”.⁴⁰ The name given to the area is in itself of interest, as it represents a view of the land as far removed from the centres of power in the Swedish capital, Stockholm, and the southern parts. “Norrland” is a remote area, unfamiliar to the majority of the Swedish people living outside it.⁴¹ When I use the term “Sapmi”, it is to emphasize the perspective of a person familiar with the area and with a personal historical relation to it, as well as to protest against the connotations of the terms used in Swedish.⁴²

The inhabitants of Sapmi, the Sami, have lived here since long before the Swedish state was founded. Archeological research bears witness to a territory, not of wilderness, but full of economic activity going back thousands of years.⁴³ The Sami people were never an exotic group, foreign to others. Researchers have pointed out that the area consisted of a mixture of ethnicities, generally categorized into Sami, Swedish and Finnish. Inter-marriage and

economic exchange were common. Until the early 20th century, peasants of ethnic backgrounds other than Sami had reindeer which were tended by Sami reindeer-herders, who earned extra income through this arrangement.⁴⁴ With the establishment of the Swedish state under Gustav Vasa in the 16th century, a state-conducted colonization of Sapmi began. Along with the wish to establish Swedish control over the territory at this early stage, there was a view of the area as a prosperous land to develop for the benefit of the Swedish nation. A number of scientific explorations of the area and of its inhabitants have been made by outsiders since the 18th century. In many cases the Sami have been depicted as closer to nature than to civilization, and different ideas on how they should be developed, or on the contrary kept in their “natural state”, have even been discussed on a national level by the Swedish Riksdag.⁴⁵ One important issue has always been the land rights of the Sami peoples versus the Swedish state, an issue which still remains unresolved in the 21st century.⁴⁶ One concrete example of the problems occurred when the union between Sweden and Norway was dissolved in 1905 and the frontier between the two countries was closed for the traditional grazing of reindeer. The reindeer used to migrate freely between the two countries for pasture. When the pasture in Norway was restricted, the area within the Swedish territory became too small to feed all the reindeer. Certain Sami families were then forced by the Swedish state to move southwards, and to integrate with other Sami villages. This was problematic for many reasons; not only did the incoming Sami feel that they were intruding on other Sami, but there were also differences in language, as well as in ways of managing the reindeer.⁴⁷



[Fig 3] Reindeers and Samis resting on the frozen lake Malgomaj during spring migration, the sledge *raid* going from the coast zone towards the mountains, some time between 1913-1925. The people on the photo are probably south Samis. Photo: Lage Dahlberg/Västerbottens Museum.

Constructing the Suorva Dam and neglecting the Sami

The Suorva Dam was first constructed as the reservoir regulating the Porjus hydropower plant. The area in which the dam was planned to be constructed had actually already been protected from exploitation as it had been declared a national park in 1909. Furthermore, the area had earlier been assigned to the Sami, by the Swedish law on reindeer pasture of 1898, primarily for reindeer-herding and related activities.⁴⁸ However, the strong economic interest of the State Power Board in obtaining permission for hydropower exploitation led to its receiving approval for the project. Among the Swedish authorities that were asked to express their views on the proposed venture was the Royal Swedish Academy of Sciences (Academy of Sciences). The Academy replied in 1917 that regulation would damage the area, and reduce its value as a natural environment. However, the Academy of Sciences also stated that the benefit to the national economy would be such that it could not oppose the plans.⁴⁹ Other bodies that were consulted were the Norrbotten County Administrative Board, and the

National Board of Agriculture. Both stated that there might be a negative impact on the Sami people in the area, but that this should not be allowed to put a stop to the project, in view of its great national importance. On the strength of these opinions, the State Power Board appealed two years later to the water court, for the right to construct a dam at Lake Suorva. In the appeal, the State Power Board claimed that the landed properties that would be affected belonged to the Swedish state and were located above the geographical limit for cultivation. Thus, as this land was located in “uninhabited territory, unused for agricultural or industrial purposes”, there was no other holder of legal rights than the state.⁵⁰

In the 1950s, the recently established national association of Sami villages and Sami organizations, SSR, started to protest against the regulation of the water. In 1953 the SSR wrote to the Swedish Government, demanding that profit from the hydropower plants in Sapmi should be distributed among Sami peoples, in the form of funds for education and research. The SSR also encouraged Sami people to be active in the judicial process, and to be sceptical and cautious regarding the short-term compensation promised by the State Power Board. Yet, the demands and proposals from the SSR were left unheard by the Swedish state representatives. For instance, in the instructions for the establishment of the state hydropower enquiry in Norrland, the Sami and their reindeer-herding activities were not mentioned.

In the report presented two years later by the commission the issues were still not mentioned.

Also the state inquiry commission on electric power of 1943, which published its main report in 1954, although touching upon the hydropower exploitation and its impact in Norrland, did not mention the Sami and their reindeer-herding.⁵¹

“Invisibilization” by the State Power Board

Thirty-seven years after the first regulation of the river at Suorva, Mr. Åke Rusck, the then General Manager of the State Power Board, expressed his views on hydropower exploitation in Sapmi at a conference on the future of the administrative district of Norrbotten.⁵² In his paper, Mr. Rusck told a story of how the State Power Board first entered “pure wilderness”, to build the Porjus hydropower station.⁵³ Mr. Rusck continued by stating that Sweden had a great advantage in its access to harnessable waterfalls “of which most are located in Norrland” at a low cost.⁵⁴ The Lule River would become the most productive river in Sweden, providing “12.5 billion kWh per year”.⁵⁵

Besides the high figures for the Lule River's energy potential, Mr. Rusck's address is full of verbal images of the future, of how the State Power Board would bring wealth and progress, by means of large-scale hydropower exploitation in "Norrländ", to both the region and the whole country. In the reprint of the speech, the Messaure Dam on the Lule River, at that time under construction, is pictured together with a sevenfold image of the Cheops pyramid in Egypt. The subtitle reads: "The dam at Messaure will have a volume corresponding to seven Cheops pyramids".⁵⁶ At the end of his speech Mr. Rusck referred to the cost of the exploitation for protection of the environment and tourism. He stated that the development would improve the prospects for tourism, through the construction of "better communications".⁵⁷ There was no mention whatever of the Sami as an ethnic group or of their dependence on traditional economic activities which were damaged by large-scale exploitation.⁵⁸ The "local inhabitants", though, are mentioned, as Mr. Rusck states that a "few" of them would have to move, but that their losses were to be fully covered:

"I will not deny that damage often occurs – people have to move, homes are abandoned. It is of course not enough to claim that the water law ensures more than full compensation for this. The problem is not only economic, it has also a human aspect. The State Power Board also tries in various ways to alleviate this dislocation – whenever the person concerned so wishes, we try to help him to a new estate. [...] On the other hand there will be quite a few people that will have to leave their homes on account of these new hydropower constructions in the Lule River."⁵⁹

