

Social License, The Most Challenging License. A Case Study on a Responsible Approach to Developing Iron Ore Mines in the Arctic

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Abstract

The environment in which Northland Resources operates presents significant social and environmental challenges to planning, developing and operating mines because of its complex social and environmental context. The region, Arctic Scandinavia, is largely pristine and renowned for its natural beauty. The water bodies in the project area constitute the last unexploited major river system in Europe, thus they belong to the NATURA 2000 network. The border river between Finland and Sweden is the longest free-flowing river in Europe with naturally reproducing salmon and sea trout. Northern Sweden and Finland are reindeer herding areas, a traditional arctic livelihood which holds a priority land use status in the region. Northland's project site in Sweden is located in the Pajala municipality, which has been in a steep population decline. A minority language, an ancient Finnish dialect, is widely used on the Swedish side of the border, however, to a diminishing extent due to the ageing population and constant emigration. The project in Finland, a brown-field area with a mine which has been closed for decades, is located near one of Finland's and Scandinavia's biggest ski resorts, and the land use of the area around the project site is presently recreational and is scattered with holiday properties.

As the development of the population of the Pajala municipality on the Swedish side of the border has been negative the last decades, new jobs and industrial development is seen by the local community as critical for the survival of the community as an independent administrative unit, and for regaining growth in the area. The Kolari community on the Finnish side of the border sees mining as an opportunity to diversify the economic structure so that it is not solely dependent on tourism, which is seasonal and generally employs low-skilled workers.

Northland's position is that obtaining a social license to operate is pivotal to the success of the projects. Therefore from the outset, Northland makes a special effort to ensure that environmental and social factors are an integral part of project design and development. This paper provides a case study of how this has been done and illustrates some of the lessons learnt.

1. Mining in Scandinavia Past and Present

1.1. Mining in the past in Sweden and Finland

Sweden and Finland have a long history of metal mining dating back over a thousand years (Geological Survey Sweden 2009).

In northern Sweden today's mining is dominated by Boliden and LKAB, of which the latter is still a 100% state owned enterprise.

Historically mining in Finland was dominated by Outokumpu and Rautaruukki, which were partially state owned companies. Both companies have since mostly pulled away from mining.

In the Pajala and Kolari region, in particular, mining and metallurgy have been important activities for the economy. This is illustrated even by the names of the communities, Pajala in Finnish means the forge and Kolari means the place where charcoal is made. South of Pajala lies the historic Kengis mill, the northernmost ironmaking mill in the world's history, where iron and copper ore from mining areas upstream along the rivers were treated starting in 1643 and continuing until 1932.

As the mining industry during modern times has been dominated by largely state owned enterprises, social acceptance was assumed. As the whole chain from exploration to mining was in domestic hands, the driver was national business needs and any profit remained in the country. Therefore development of mines was seen as contributing to the common good of society (Valtiotalouden tarkistusvirasto 2007).

To an extent, social responsibility was explained with a statement that the company pays taxes which in turn contribute to society and there was no need to justify a social license to operate.

1.2. Mining in present in Sweden and Finland

In 1992 in Sweden and 1994 in Finland changed their legislation to make it possible for 100% foreign owned companies to start exploring, developing and acquiring mines. With the exception of Zinkgruvan in central Sweden, which opened in 1857 and was owned by Belgian Union Minière, the first foreign owned mine in Sweden came into production in 2005 when Svartliden, owned by the Australian based company Dragon Mining, came into production. In Finland today, exploration, project development and mine operation are dominated by foreign owned companies. This has completely changed the environment in which mining operates today. Companies that are listed on foreign stock exchanges are not seen to contribute in the same way to the good of society, as the ownership base is international and company profits therefore are assumed to be leaving the country. In spite of contributions through salary taxes paid by the employees, large direct investments and other contributions to the local and regional economy through spin-off enterprises dealing with service and secondary supplies, the recognition of foreign ownerships as beneficial for the economy is limited. In general non-state owned and in particular “foreign” companies receive more social scrutiny, and therefore have to work harder to gain a social license to operate.

