



NEXT

New Exploration Technologies



POLICY BRIEF

**THE IMPORTANCE OF EXPLORATION
TECHNOLOGY, SOCIAL AND SAFETY RISKS,
AND EARLY PARTICIPATION OF CIVIL SOCIETY:
FACTORS AFFECTING LOCAL ATTITUDES
TO MINERAL EXPLORATION**

The EU Horizon 2020 funded project NEXT (New Exploration Technologies) highlights the possibilities of exploring for raw materials in Europe in the most sustainable and socially sensitive way leading to an extension of the knowledge of existing deposits in Europe. NEXT will enhance our understanding of the mineral systems and develop new more sensitive exploration techniques.

“Exploration is...hope associated with risk, that’s the way it is, and it is obvious that we all wish the community to endure and it can only endure if there are jobs, and yet, there is a risk that our fantastic nature to a considerable part disappears, there will be a hole in the ground.”
(Village association, Gällivare, Sweden)

“Overall, I feel they are more environmentally friendly, the new technologies. Mainly, diamond core drilling becomes a relatively large physical stress directly on the ground. And, neither flying is very environmentally friendly. So, I see no disadvantages with these technologies. But, only positive to replace the old...”
(Local business, Gällivare, Sweden)

“At the moment we just wait for the results. You cannot do anything else as we are not professionals and no one really knows what there is under the rock.”
(Local business, Ylitornio, Finland)

“Yes, well, in terms of nature, it is always terrible, but what are we to live off, I am still there, I become so hesitant when, I just feel that there has to be exploration because how else are we to know where there is ore, and that is part of what we actually make a living from.” (Village association, Gällivare, Sweden)

“Mining is what it is, a damage that already exists – exploration is something that is associated with uncertainty about what is going to happen... It is an anxiety...first about the direct damage and then the psychological damage [associated with anxiety for a possible mine] which one has to live with...”
(Sami reindeer herder, Gällivare, Sweden)

“I have been hunting there sometimes and haven’t seen [traces of anything]. Impacts are non-existent at this moment if you compare to clear-cutting – you can see it much more.” (Village resident, Rovaniemi, Finland)

Social License to Explore in a European Union (EU) context

Social License to Explore (SLE), derived from Social License to Operate (SLO), refers to the relationship between mineral exploration companies and the communities where the exploration takes place. In 2019, the European Commission launched the European Green Deal with the aim to make Europe climate neutral by 2050. This action plan provides a roadmap for making the EU’s economy sustainable, with actions to:

- (1) boost the efficient use of resources by moving to a clean, circular economy, and
- (2) restore biodiversity and cut pollution.

As this transition is expected to boost the demand for minerals, better knowledge of the occurrence and economic potential of mineral deposits within the EU is required. In this context, it is particularly important to govern mineral exploration in ways that are effective and legitimate. It is also critical to better understand the factors affecting local actors’ and citizens’ attitudes towards exploration – and how attitudes to exploration relate to acceptance at later stages of the mining cycle (SLO).

The outcomes described below build further on our NEXT policy brief which focused on the importance and effectiveness of practices used to assess social impacts and interaction with communities at the exploration stage. Here, we investigate in more detail local actors’ and citizens’ perceptions and attitudes to exploration and exploration technology in three local case studies in Northern Sweden and Finland. The results are based on interviews with local organized actors, e.g. business associations, environmental organizations, village associations, trade unions, indigenous organizations, and survey responses from residents in the three locations.

Exploration seen as part of the mining cycle

Exploration and mining are typically understood as different, yet interlinked activities: exploration aims at mine development and maintaining mining in places with existing mines presupposes exploration. Therefore, local actors’ and residents’ attitudes to exploration and mining tend to follow each other.

Varied knowledge about exploration and technologies

Local actors’ and residents’ knowledge about exploration vary. Especially in places where no mining takes place, it was described as a distant or abstract activity. Even in Gällivare, Sweden, where several operating mines exist, many people had little knowledge about exploration technologies. New, less intrusive exploration technologies are welcome and proactive information can generate active interest and advance acceptability of exploration activities. However, other factors appear to be more important to forming local attitudes.