By the 1980s, the harnessing of Sweden's rivers had run into fierce opposition and there were at the time a number of campaigns against further hydroelectric power in Sweden.⁶⁰ Probably in response to the criticism, the State Power Board produced five folders dealing with different aspects of the impact of hydropower on different economic activities and the environment. In the folder dedicated to the problems of the Sami people entitled "Hydropower and Reindeer Management" it is stated that there are a number of negative impacts of hydropower exploitation – but that there are also positive effects, such as the construction of roads which facilitate transport to the benefit of the local inhabitants and their economic activities.⁶¹ Furthermore it is also declared that the State Power Board and the Swedish state have paid for the construction of fences, specific enclosed work areas, reindeer-herder cottages, slaughterhouses, roads, migration routes and bridges for the animals, as well as paying compensation for the damage:

“The power companies have aimed to give full indemnity for damage and intrusion through a combination of measures and financial compensation. [...] The power companies have now settled the issues of damages and intrusion with most of the Sami villages affected by hydropower exploitation”⁶²

One example is mentioned, the Sirkas (Sirges) Sami village which according to the folder received SEK 11.7 million in 1983 for damage to fishery, and for damage to reindeer-herding in 1984 an amount of SEK 10 million.⁶³ Together with the amount of money that is mentioned, a statistical perspective is used to show that reindeer-herding has not suffered any great losses. In six diagrams and a table it is stated that the actual number of reindeer has not gone down as a consequence of hydropower exploitation.⁶⁴

Finally, by the end of the 1990s, the State Power Board had developed an environmentally friendly profile. In the age of the Internet, the strategies and achievements in “life cycle analysis”, environmental protection, and risk analysis of the company are presented on the State Power Board home page in downloadable documents.⁶⁵ In this setting, the issue of reindeer-herding had almost completely vanished. On the company website, the term “reindeer-herding” is mentioned once, when referring to the effect of hydropower exploitation on the activities:

“Hydropower exploitation affects agriculture, forestry and reindeer-herding in different ways. The most concrete is the loss of land and damage to land due to inundation for water regulation. On the other hand the water flow becomes more uniform with less risk of flooding.”⁶⁶

The same sentence is found in the document on life cycle analysis of electricity production by the State Power Board.⁶⁷ In the environmental declaration on the Lule River,⁶⁸ a number of risks – environmental and health hazards – related to hydropower dams and power plants during and after construction are discussed. Yet this document says nothing about risks or health hazards faced by reindeer herders.⁶⁹ On the main Internet site, describing how hydropower is adapted to the environment, hydroelectricity is referred to as an “economic, renewable resource which is in principle free from environmentally damaging depletion”.⁷⁰

It is important to stress that during the 20th century the State Power Board has never been unaware of the Sami people’s situation. On a number of occasions, the State Power Board has actually financed scientific investigations of the Sami villages and Sami traditional activities,

the first as early as 1922.⁷¹ The State Power Board has thus had several indications of the severe negative impact on reindeer-herding and related activities.

In this section I have mentioned a few examples stretching from 1917 to 2004 of how Sapmi has been considered deserted, sparsely populated, and roadless and how the damage inflicted upon the “few inhabitants concerned” has been considered fully compensated. Another phenomenon I have identified is the invisibilization of the ethnic group of the Sami, their traditional activities, their attempts to protest and their culture. Hydropower exploitation has, by the state representatives, been considered a way of developing the area. The examples are collected mainly from the small amount of existing research literature dealing with the impact of the hydropower industry on Sami activities and traditions, together with a brief analysis of the views argued by the State Power Board. It is obvious that more research is needed in this area, but I consider it possible to argue that the examples mentioned are indicators of a technoscientific paradigm promoted by the Swedish state, with the “invisibilization of the Sami people” and their land rights being used as a way to overcome a severe anomaly in the paradigm.

Viewpoints of the “invisibilized”

As a contrast to the view adopted by the Swedish state and presented in the preceding part, I will now deal with the issues from the viewpoint of the “invisibilized”: roadlessness, compensation and cultural values and how these things have a great impact on their “back yard”.

First of all, the issue of roadlessness is of great interest, as it is a good example of the way in which perspective changes with the beholder. Sapmi has never been a roadless land or a “pure wilderness”.

I have already described the inhabitants of Sapmi and their long history. Furthermore, the Lule River, desired by the State Power Board for the production of electricity, is assumed to have received its name from the Sami language, Lulij-jokko, meaning the river of the Forest Sami or the river of the Easterners.⁷² The Lule River was for many centuries a central highway between two seas, the Atlantic Ocean and the Gulf of Bothnia, and as such an important cultural and economic link between eastern and western societies.⁷³ As a consequence of the hydropower exploitation transport has been made much more difficult, both in summer and in winter. The former water link between the two seas has been replaced by a bitumen road built to give access to the different construction sites. The

river is nowadays no longer a river but instead a series of reservoirs, like a staircase. At the hydropower sites, the water disappears underground for some kilometres, leaving the old watercourse bare, like an open wound in the landscape. In winter time, the ice that used to provide safe and easily accessible roads is damaged by constant variation of the water level, in response to the peak demands of electricity in the Swedish cities.



[Fig 4] Amma and Sunna Spik, Lule Samis of the Sirges Sami village, Aktse-Njunjes group, during spring migration, heading for their summer residence by the lake Sitojaure of the Lule River system, 1946. Photo: Lars Hermodsson/Ajtte.

In a book based on her academic investigation of the impact of the Suorva regulations on the people of the Sirges Sami village, Gertrude Hanes describes the issue of the ice tracks:

One of the problems that came after the second and third regulation of the river at the Suorva Dam was the deteriorated ice conditions. There was so much water on the frozen lake and the cracks in the ice and the hanging ice by the shores made it difficult to reach land. The sledges broke and reindeer were hurt. Sometimes reindeer fell into the cracks and they had to worry all the time in case the children fell too. There was no longer pasture to be found for the reindeer during their yearly migrations, as the islets were flooded. They had to start bringing reindeer moss to feed them during the migration. As there was no pasture in the valley they had to move faster and so the reindeer herd was moved separately from the family. The reindeer herd was moved partly over the mountains instead of through the valley all the way as before. The protected areas where the reindeer cows used to calve were gone and they had to use sites for calving in the border mountains and on the Norwegian side. After the third regulation boats were more often used when moving up to Vaisa. They continued to move with the *raid* to Vaisa early in spring, but then took the sledges back to Suorva and went by boat back to Vaisa. In the autumn boats were used to go to Suorva, and then they waited for the ice to be able to continue with sledge *raid* to the winter pasture. Downstream from Suorva the delayed freeze and water on the ice were the biggest problem. Finally they gave up, one by one, and started moving by boat on open water even below Suorva. The younger men who did not have a family stayed behind and watched the reindeer. Then the men, the family fathers, went back and took the reindeer herd down. Eventually some families chose to stay in Porjus in spring and wait for open water, while only the reindeer herders followed the reindeer westwards. Thus, the reindeer herd and the family were separated during both spring and autumn migrations and the activity became something that men dealt with. The time when the whole family and the reindeer lived close together had gone.⁷⁴