Projects requiring funding from banks that are signed up to abide by the Equator Principles (EPs) (Equator Principles Financial Institutions, or EPFI) must in a general context follow the ten EPs. Currently 72 adopting financial institutions (70 EPFIs and 2 Associates) in 27 countries have officially adopted the EPs, covering over 70 percent of international project finance debt in emerging markets. EP 3 calls for the implementation of applicable social and environmental standards. EPFIs deem that the regulatory, permitting and public comment process requirements in High-Income OECD Countries generally meet or exceed the requirements of the International Finance Corporation Performance Standards and World Bank Group Environmental, Health, and Safety Guidelines. Both Sweden and Finland are “high income OECD-countries”. Consequently, to avoid duplication, compliance with local or national law in High-Income OECD Countries is considered to be an acceptable substitute for the International Finance Corporation Performance Standards, World Bank Group Environmental, Health, and Safety Guidelines and further requirements as detailed in EPs 4, 5 and 6. For such projects, EPFIs nevertheless still categorize and review the project in accordance with EPs 1 and 2, and independent review and monitoring over the life of the loan for all Category A¹ projects is still required (Equator Principles).

The Kaunisvaara project, which will partially be funded with a loan from an EPFI, has gone through the normal regulatory scrutiny and a scrutiny by an independent engineer named by the EPFI. This adds a further layer of scrutiny and third party review to any new project.

2. Northland Resources

Northland Resources S.A., also known as **Northland** is a publicly traded mining, exploration and development mining company registered in Luxemburg. It focuses on iron ore projects located in the northern regions of Sweden and Finland. The company’s principal project in the development stage is the Kaunisvaara iron ore project in Sweden, which currently (end of 2011) is in a construction phase with planned start of production late 2012. The Hannukainen (IOCG) project in Finland is the second major project, some two years after the Kaunisvaara project in its development stage. The projects are primarily located within the 1,8 billion year old Pajala/Kolari shear zone, in the northern Fennoscandian shield, about 160km north of the arctic circle.

¹ Category A projects: Projects with potential significant adverse social or environmental impacts that are diverse, irreversible or unprecedented (Equator principles).



Figure 1. Northland's project area in northern Sweden and Finland

In Sweden, the Kaunisvaara project comprises of two initial iron ore deposits, Tapuli, and Sahavaara, and later on a third, Pellivuoma. The ore from all these three pits will be processed in the central Kaunisvaara mill. Mining will be a conventional open cast operation with drilling, blasting, truck and shovel operation, crushing, and conveyor transportation to the centralized Kaunisvaara processing mill. Production of a high grade magnetite iron ore concentrate with 69% Fe and very low content of impurities is forecast to commence by the end of 2012 from the Tapuli pit.



Figure 2. Artist's impression of the Kaunisvaara project in full operation

Hannukainen is an Iron Oxide-Copper-Gold project that will be developed in two open pits and a central processing plant. A definitive feasibility study for the project will be completed for the project by the beginning of 2012 and the EIA impact assessment will be completed by mid 2012 after which permitting will be initiated, with the aim of having a fully permitted project by end of 2013.

3. The Project Challenges

3.1. Biodiversity

The Habitats Directive, together with the Birds Directive, forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and a strict system of species protection. The waterways in our projects area are included in the Natura 2000 network as representatives of the habitat type "Fennoscandian natural rivers". The type includes rivers or parts of rivers in a natural or near natural state; their waters are low in nutrients, their seasonal water level varies greatly and they freeze in the winter. Based on baseline studies undertaken, 4 plant species, 2 fish species, 2 mammals, and 26 bird species listed in Annexes II, IV and V of the EU Habitats Directive are found in the project areas. The rivers around Hannukainen are also habitats for the critically endangered migrating sea trout. In its mine design and planning, Northland has taken the protected species into consideration by careful design of the water management, intake and discharge system, and modifying placement and other infrastructure plans to minimize impacts. Over the next few years Northland will develop biodiversity action management plans to ensure that the operations' impacts on biodiversity are minimized.

3.2. Reindeer herding

Northland's project areas are located in a reindeer herding region. Reindeer herding constitute for many of the Sami community members the main income and for others it is a part of their economy. Reindeer herding is regulated by legislation on both sides of the border. In Sweden the Sami community is divided in Sami Villages of different status – Mountain Sami Villages, Forest Sami Villages or Concession Sami Villages. The legislation provides reindeer herding with rights but also restrictions depending on which status the Sami Village has. However, the laws prescribe a requirement on special consideration to the reindeer herders' ability or viability to undertake this activity. The Kaunisvaara project in Sweden is located in the grazing lands of the (Swedish) Muonio concession Sami Village. In Finland the Hannukainen project impacts on two reindeer herding cooperatives, The (Finnish) Muonio reindeer herding cooperative and the Kolari reindeer herding cooperative. The challenge is to ensure that design and operation of the mines minimize the impact on reindeer herding, and where damage is unavoidable, that these impacts are compensated adequately and do not impact the feasibility of the reindeer herding.