Attitudes to exploration are linked to values and perceived impacts

Individual values about nature, economy, and visions for future development of the local community shape attitudes to exploration and mining. How local actors and citizens assess the balance between negative and positive impacts associated with exploration - and possible mining - seem to be most important. Local values, visions and assessments of impacts vary from place to place and are context dependent. Exploration is not associated with major safety risks but causes uncertainty about the future development of the community, anxiety for environmental risks and impacts, and expectations about future economic benefits.



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Expectations about
future economic
benefits



Anxiety about
environmental impacts
and risks

The **balance** between negative and positive impacts associated with exploration - and possible mining - seem to be most important

Policy and legislation affect trust and legitimacy

Local actors' experiences and perceptions of the government, authorities and regulatory system affect their trust in the permitting processes and the legitimacy of permit decisions. Actors also establish a connection between mining related experiences of the regulatory system and its capacity to handle exploration related issues. If local actors experience inconsistencies in implementation, weak environmental regulation or insufficient mechanisms to ensure fair compensation and benefit sharing, it can affect their trust in mineral governance.

Company-community engagement can affect attitudes

Corporate conduct and reputation, as well as the quality of company-community interaction, are important and can affect understandings of, and attitudes to, exploration and mining. Sufficient information and quality of interaction is a precondition for good relations, and positive perceptions of an exploration company is one factor that drives positive attitudes to exploration (and vice versa). While some actors are likely to remain sceptical regardless of the process or interaction with the company, good communication is always important. Policy can promote proactive and high-quality company-community engagement.

Attitudes towards exploration vary but can be foreseen

The attitudes to exploration were mostly positive in Gällivare, where several mines are in operation, and in Ylitornio, where the population is decreasing and mining related jobs are wanted. In Jokkmokk, Sweden, the attitudes were more mixed and polarized, as exploration and mining, to a higher extent, were seen as threats to indigenous Sami reindeer husbandry and the environment. Assessing "acceptance" is not a simple exercise that results in a straightforward "yes" or "no", and assessments of attitudes in one place, cannot easily be generalized to other places. But, insights about contextual conditions and drivers shaping attitudes can be generalized and help explain, even foresee, local attitudes to exploration and mine-development across Europe.

"...but I can think that it is somewhat flippant how you get permission to explore... If I have understood things correctly, you can only own the surface and what is underneath the surface you don't have any control of, so if somebody comes and wants to explore there and the Mining Inspectorate says yes, well, then you can't do anything about it as a landowner. And I think that is quite horrible that it can be this way..."
(Non-governmental organisation, Gällivare, Sweden)

"It is very good that they have visited our village meetings, explained things and brought expertise and knowledge to the people [living here]." (Village association, Ylitornio, Finland)



Demonstration of exploration technologies in local community



Tree bark sampling for mineral exploration



Snow sampling for mineral exploration



Drone equipped with electromagnetic survey system for mineral exploration

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Policy Recommendations

- Legal compliance and consistent implementation of regulations affect local people's trust in permitting and the involved authorities' performance; policy- and decision-makers can ensure effective and consistent implementation.
- Company engagement affect local acceptance of exploration and mining; policy that encourages or requires high quality interaction at the exploration stage can improve understanding and acceptance of exploration and exploration technology.
- The design of the regulatory system and the permit process affects trust in the permitting processes and the legitimacy of their outcomes; policy makers can adapt the framework to facilitate effective local communication and participation already at the exploration stage.
- Indigenous rights and protocols must be respected; policy- and decision makers can assure that indigenous actors' status as right-holders are acknowledged and affirm that their rights are adequately integrated in mineral exploration and mining legislation.
- Responsible planning and site selection based on overall land use considerations can avoid conflicts. Exploration in tourism-, nature conservation-, sensitive reindeer herding-, and Sámi homeland areas should be approached in an appropriately cautious manner but is nevertheless likely to generate resistance.
- Lack of consent to mineral exploration may reflect different values or visions rather than lack of information or knowledge; policy- and decision makers can make sure mechanisms to make legitimate trade-offs are in place.
- More sensitive exploration technologies are often welcome if they reduce overall impacts and in particular the intensity of drilling; but low or even zero-impact technologies do not necessarily change local people's attitudes to exploration, particularly not in contested locations such as nature conservation areas, tourism destinations or in indigenous territories.

Read more in Beland Lindahl et al. 2021 (in prep). Report on the role of exploration technologies and associated social and safety risks for social licensing: factors affecting local attitudes to mineral exploration, NEXT Horizon 2020.

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