The ice road problem discussed above is one very important consequence of the hydropower exploitation in Sapmi. The State Power Board is obliged by agreements to strengthen the ice tracks. There also exists an agreement that when required by reindeer herders, the State Power Board has to make measurements to establish whether the passage at a certain location is safe or not. However, in real life, the request to the State Power Board has to come in one or two days before passage, while reindeer-herding is not predictable work. The herders cannot know if the reindeer will be at that specific location or not, two days later, which means that this option is never used and thus irrelevant.⁷⁵

Not only have the traditional paths for the annual migration been damaged by the hydropower exploitation, the working environment of the reindeer herders has also been affected. The animals have to be collected at certain times and the herders sometimes have to cross the reservoirs in order to succeed. These reservoirs are dangerous at any time of the year. When the water is open, the size of the reservoirs makes them windy and thus difficult to navigate. In winter the ice is fragile and treacherous due to the changing water levels, caused by peak demands. This has helped to make reindeer-herding one of the most dangerous economic activities in Sweden.⁷⁶

The damaged snow roads have led some Sami villages to start moving their reindeer by truck, which has had a great economic impact.⁷⁷ The activity has become a lot more expensive, and even led some to give it up.⁷⁸ Amft has presented a calculation of costs from one informant:

“If the transport, at a low estimate, costs around sixty crowns [SEK] per reindeer, and a family needs about 700 animals to manage their economy, and if you then consider that all reindeers have to be transported back to the summer pasture, the final cost will be around 84 000 crowns for the reindeer transport alone every year.”⁷⁹

For reindeer owners with small herds, these costs are likely to make the whole enterprise much too expensive. Amft refers to how this, in combination with the fact that the Swedish legislation assumes as a norm that the reindeer herder is a man, has led to a masculinization of the activity, as few women have been able to continue it.⁸⁰ Yet another complication of the damming of the Suorva was that the trees were not removed before the flooding. As a consequence the fishery, which is an important ancillary occupation for the reindeer herders, has been disturbed as, for instance, nets are damaged by the wood debris.⁸¹

Financial compensation was, as mentioned, promised by the State Power Board and representatives of the Swedish Government as good enough to make up for the losses.⁸² Before, during and after the exploitation of the great rivers in Sapmi, judicial proceedings actually took place on a number of occasions, but in several cases the Sami minority did not manage to make their voices heard. Amft refers to an informant who has described how he was treated during the judicial proceedings in his village in the 1940s. The villagers had to go to court to get any compensation at all. According to the informant it was more difficult for the reindeer-herders to be compensated for their losses. The informant stated that the Swedish farmers received a lot more compensation, that every word they said was believed while the Sami reindeer-herders were not believed.⁸³

The issue of categorization of ethnicities also forms a part of the hydropower exploitation. The category “farmers” had already earlier been restricted to non-Sami. By the early 20th century the Swedish state had introduced the “Lapp should be Lapp” policy, with clear racist overtones. Sami were considered to have specific characteristics, which made them suitable only for nomadic reindeer-herding. If they were to turn to anything else, they would in this view sink into wretchedness. Thus it was considered important to keep them as far from the

Swedish culture as possible. Sami who were not reindeer-herding were to be considered Swedish. Through the Swedish state policy of “Swedification” they had been transformed into Swedes.⁸⁴ As Amft describes, the ones that already had been “Swedified”, the peasants and landowners, were again separated from the reindeer-herders, and received better compensation than those without any formal land ownership.⁸⁵

When it comes to the cases where financial compensation has been paid, the Sami reindeer-herders have had to pay a great part of it back to the Swedish state, in the form of taxes. One example is presented by Mr. Lennart Pittja, who tells the story of how he was compensated in 1984, but then ten years later was asked to pay taxes on the compensation. This meant that he had to pay back half of the compensation to the state.⁸⁶

One issue rarely touched upon by the representatives of the Swedish state is the emotions and cultural values of the displaced Sami peoples. Lennart Pittja has expressed some of the emotions, speaking of sadness over the intrusion into the landscape of the power lines. He stated that one consequence is that the children no longer have to learn to find their way in the terrain via traditional knowledge, because instead they just follow the power lines.⁸⁷ Other examples of these emotional and cultural values, and the sense of being expelled from one’s own land, are expressed in the poetry of Paulus and Inger Utsi, of Vaisa (and the Sirges Sami village). Paulus and Inger Utsi started writing poetry in response to the regulation of the Suorva Dam in the 1940s. I will deal further with this in the following chapter.

Revisibilizations of the Sami in consequence of hydropower exploitation

Although the hydropower exploitation of the rivers in Sapmi was based on the invisibilization of the Sami people, the very same phenomena has led in certain respects to revisibilizations of the Sami.

First of all, according to Patrik Lantto, Sami reindeer-herders who were not capable of resisting the constructions and expropriations focused instead on organizing themselves to receive as much financial compensation as possible. This has led to an ethnic mobilization amongst the Sami, which has had a concrete outcome in the establishment of the Sami parliament in the 1990s.⁸⁸ Secondly, as a result of the early investigations of Sami culture at the time of the hydropower development of 1922, and specifically since 1942 and the passing of the law on ancient monuments that forced the exploiter to finance archeological

investigations before any larger industrial project, thousands of ancient Sami habitations have been discovered along the harnessed rivers of Sapmi.⁸⁹ There are, however, two peculiar aspects to these investigations. Research on Sami settlements has shown that the early investigations were quite faulty.⁹⁰ Sami settlements, graves and holy sites are now inundated, and lost forever to any future research. The results of the investigations have also led to a debate on historical ownership. The question has arisen of who the peoples were that used the settlements discovered and who made the rock-carvings near, for example, the power stations in Nämforsen and Stornorrfors.⁹¹ The State Power Board, which is responsible for the maintenance of the rock-carvings in Stornorrfors, presents them not as a Sami heritage, but as a national heritage without any specific ethnic background.⁹²