3.3. Land acquisition

Northland has to acquire access to land in the areas which will fall within the footprint of the mining areas. The majority of this land is swamp and forest, but both in Sahavaara and Hannukainen this land includes a number of permanent and temporary residents. This is obviously an issue of great sensitivity. Northland is committed to acquire the land on a voluntary basis, with fair compensation paid to those impacted.

3.4. Coexistence with nature based tourism

Hannukainen is located 10 km from Ylläs, one of the biggest ski resorts in Finland. The area between the mine and Ylläs is scattered with holiday cottages. The economy of the Kolari municipality relies heavily on tourism (Laasanen 2010) although it was largely built up by previous mining activity. Some of the owners of holiday cabins around Ylläs reside in other places in Finland, and see mining as a threat to the quality of their vacations and the value of their property. Some see the mining project as a threat against the tourism industry in general (Northland Mines public participation meetings 2009-2012).

4. The Project Benefits

The Pajala municipality, where Northland's projects in Sweden are located in, has been in steep population decline since the late 1960's. (Statistics Sweden 2010).

While Sweden as a whole has seen the population increase between 2001 and 2006, Pajala has seen a major reduction in population, as is shown in Figure 3. Part of the reason is emigration of people, but another is that the natural change in population is negative, with the number of deaths exceeding the number of births. An even more serious effect is the change in the demographic structure, with young people leaving Pajala after high school, and the mean age of the remaining population constantly increasing, resulting in a strong overrepresentation of retired people.

Table 1: Average per 1000 inhabitants: births, deaths and net immigration for the years 2001-2006, in Pajala, Norrbotten, Sweden. All figures given in the table are mean values. Source: Statistics Sweden.

	Births (per year)	Deaths (per year)	Natural change in population (Births minus deaths)	Net migration per year (emigrants minus immigrants)	Total change of population (per year and 1,000 inhabitants)
Pajala	7.8	17.3	- 9.5	- 9.3	- 18.8
Norrbotten	9.4	11.1	- 1.7	- 1.2	- 2.9
Sweden	11.0	10.3	0.7	3.0	3.7

One consequence of the transition to an older population is that the municipality has become the largest employer in Pajala. Pajala municipality must deal with the significant demographic change and an aging population, while at the same time maintaining sufficient levels of education, public service and municipal commitments. One important factor in this context is the emigration of younger people, whose education has been financed by the municipality. Pajala's strategic vision is "To reverse the development from being a sparsely populated region in retreat to transform Pajala into a 'stable cultural region' with growth" (För Pajala i framtiden – Strategiskt program 2004-2007).

Mines, with the employment opportunities they bring, are seen as a partial solution for both the demographic and economic problems faced by Pajala, and as a positive contribution to Pajala's strategic vision. Presently there are around 400 people employed on the construction of the Kaunisvaara project. Based on Northland's macro-economic benefits assessment for the region, it is estimated that once all projects in Sweden have been brought into operation, the number of direct jobs created by Northland in Sweden will amount to some 750, including mine workers, the process plant, and in transportation. The number of indirectly created jobs is conservatively estimated at another 500, resulting in some 1,250 new jobs in Pajala. This is a significant increase of employment in a municipality that currently has 6282 residents of which about 2000 live in the central Pajala village (Statistics Sweden 2010).

Across the border in the Kolari municipality in Finland, the economy is more robust and the population is fairly stable. The municipality had two mining companies operating until the late 1980's, when they closed down. After that mining period, the municipality quite successfully moved over to rely more on tourism, and investment into that sector has been large. The planned new tourism infrastructure investment in Ylläs between 2008-2013 amounted to over 660 million euros. The Ylläs vision is to double bed capacity to 34500 registered bedplaces by 2020 and to double the present overnight stay from 0,6 million guests to 1,2 million guests by 2020. Even the Ylläs strategy for 2020 included a section on the proposed mines, and how these were seen as a benefit to the municipality, as long as they could be developed in a way that did not impact negatively on tourism (Pöyry 2007). In general, the municipality

sees the mines as a natural part of the Kolari economy, and a return to the old situation of the 1980s when the municipality had active mines alongside tourism. Mining jobs are seen as more stable as they provide year round employment compared to the seasonal work provided by tourism. A study undertaken by the Ruralia institute calculated that the additional employment would stabilize to 1200 full time equivalents when taking into consideration the multiplier effect. The same study reported that mining in Kolari would potentially improve the employment statistics in the municipality, result in population growth, bring better services, improve the municipal economy through tax revenue, improve transport connections and improve the competitiveness of the municipality with other municipalities (Laasanen 2010).