Thirdly, Vaisa, by the Suorva Dam, is one of the villages within the Sirges Sami Village, which has been used by the State Power Board in support of the assertion that compensation has been adequate. The view of the affected people, though, seems quite different when interpreted through the poetry of the poets Paulus and Inger Utsi.⁹³ Their poetry writing, starting in the 1940s, and published from the 1960s, became an emotional response to the exploitation of the area. The poetry of Paulus and Inger came to serve as a sort of a wake-up call to Sami people, expressing the sense of loss of ancient traditions and cherished landscapes.⁹⁴ Newspapers have written about the poetry, and Paulus appeared on radio and television and at concerts. Some of the texts were also set to music and as such they have reached Sami youth as well as an international audience.⁹⁵

Recently, the State Power Board has on two specific occasions contributed to the revisibilization of the Sami culture. In 1998, the inauguration of a new technical innovation, the “Powerformer”, at its first location at Porsi Power Station on the Lule River had a Sami cultural contribution. A woman dressed in Sami costume performed a yoik, standing on top of the Powerformer unit.⁹⁷ The State Power Board has also invited artists to make a painting inspired by Sami symbols called *Uvssat davás*, in the Sami language meaning “the Doors to

the West”, at the Akkats Power Station on the Lule River. Both these events can be and have been questioned: do they represent further exploitation of Sami culture by the Swedish state, treating the Sami as a kind of cultural curio, or are they actually a step towards the revisibilization of Sami identity.⁹⁸



[Fig 5] Uvssat Davás – “the Doors to the West”, work of art on the Akkats hydropower station on the Lule River. Photo: May-Britt Öhman, July 2004.

Conclusion

In the 20th century, electricity produced in large-scale hydropower plants, has become a symbol of progress and modernization. It has been referred to as the “big dam era”. This essay discusses the issue of states taking land from indigenous people/ethnic minorities for the construction of large hydropower projects. I have discussed this using the term “technoscientific paradigm”, setting the limits to the kind of technoscience – science and

technology realized – that is considered good technology/science. The paradigm also gives guidelines on the kinds of objects that are investigated, and the kind of questions that are asked in the investigations, excluding other views. I have identified as the main pillar in this technoscientific paradigm, related to hydropower, the view of large-scale hydropower plants as synonymous with progress. An important condition for the survival of the technoscientific paradigm is the access to territory on which the large dams may expand and within which the waters may be regulated. In Sweden these areas are inhabited by the indigenous Sami people, many of whom have been performing a nomadic pastoral activity (with yearly migrations) highly dependent on the water/ice/snow routes. Their land Sapmi, or as it is called in Swedish – Lappland/Norrland – was considered by the Swedish state representatives “empty” or “sparsely populated”. The inhabitants were considered to have few or no formal rights to the land on which they depended for thousands of years, as the territory was claimed by the Swedish state.

Earlier studies have shown how a part of the success in establishing the basis for the technoscientific paradigm (and thus the big dam era) within Sweden, access to land, was due to the strategy of refusing affected people access to the political agenda by transferring the conflicts to water courts. A further step was for the water courts to deny the Sami people their right to extensive compensation, which could have placed a heavy cost burden on the projects. In order to achieve its objective, the Swedish State Power Board, the main actor in the hydropower exploitation in the area, has used a strategy of ‘invisibilization’ of the people living in Sapmi, and of the Sami with traditional economic activities in particular. Throughout the whole big dam era of the 20th century, the Swedish state has had to deal with the Sami through different authorities as well as through scientific investigations. There has also been organized opposition from Sami groups, particularly since the 1950s. Yet, the choice of the state representatives has been to invisibilize the Sami instead of fully recognizing their specific rights as traditional landholders. To avoid a NIMBY syndrome, which could have proved costly to the state and even contributed to a severe contestation of the technoscientific paradigm, the affected peoples have been invisibilized, turned into “nobodies”, and seen their land treated as “nobody’s back-yard”. As a result, the hydropower exploitation has led to far-reaching consequences for the Sami way of living, economically as well as socially and culturally.

However, although hydropower exploitation has had a severe impact on traditional Sami activities, as well as on Sami cultural values, there is also another perspective that has emerged in this essay. The response of Sami peoples to the extensive hydropower exploitation

and the inadequate compensation has led to a certain revisibilization of Sami culture in Sweden.

Yet, the main issue, an anomaly that could undermine the prevailing technoscientific paradigm in Swedish large-scale hydropower exploitation, the question of land ownership, has remained unsolved and is left for future generations to deal with.

¹ I wish to thank Camilla Sandström for comments, suggestions and valuable informations as well as great hospitality during my field trip in Dikanäs and Daningen, Sapmi. I also wish to thank Sunna Kuoljok (Ajtte Museum) and Linda Ekmark (Västerbottens Museum) for valuable information regarding photos and Sapmi.

² Personal interview with Mr. Magomba Meshack, Mtera hydropower station, November 17, 2000.

³ Dick Johansson, *Mtera Reservoir: Ecology of a new man-made lake in Tanzania* (Stockholm/Sweco, 1985), 2.

⁴ Magomba Meshack.

⁵ See Eva Jakobsson, *Industrialisering av älvar: studier kring svensk vattenkraftutbyggnad 1900-1918* (Göteborg, 1996); Evert Vedung and Magnus Brandel, *Vattenkraften, staten och de politiska partierna* (Nora, 2001); Jonas Anshelm, *Vattenkraft och naturskydd: en analys av opinionen mot vattenkraftutbyggnaden i Sverige 1950-1990* (Linköping, 1992).

⁶ Sverker Sörlin, *Framtidslandet: debatten om Norrland och naturresurserna under det industriella genombrottet* (Stockholm, 1988); Gertrude Hanes-Nutti, *Samernas rättsliga ställning vid de tre första Suorva regleringarna*, unpublished (Dept of History, Umeå University, 1988); Lars Elenius, "Selma Lagerlöf och Norrland: Nationella idealbilder i Nils Holgerssons underbara resa" in Ann-Katrin Hatje (ed.), *Sekelskiftets utmaningar: Essäer om välfärd, utbildning och nationell identitet vid sekelskiftet 1900* (Bjärnum, 2002), 15-41, 30ff.; Kjell-Arne Brändström, "Bilder av det samiska i den svenska 1800-talslitteraturen" in K-A Brändström (ed.), *Bilden av det samiska: Samerna och det samiska i skönlitteratur, forskning och debatt* (Umeå, 2000), 51-87, 75.

⁷ Agriculture had earlier been a complementary activity, with exchanges between reindeer-owning peasants and Sami reindeer herders. This relation changed in the early 20th century, due to Swedish state policy, and instead agriculture also became a competing interest. See for instance Åsa Nordin, "Samerna och jordbruksbefolkningens renar – om skötesrensystemet i början av 1900-talet" in Peter Sköld and Patrik Lantto, *Den komplexa kontinenten: Staterna på Nordkalotten och samerna i ett historiskt perspektiv* (Umeå, 2000), 173-198. Recently activities within tourism and ecologism have also become competitors for the territory. Hugo Beach, "Negotiating nature in Swedish Lapland: Ecology and Economics of Sami Reindeer Management" in Eric Alden Smith & Joan McCarter (eds.) *Contested Arctic: Indigenous people, industrial states and the circumpolar environment* (Seattle, 1997).

⁸ According to Sanjeev Khagram it was during the 1950s that large dams had become the leading technology for water resource development in the world, Sanjeev Khagram, *Dams, democracy and development – transnational struggles for power and water* (Ann Arbor, 1999), 6ff. A "large dam" is usually defined by ICOLD (International Commission on Large Dams), as "one measuring 15 metres or more from foundation to crest – taller than a four storey-building." McCully, 2f

⁹ Thomas S. Kuhn, *The structure of scientific revolutions* (Chicago, 1962).

¹⁰ Ibid.

¹¹ Donna J. Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouseTM* (New York, 1997), 3.

¹² May-Britt Öhman, "On Visible Places and Invisible Peoples in Sweden and in Tanzania", in J Tempelhoff (ed.) *African water history: transdisciplinary discourses* (North-west University, Vanderbijlpark, in press, 2005).

¹³ See for instance Ann Danaïya Usher (ed.), *Dams as aid: a political anatomy of Nordic development thinking* (London, 1997); Patrick McCully *Silenced Rivers. The Ecology and Politics of Large Dams* (London, 1998); Sanjeev Khagram, *Dams, democracy and development – transnational struggles for power and water* (Ann Arbor, 1999); Thomas P Hughes, *Networks of Power: Electrification of Western Society, 1880-1930* (Baltimore, 1983); Arne Kaijser, *I fädrens spår... 'Den svenska infrastrukturens historiska utveckling och framtida utmaningar'* (Stockholm, 1994); Jakobsson; Mats Fridlund, *Den Gemensamma Utvecklingen: staten,*

storföretagen och samarbetet kring den svenska elkrafttekniken (Stockholm, 1999); Staffan Hansson, *Porjus: En vision för industriell utveckling i Övre Norrland* (Luleå, 1994); Lars Thue, "Electricity Rules: The formation and development of the Nordic Electricity Regimes" in Arne Kaijser och Marika Hedin (eds), *Nordic Energy Systems: Historical perspectives and current issues* (Canton, Massachusetts, 1995).

¹⁴ Jakobsson defines regulated rivers as technical systems. Jakobsson, 20ff.

¹⁵ The capacity of the hydropower plant depends not only on the water available, but also on each technical component of the construction, as well as the daily management, including maintenance of the technical components, of the plant. The "Powerformer" is an example of how a technical innovation can increase the capacity of an existing hydropower plant. Personal communication, Kjell Isaksson, Technical manager at the State Power Board, Porjus, June 21, 1999; Personal communication, Florence Gwang'ombe, Research engineer at TANESCO, Kidatu, November 16, 2000. See also for instance Peter Fröst, Hans Bergström, Camilla Freby and Pernilla Hanssen, "Water power – improvement of existing power stations and prospects for new plants: Powerformer TM" ALSTOM Power, Västerås, 2001, http://www.energikontor-so.com/Localaction/Powerformer_V%C3%A4xjö%C3%B6_010119.PDF, (October 28, 2004).

¹⁶ See for instance E. Goldsmith and N. Hildyard (eds) *The Social and Environmental Effects of Large Dams*, (Camelford, 1984); Philip M. Fearnside, "Environmental impacts of Brazil's Tucuruí Dam: Unlearned lessons for hydroelectric development in Amazonia", *Environmental Management*, 2001:3, <http://springerlink.metapress.com/app/home/contribution.asp?wasp=f62clce4wn4vthdb3j3y&referrer=parent&ba ckto=searcharticlesresults,4,6;journal,1,1;linkingpublicationresults,1:100370,1> (January 31, 2005) 377-396.

¹⁷ Andrea Amft, *Sápmi i förändringens tid: en studie i svenska samers levnadsvillkor under 1900-talet ur ett genus- och etnicitetsperspektiv* (Umeå, 2002), 43-44, 69-99. Since the outbreak of the fatal virus HIV and the disease AIDS the relation between hydropower construction and prostitution has been recognized by a few researchers dealing with the epidemic. See Joseph Decosas, "'HIV and Development', Plenary presentation at the XI International Conference on AIDS, Vancouver, 1996", http://www.ccsid.org/ang/a_documents/a_decosas.htm, (September 16, 2004).

¹⁸ Inga Lill Aronsson, *Negotiating involuntary resettlement* (Uppsala, 2002), 28. See also Gustavo Lins Ribeiro, *Transnational capitalism and hydro politics in Argentina: The Yacyretà High Dam* (University Press of Florida, Gainesville, 1994), 8, ff, 86ff; Thomas R Berger, *Village Journey: The report of the Alaska native review commission* (New York, 1985); Thomas R Berger, *Northern Frontier Northern Homeland: The report of the Mackenzie Valley Pipeline inquiry* (Toronto, 1977). In an analysis of the relation between the modern western state and indigenous people within its borders in Canada, Norway and Australia, Noel Dyck argues that the state always has had a leading part in the exploitation of the land and resources. Noel Dyck, "Aboriginal Peoples and Nation-States: An introduction to the analytical issues" in Dyck (ed.), *Indigenous peoples and the Nation-State: 'Fourth World Politics in Canada, Australia and Norway*, Social and economic papers 14 (St. John's Memorial University of Newfoundland, 1985), 190-235, 1-26.

¹⁹ The state authorities or representatives of the state, besides the State power company mentioned in this essay, are county administrative boards, state commissions and inquiries, the Royal Academy of Sciences, water courts and the National Board of Agriculture.

²⁰ Jakobsson. I will discuss the "depoliticization" further in the part that follows.

²¹ See for instance Valerie Frissen, "Gender is calling: Some Reflections on Past, Present and Future Uses of the Telephone", in Gill, R. & G. Keith (ed.), *The Gender-Technology Relation* (London, 1995); Carolyn Hannan, *Promoting equality between women and men in bilateral development cooperation. Concepts, goals, rationales and institutional change. Part two: Empirical studies in two sectors in Tanzania: Household water supplies and health development* (Lund, 2000), 4 ff.; Anita Nyberg, "Feministiska ekonomer och feministisk ekonomi - exemplet nationalekonomi" i *Kvinnvetenskaplig tidskrift*, 2001:3/4, 5-24; Michèle Martin: "Struggling to take part: A feminist approach to Telecommunications" in Ewa Gunnarsson and Lena Trojer (eds), *Feminist voices on gender, technology and ethics* (Luleå, 1994), 177-191.