5. Northland's Approach

The needs of the various stakeholders in the area are quite different, and often conflicting. This leads to a fairly challenging environment in which to plan, construct and operate mines, as these needs and expectations have to be balanced. Northland has applied best practice beyond what is the norm in Sweden and Finland. This chapter outlines some of the basic principles that have been followed.

5.1. Know your stakeholders and operating environment

Northland has undertaken very comprehensive baseline studies of both the biophysical environment and the socio-economic environment in the region since 2007. On the environmental front, everything in regards to water, biodiversity and air quality has been studied, for example plants, bugs, mushrooms, birds, fish and mammals. Some aspects, such as fish stocks and birds were studied over several years, and water quality monitoring has so far been done for 4 consecutive years.

Socio – economic baseline studies and impact assessments were done in Sweden, on a municipal level as well as a village level in the villages around the planned mine. A separate study was done on the potential impacts of the planned pine revegetation on reindeer herding. In Finland a Social Impact Assessment is underway, which has three separate focus areas; a local level study focused on the local and temporary residents around the planned mine, a reindeer herding impact assessment, and a multisectoral impact assessment. These social baseline studies and impact assessments give a good background against which to monitor potential changes in the communities.

The reindeer herding impact studies have identified direct impacts as well as possible future indirect impacts. The mine development will result in a loss of some prime grazing land and will create a barrier effect in some areas. This will increase costs and possibly change established herding patterns and working processes. In Finland the project will also have a direct impact on a reindeer separating corral and fences. In order to proactively address such concerns, Northland is in frequent dialogue with the reindeer herders and is committed to cooperation to ensure that they can maintain the herding without affecting the feasibility as the mine developments proceed. The constructive and cooperative relationship between the reindeer herding community and Northland was demonstrated when Northland was asked to participate as the mining industry representative in a project run by Finland's Reindeer Herders Association and funded by the Council of Lapland. The aim of the project was to develop a best practice guidance document for how to undertake reindeer herding impact assessments in large infrastructure projects.



*Figure 3. Reindeer marking in summer. Muonio (Sweden)
Sameby.*

Northland recognizes that building and operating a mine in an area that lives on tourism calls for sensitivity towards the needs of tourism businesses, and that the operations must not impact negatively on the tourism sector. The relationship of mining and tourism is assessed in the multisectoral impact assessment mentioned above and in external projects that investigate this issue, which involve Northland. Northland supports a University of Oulu Masters Study which is looking at the impacts of mining on the image of tourism. Northland has an open and active relationship with tourism associations and businesses in the area. One initiative taken is the setting up of an information booth at the forestry and tourism information center with a company representative present throughout the peak skiing holiday season (February to May) to answer questions and provide information about mining and our projects.

5.2. Responsible operation

The very basis of attaining a social license to operate is attaining the community's trust. To attain trust the company must ensure that it has management systems in place to look after environmental and social aspects. Northland developed a sustainability policy early on, where it states its overall commitments. Based on this policy, a set of Safety & Environmental Management Standards were developed, which expand on the statements made in the policy. These standards are meant to act as a target towards which the company is moving. The aim is to comply with all the statements in the standards by the time the first mine is in operation. There are corporate procedures which must be complied with by everyone who works for Northland, employee, consultant or contractor,. Each Northland division must develop their own set of procedures specific for their operations. These procedures must be in compliance with the company policy, standards and corporate procedures, but may impose more detailed rules as required.

5.3. Be open, transparent and encourage a participatory approach

Northland undertook its Environment and Social Impact Assessment processes in a participatory manner, with the aim of allowing adequate stakeholder input to the process. In addition to the statutory hearing processes, in its last EIA process Northland used an approach of a steering committee and small group meetings where issues of particular interest were addressed. Five small groups were initiated for reindeer herding, residents, local business, land use planning and authorities and recreational use and nongovernmental organizations. These small groups and the steering group met at various key stages throughout the EIA/SIA process. In addition to getting input into the process from key stakeholders, it was felt that the EIA should be written so that it was understandable by the larger audience. This was achieved by making the text in the main document reader friendly, and as illustrative as possible. The technical backup documents were then attached as appendices so that the relevant experts could look into these in more depth as required. One example of trying to make the process illustrative as possible is that for the visual impact assessment, a 3D interactive model was developed which allows for the user to inspect the mine area from various perspectives.