²² See May-Britt Öhman, *Kidatu vattenkraftverk i Tanzania – vatten och elektricitet från kolonialtid till biståndsepok* (Stockholm 2003), 10.

²³ See for instance Michael E. Kraft and Bruce B. Clary, "Citizen participation and the NIMBY syndrome: public response to radioactive waste disposal", *The Western Political Quarterly*, 1991:2, 299-328; Euston Quah and K.C. Tan, *Siting environmentally unwanted facilities: Risks, trade-offs and choices* (Cheltenham, UK, Northampton, MA, 2002).

²⁴ Only in a few cases has opposition from indigenous people towards hydropower exploitation been fierce, although even then not very successful in the end. The alliance between Indian environmentalists and local inhabitants of the Narmada rivers is an exception, as is the opposition of Sami people in Norway when fighting against the Norwegian state over the River Alta. May-Britt Öhman, *Världsbankens miljöpolicy: specialstudie i fallet Narmada*, unpublished paper (Dept. of Pol. Sciences, Uppsala University, 1993); Nils Roar Saeltn, "The Alta hydropower development: Hydropower vs environmentalists and indigenous interest groups – the great

showdown”, *International Water History Association Conference Papers*, Bergen, Norway, 10-12 August 2001; Robert Paine, Ethnodrama and the 'Fourth World': The Sami Action Group in Norway, 1979-1981 in Dyck (ed), 190-235.

²⁵ The then Swedish prime minister at the opening of the Messaure Dam on the Lule River, August 31, 1963 quoted in Hans Andersson, *Längs stigarna: En vandring i tid och rum i Lule Älvdal* (Värnamo, 1992), 10.

²⁶ Hansson, 272; Nils Forsgren, *Porjus: Pionjärverket i ödemarken* (Stockholm, 1982), 76.

²⁷ The second and third regulations took place in 1937-1941 and 1942-1944. The last regulation took place in 1966-1972. Tore Nilsson, *Fyra gånger Suorva- en tillbakablick på regleringsarbetena i Suorva* (Stockholm, 1972), 10; Nils Forsgren, *Suorva: Dammybygget i vildmarken* (Stockholm, 1987), 123.

²⁸ Vattenfall, “Vattenfall AB Elproduktion certifierade miljövarudeklaration för el från Lule Älv, 20020315”, www.vattenfall.se/downloads/produktion/VF_epd_lule_alv.pdf, (February 2, 2005).

²⁹ Two of the very few academic studies on the specific issue of the Sami people and hydropower exploitation are by Gertrude Hanes-Nutti, who has described the judicial proceedings in which the Sami at the first three regulations of Suorva, as well as the impacts on the Sami of Vaisaluokta and Änonjalme: Gertrude Hanes-Nutti, *Karesuandosamer i Vaisaluokta och Änonjalme: Dislokationens och vattenregleringarnas inverkan på deras näringar och hushållning*, unpublished (Dept. of History, Umeå University, 1987); Hanes-Nutti, *Samernas rättsliga ställning*. Two doctoral theses dealing with Sami questions discusses the issue: Patrik Lantto, *Att göra sin stämma hörd: Svenska samernas riksförbund, samerörelsen och svensk samepolitik 1950-1962* (Umeå, 2003), 91ff. Amft, 43-44, 69-99.

³⁰ Jakobsson.

³¹ Ibid., 251ff.

³² Jakobsson describes it as the establishment of a “Swedish system”, Jakobsson 65-109. Fridlund has described the close cooperation in the development of the electricity technology between the State Power Board and the company ASEA. See also Vedung and Brandel, 24 f.

³³ Sörlin 94ff.; Hansson; Vedung and Brandel, 35f; Lantto, *Att göra sin stämma hörd*, 90ff; Amft, 44.

³⁴ Lantto, *Att göra sin stämma hörd*, 99f.

³⁵ Vedung and Brandel, 32ff, 60-68; Anshelm.

³⁶ Ibid., 397, 416.

³⁷ Four rivers in Sapmi are supposedly protected from hydropower exploitation. However, one of them, the Vindel, has a confluence with a regulated river, the Ume, and thus its status as an unexploited river has been questioned.

³⁸ See for instance http://www.fjallen.nu/sapmi/index_en.htm or

<http://www.sametinget.se/sametinget/view.cfm?oid=1238>, (September 30, 2004).

³⁹ See Sami Parliament, “The Sami People – A People in Four Countries”,

<http://www.sametinget.se/sametinget/view.cfm?oid=1238>, (October 26, 2004); Sven Hassler, P Sjölander, AJ Ericsson, “Construction of a database on health and living conditions of the Swedish Sami population”, in Lantto P and Sköld P, *Befolkning och bosättning i norr - Etnicitet, identitet och gränser i historiens sken* (Umeå, 2003), 107-124.

⁴⁰ The 25 traditional provinces called *landskap*, in Sweden, of which Lappland is one, have long been without administrative functions. Instead Sweden is divided into a number of regional administrations, “*län*”, which have county administrative boards. Of these, five are found within the borders of “Norrland”: Västernorrland, Jämtland, Gävleborg, Västerbotten and Norrbotten. Västerbotten and Norrbotten together contain “Lappland”. At the same time all these five *län* lie wholly or partly within Sapmi. See Lennart Lundmark, “Nu prövas samernas rätt till land och vatten”, *Hela Jorden*, 1999:2, 7-9; T. Hägerstrand and U. Sporrang, “Landskap”, *Nationalencyklopedin*, 12 (Höganäs, 1983), 95; K. Lundholm, “Lappland-historia”, *Nationalencyklopedin*, 12 (Höganäs, 1983), 132.

⁴¹ Sörlin, 12ff, 21ff.

⁴² My own family historical background displays quite a typical mixture of ethnicities of “Swedish” people in the north. It is a combination of Forest Sami, late and early immigrants from southern parts of Sweden as well as natives of Tornedalen. I grew up in Luleå, at the delta of the Lule River, and spent numerous summers in Skällarim, by the Little Lule River, with my maternal grandparents.

⁴³ According to archeological researchers Sapmi has been inhabited since the last ice age, i.e. for about 9000 years. However, there is an ongoing debate as to whether the inhabitants were Sami, “Scandinavian”, or a mixture of the two. See Evert Baudou, *Norrlands forntid – ett historiskt perspektiv* (Höganäs, 1992), 151ff, 157; Tim Bayliss-Smith and Inga-Maria Mulk, “Rock engraving from the mountains in Lapponia, Sweden”, *Folklore* (Tartu, 1999) 11:70:70-112, <http://haldjas.folklore.ee/folklore/vol11/sami.htm> (October 1, 2004).

⁴⁴ Elenius; Nordin, 174f.

⁴⁵ See for instance Karin Granqvist, *Samerna, staten och rätten i Torne lappmark under 1600-talet. Makt, diskurs och representation* (Umeå, 2004); Roger Kvist, “Swedish Sami policy, 1550-1990”, in Roger Kvist (ed.),

Readings in Sami history, culture and language. 3 (Umeå, 1992); Sörlin, 33f; Ulf Mörkenstam, *Om "Lapparnes privilegier": föreställningar om samiskhet i svensk samepolitik 1883-1997* (Stockholm, 1999); Göran Bäärnhielm, *I Norrland hava vi ett Indien: Gruvdrift och kolonisation i Lappmarken under 1600-talet* (Stockholm, 1976); Anne-Li Lindgren, "Att utbilda barn till ett nationellt medborgarskap. Folkhemmet och föreställningar om 'vi' och 'de andra'", *Historisk Tidskrift*, 2002:1; Lennart Lundmark, '*Lappen är ombytlig, ostadig och obekvämt*': Svenska statens samepolitik i rasismens tidevarv (Umeå, 2002); Gunnar Eriksson, Darwinism and the Sami Legislation in The Sami National Minority in Sweden, (Uppsala, 1983), 89-101; Gunnar Broberg, "Lappkaravaner på villovägar: Antropologin och synen på samerna fram mot sekelskiftet", *Lychnos* 1981/1982, Stockholm, 27-86.

⁴⁶ Concerning Sami and the Swedish state position regarding their land ownership, see Kaisa Korpiaakko, "Land ownership among the Sami of Sweden-Finland: theory and practice" in Roger Kvist (ed.), *Sami readings III*, 79-89. Korpiaakko states that Sami do not retain rights to the land and water in their environment comparable to actual ownership. This is based on an understanding of the nature of Sami livelihoods: hunting, fishing and reindeer husbandry are not considered to need possession of land. Still today, the issue of who has the rights to the territory has not been settled. For instance, the ILO convention no 169 of 1989, which states the right of indigenous people to their traditional territory, has still in 2005, fifteen years later, not been ratified by Sweden. ILO - the International Labour Organisation - is a United Nations organization. Concerning the Swedish discussion on ratification of the convention see, for instance, Sven Heurgren, *Samerna – ett ursprungsfolk i Sverige: Frågan om Sveriges anslutning till ILO:s konvention nr 169*, SOU 1999:25 (Stockholm, 1999); Robert Johansson and Maria Klang, *Konflikterna i lappmarken – är ILO 169 lösningen?* (Luleå 2003).

⁴⁷ Hanes-Nutti, *Karesuandosamer*, 18ff.

⁴⁸ Hanes-Nutti, *Samernas rättsliga ställning*, 12, 23.

⁴⁹ *Ibid.*, 23.

⁵⁰ *Ibid.*, 24.

⁵¹ See Lantto, *Att göra sin stämman hörd*, 105 f, referring to *Norrländska vattenkraftfrågor: Betänkande avgivet av norrländska vattenkraftutredningen* (Stockholm 1957) + annexes and SOU 1954:12 *Elkraftförsörjningen*, (Stockholm 1954), 303-308, 463-473.

⁵² Mr. Rusck was also a member of the TANESCO board 1965-1968. Öhman, *Kidatu vattenkraftverk*, 34.

⁵³ Åke Rusck "Ett 20 års program för 2 miljarder" in Folke Thunborg (ed), *Jorden, skogen, malmen, vattenkraften i morgondagens Norrbotten* (Stockholm, 1956), 208.

⁵⁴ *Ibid.*, 203, 206.

⁵⁵ *Ibid.*, 208.

⁵⁶ *Ibid.*, 214.

⁵⁷ *Ibid.*, 223.

⁵⁸ See also Lantto, *Att göra sin stämman hörd*, 97.

⁵⁹ Rusck, 203-224, 221.

⁶⁰ See Vedung and Brandel.

⁶¹ Torvald Lif, *Vattenkraften och rennäringen* (Vällingby, 1986). The other folders deal with fishery, tourism, demography/employment/municipal economy, and natural environment. The author of the 19-page folder on "hydropower and reindeer herding" is according to the introductory text Mr Torvald Lif, of the State Power Board unit for investigations and water court cases. The main information in the folder derives from two state reports from the 1960s concerning the reindeer-herding land areas, and another concerning the reindeer-herding economy of 1983 together with statistics on the number of reindeer within certain Sami villages. The official reports referred to are: *Renbetesmarkerna*, SOU 1966:12, the Appendix 5 of "Betänkande avgivet av 1964 års svensk-norska renbeteskommission" and *Rennäringens ekonomi*, SOU 1983:67. The statistics concerning number of reindeers are from Norrbotten, so called "Renlängder".

⁶² Lif, 18.

⁶³ *Ibid.*

⁶⁴ *Ibid.*, 5, 12, 13, 33,35.

⁶⁵ Vattenfall, www.vattenfall.se. (September 24, 2004).

⁶⁶ *Ibid.*

⁶⁷ Vattenfall and Explicare AB, "Livscykelanalys av Vattenfalls el, 2004", http://www.vattenfall.se/downloads/produktion/lcasve_maj04.pdf. (September 24, 2004),6.

⁶⁸ On environmental product declarations see further for instance <http://www.environdec.com/>, (October 18, 2004); Karin Jönsson, *Communicating the environmental characteristics of products: the use of environmental product declarations in the building, energy and automotive industries* (Lund, 2000).

⁶⁹ Vattenfall, "Vattenfall AB Elproduktions Certifierade Miljövarudeklaration för el från Lule älv", http://www.vattenfall.se/downloads/produktion/VF_epd_lule_alv.pdf, (January 31, 2005).