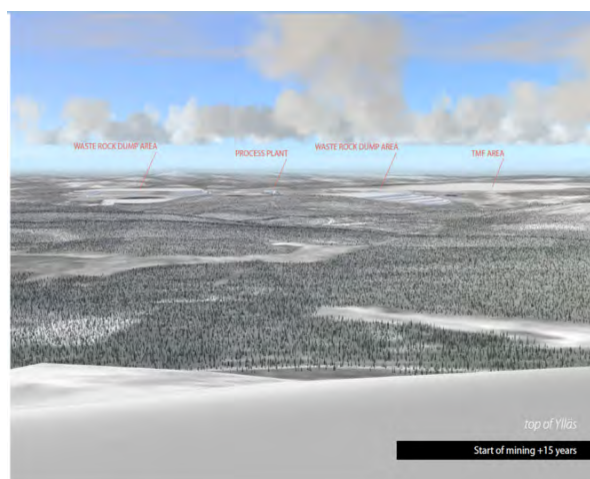


Figure 4. Screenshot from the 3D visualisation model

The Social Impact Assessment was done with three focus areas; local residents, reindeer herders and a regional macroeconomic assessment where views of all parties were taken into consideration. A social impact assessment of this scale is not required by Finnish nor Swedish legislation, but was seen as necessary by Northland to meet international best practice and financiers requirements.

A feedback mechanism was implemented early on to ensure that any interested or affected party could get in contact with Northland and have their concern officially recorded and followed up. In addition, at the local level Northland makes sure staff are easily approachable. Community liaison officers in Finland and Sweden ensure that there is a specific person whose focus is community concerns.

Northland also believes that an open approach to discussing even difficult issues is important. In fact it is seen as very important to actively engage also those parties who have different priorities and conflicting values, as the worst possible situation is one where barriers are built and effective and constructive communication ceases.

5.4. Incorporate enviro-social aspects into project design

In addition to undertaking comprehensive baseline studies, in order to have a good understanding of the operating environment, and having a participatory approach to the EIA processes, wherever possible these stakeholder and environmental requirements are taken into consideration in the mine design and planning process. In sensitive cases, such as the water management issues, the planning started from the needs of the recipient (for example the river) and the design propagated backwards to ensure that the processes did not impact on it. Due to this approach for example in the Hannukainen project a principle decision was made up front to not abstract nor discharge to the more sensitive rivers in the area.

5.5. Be a part of society

In both Pajala in Sweden and Kolari in Finland, Northland is very much a member of the society. It is felt important not to be seen as an outsider, but as one party amongst all the others, working for the common good of the community. This approach is strengthened by encouraging staff members to participate in local events, sponsoring community events and clubs, donating to local charity drives and providing summer jobs to local youth. Northland has also held geology and safety courses for local entrepreneurs. In Sweden, Northland sponsors the Luleå ladies basketball team, which is now known as Northland Basket. The aim of this initiative is to encourage women to join the mining industry. As far as possible, visitors to the Kaunisvaara construction site are welcomed, as Northland believes that it is important that the community has the opportunity to see what the operation developing in their neighborhood looks like inside the fence.

5.6. Associations, research projects and participation in developing best practice in the mining industry

Northland participates actively in associations of relevance to the company. An example of such is the Torne and Kalix Rivers Water Protection Association, which is a cooperation body with a joint water monitoring programme for municipalities and operators in the Torne and Kalix river catchment. Northland also participates in industry forums such as SveMin in Sweden and FinnMin in Finland, where mining industry representatives share ideas of best practice and address issues of common concern.

Northland is actively involved in several research projects. One of these is MINERA, a project coordinated by the Geological Survey of Finland (GTK), which aims to develop a holistic risk assessment methodology for the mining industry. The other main project is “Different Land-Uses and Local Communities in Mining Projects”, or Dilacomi, which looks at Social Impact Assessments, land use planning, legislative frameworks and how mining can take place alongside nature-based livelihoods (www.ulapland.fi/dilacomi). Northland will participate as the mining industry representative in a project that is headed by the Reindeer Herding Association of Finland and financed by the Regional Council of Lapland to develop a best practice guideline for undertaking reindeer herding impact assessments. In

addition, Northland is looking at participating in some projects under the Tekes Green Mining umbrella, a research fund aimed at developing sustainable practices around mining. Northland's objective is that by participating in research, inside knowledge and experience in frontline best practice development will be gained, and Northland can for its part contribute to improving the practices and ultimately social acceptance of the mining industry in general.

6. The Way Ahead

Northland's projects are instrumental in the economic development process of the region on both sides of the border. The operations are designed using best available technology and will be operated according to best practice. Northland's approach is to maximize the benefit for both the owners and the society by combining best possible performance in all three aspects of sustainable development, economy, environment and social aspects.

Northland's projects are still in the stages of mine planning, permitting and construction. Northland recognizes that it still has a long way to go in developing its safety and environmental management systems, and that the work towards obtaining and maintaining a social license has only just started.

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