- ⁷⁰ Vattenfall, "Vattenkraft", http://www.vattenfall.se/om_vattenfall/var_verksamhet/forskning_och_utveckling/vattenkraft, (January 31, 2005).
- ⁷¹ See Ernst Manker, *Lapsk kultur vid Stora Lule älvs källsjöar: en etnografisk inventering inom uppdämningsområdet vid Suorva* (Uppsala, 1944); Ernst Manker, *The nomadism of the Swedish mountain lapps: the siidas and their migratory routes in 1945* (Uppsala, 1953). Ernst Manker, *Lappmarks gravar: Dödsföreställningar och gravskick i lappmarkerna, anteckningar av Ernst Manker* (Uppsala, 1961)
- ⁷² Lars-Erik Edlund, "Luleå, Harads, Gerosriset – Ortnamnsstrukturer i norra Sverige" in Evert Baudou (ed.), *Att leva vid älven – Åtta forskare om människor och resurser i Lule älvdal*, (Ceweförlaget, 1996), 111-131, 112.
- ⁷³ Phebe Fjällström, "Humanekologiskt system i Lule älvdal – fjällbygd, skogsbygd, kustbygd", in Baudou (ed.) *Att leva vid älven*, 79-110, 83.
- ⁷⁴ Getrude Hanes, *Vaisaluokta under 100 år* (Kiruna, 2000), 118 f.
- ⁷⁵ May-Britt Öhman and Camilla Sandström, "Sapmi's vita kol: En exposé över tillämpbara perspektiv på kraft, konflikt och kulturella kuriositeter längs Norrlands älvar", conference paper at *Teknikhistoriska dagar*, Luleå, Sweden, March 15-17, 2004.
- ⁷⁶ S Hassler, R Johansson, P Sjölander, H Grönberg, L Damberg. *Causes of death in the Sami population of Sweden, 1961-2000*. Southern Lapland Research Department, Vilhelmina. Centre for Musculoskeletal Research, University of Gävle. Department of Radiation Sciences/Oncology, Umeå University. no.1, 2003. See also Inger Utsi, "Vattnet över bräddarna" in *Sveriges Natur* 1958:4, 49, 118-120.
- ⁷⁷ A Sami village is an economic association for the administration of reindeer-herding, in a certain geographical area. Only persons belonging to a Sami village have the right to carry on reindeer-herding in Sweden. With the passing of the reindeer grazing acts of 1886 and 1898, the Sami definitely lost their ownership to land and individual pasture rights were made into an exclusive right of the Sami villages. The latest regulation of Sami villages was established in the Reindeer Grazing Act of 1971. Today there are 51 Sami villages. By 2002 the number of reindeer-herding enterprises was 928, reindeer owners 4487 and the number of reindeer was just above 228 000. See H. Ritzén, *Vattenbyggnadsföretags inverkan på renskötseln i Västerbottens län: Utredning verkställd genom länsstyrelsen i Västerbottens län* (Umeå, 1960); Roger Kvist, *Swedish Sami policy, 1550-1990*, 70. Samernas Riksförbund, "Samebyn", <http://www.sapmi.se/ssr/samebyn.html>, (January 31, 2005); Jordbruksverket, "Antal renar", <http://www.jordbruksverket.se/startida/amnesomraden/djurveterinar/rennaring/nyckeltalforrennaringen/antalforetagochrenagare.4.7502f61001ea08a0c7ff54245.html> (January 31, 2005).
- ⁷⁸ Amft, 43f.
- ⁷⁹ Ibid., 43.
- ⁸⁰ Ibid., 44, 69-99.
- ⁸¹ See Inger Utsi, "Vattnet över bräddarna".
- ⁸² See for instance Vattenfall, *Vattenkraften och rennäringen* (Vällingby, 1986)
- ⁸³ Amft, 44.
- ⁸⁴ Lundmark, 'Lappen är ombytlig', 63. According to Lundmark, the "Laplander should be Laplander policy" was an attempt by the Swedish state to categorize the "Lapländers". Although racism was an important part, the economic policy was also of interest. This led to a position where state policy regarding the Sami had to pay respect to three different criteria: First of all the race, i.e. the origin. Secondly the way of living, i.e. whether the person was nomadic or not. Thirdly, the economic activity, i.e. if the person was a reindeer herder or not. This led to three distinct categories, the real "Lapländers" were the ones who were nomadic, living in special huts and herding reindeer. The second category was the "forest Laplander", living in normal houses but still reindeer-herding, who were considered something in between Laplanders and the other population. Finally, the persons of Laplander origin, but living in houses and not involved in reindeer-herding, who were considered to have lost their Laplander origin and thus defined as part of the general non-Sami population.
- ⁸⁵ Amft, 44.
- ⁸⁶ Lennart Pittja, "The impact of dams on Sami land and culture", in *Nordic Dam-building in the south, Proceedings of an international conference in Stockholm, 3-4 August, 1994* (Stockholm, 1994).
- ⁸⁷ Pittja, 1994.
- ⁸⁸ Lantto, *Att göra sin stämma hörd*, 91ff. The Sami parliament was established in 1993. The sessions are held in Kiruna, in Sapmi, 1500 km north of the Swedish capital. The parliament is not a public authority and has little to no political impact in Sweden. There is no specific representation of the Sami in the Swedish national parliament. See further <http://www.sametinget.se>, (October 27, 2004).
- ⁸⁹ Baudou, *Norrlands forntid*, 32f, 43, 151ff.
- Sverker Janson och Harald Hvarfner, *Från norrlandsälvar och fjällsjöar: Riksantikvarieämbetets kulturhistoriska undersökningar i samband med kraftverksbyggen och sjöregleringar* (Stockholm, 1960); Mulk.
- ⁹⁰ See for instance Ernst Manker, *Lapsk kultur vid Stora Lule älvs källsjöar*.

⁹¹ Baudou, *Norrlands forntid*, 39.

⁹² Visit to the Stornorrfor power plant and rock carvings by the author in July, 2004.

⁹³ Paulus Utsi lived from 1918-1974, and his wife Inger Utsi, from 1914-1984. Their life and poetry has been described by amongst other Nils-Aslak Valkeapää, "Med språket med språket" in Paulus Utsi, *Följ stigen: texter 1941-1974* (Kautokeino, 2000).

⁹⁴ Paulus became internationally renowned, while his wife Inger only after the death of her husband officially claimed to be a part of the creative process when she presented herself as co-author of the second collection, *Gielá Gielain*, in 1980. See for instance Harald Gaski, *Sami culture in a new era: the Norwegian experience*, (Kárášjohka, 1997); Israel Ruong, "Saame Poetry", in Martin Allwood (Gen. Ed.) *Modern Scandinavian Poetry* (Mullsjö and Walnut Creek, Calif., 1986), 147-156.

⁹⁵ Erik-Oscar Oscarsson, "recension av Paulus Utsi, *Följ stigen: texter 1941-1974*", *Oknytt*, Holmsund, 2000:3/4, 95-96; Valkeapää, 35-55, 53;

⁹⁶ Translation into Swedish by Elli Sivi Näkkäläjärvi and Per Mikael Utsi, translation from Swedish into English by Bernard Vowles/the author.

⁹⁷ "Internationellt kraftcentrum invigt", *Vattenkraft-magasinet*, 1998:2, 4-5. The Sami yoik is one of the oldest musical expressions in Europe.

⁹⁸ The paintings inaugurated in 2000 have been made by Sami artists Mr. Lars Pirak and Mr. Lars J:son Nutti together with a Swedish artist, Mr. Bengt Lindström. See for instance Katarina Hällgren, *Uvssat davás – Dörrarna västerut* in *Fjärde världen*, 2000:4, 10-11.