

A GTK–Network for Sustainable Mining Cooperation–Stakeholder Engagement and Sustainability Evaluation for Mineral Exploration

Introduction

As a response for the wave of anti-mining criticism, the government launched the Program for Sustainable Mining (Ministry of Employment and the Economy 2013). One of its consequences was the creation of the Finnish Network for Sustainable Mining. Universities and research institutions founded also projects promoting and investigating sustainable mining (see Eerola 2014 for review). The Geological Survey of Finland (GTK) lead the mining Academy, participated within the Sustainable Acceptable Mining (SAM) project and cooperated with the Network for Sustainable Mining. The fruits of this cooperation are described shortly below:

A model for stakeholder engagement in mineral exploration

The GTK, SAM, and the Network for Sustainable Mining created together a multi-stage and integrated model for stakeholder engagement in mineral exploration (Kestävän kaivostoiminnan verkosto 2015). The model subdivides mineral exploration into four stages: 1. Preparation; 2. Reconnaissance; 3. Mineral Exploration and 4. Rehabilitation (Fig. 1). The subdivision was made according with the Finnish mining law's permit system, that gives the timing for the stakeholder engagement. Each stage has its own specific approaches towards the local stakeholders (Fig. 1).

Sustainability Evaluation System for Mineral Exploration

The GTK and Network for Sustainable Mining cooperation created also the Sustainability Evaluation System for mineral exploration (Kestävän kaivostoiminnan verkosto 2016). It is based on the Canadian Towards Sustainable Mining (TSM) protocol.

Mineral exploration's life-cycle is subdivided into three to four stages, (Fig. 2). The sustainability evaluation is based on four tools: 1. Stakehold-

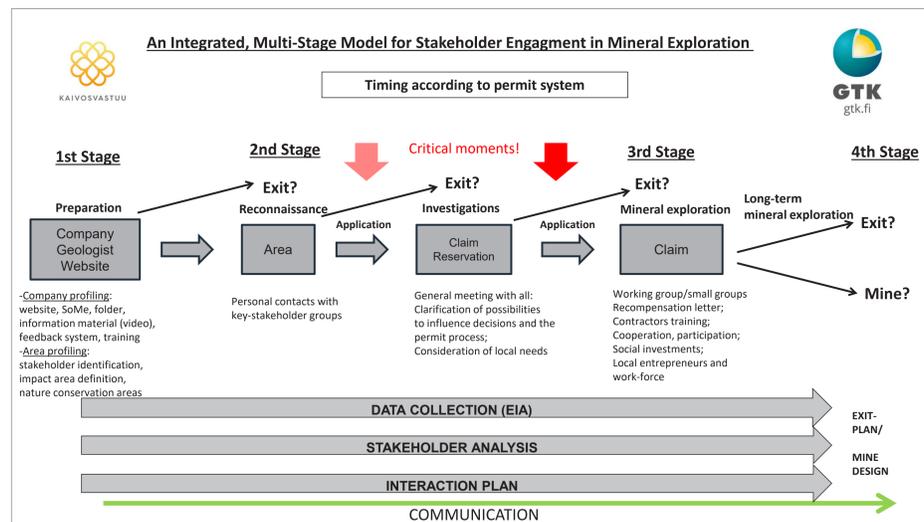


Figure 1. A schematic representation of the multi-stage and integrated model for stakeholder engagement for mineral exploration.

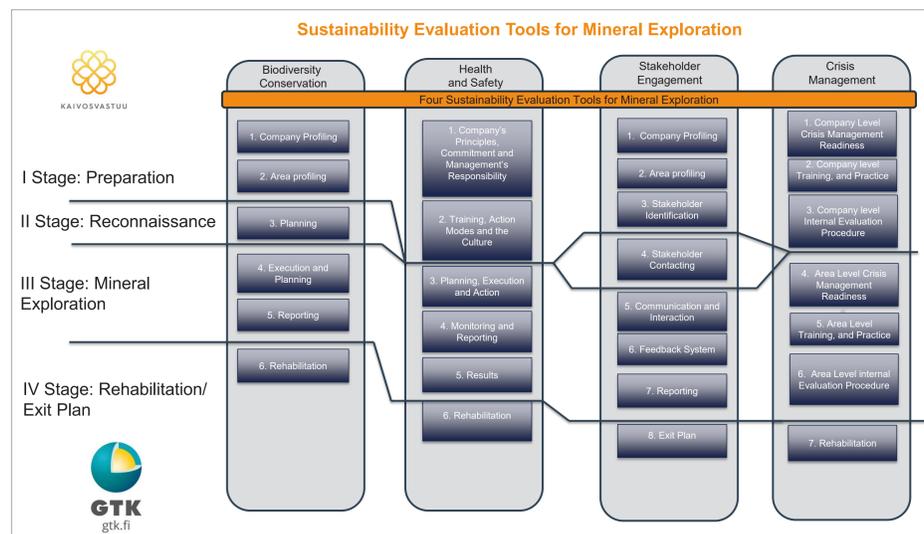


Figure 2. The four tools of the Sustainability Evaluation System. The tools are subdivided according with the stages of mineral exploration.

er Engagement; 2. Biodiversity Conservation; 3. Health & Safety; and 4. Crisis Management (Fig. 2). Each tool

has ranking criterias from C (lowest, following the legislation) to AAA (highest, forerunner, Table 1).

Table 1. Evaluation criteria principles for stakeholder engagement within the Finnish Sustainability Evaluation System for Mineral Exploration.

Stakeholder Engagement PRINCIPLES OF EVALUATION CRITERIA	
Level	Evaluation Principle
C	Activities correspond with the Finnish legislation. There are no systems; actions are usually reactive; there might be procedures in use, but those were not included within documented principles of action and management systems.
B	Actions are not totally consistent or those have not been documented. Systems/Procedures have been planned and those are developed at the moment.
A	Processes have been developed and implemented in all evaluation principles. Communication is open and reporting is public.
AA	Systems/Processes/were included within the board's decision making and activities.
AAA	Systems were considered as excellent and forerunner within the field by a external, independent audition.

Conclusions

Mining and mineral exploration are seen as important economic activities in EU, and Finland, and where the access to mineral resources is crucial. The model for stakeholder engagement, and the sustainability evaluation system were created as attempts to help companies to obtain the social license to operate (SLO) in their mineral exploration in Finland. The first is a guide to approach the local stakeholders. The second one evaluates companies' performance in social and environmental issues. Hopefully those tools will be applied by companies and improve the SLO of mineral exploration in the country. If successfully implemented, those can also be exported and adapted for other countries and regions.

Acknowledgements

Both initiatives were performed and coordinated by the Working Group on Mineral Exploration of the Network for Sustainable Mining, composed by representants of mineral exploration companies, stakeholders, and GTK.

References

Eerola, T. 2014. Kaivostoiminnan vastuullisuuden ja sosiaalisen toimiluvan yhteiskunnalliset tutkimus- ja edistämishankkeet. *Alue ja Ympäristö* 43, 85–95.

Kestävän kaivostoiminnan verkosto 2015. *Malminetsintä: työkalupakki*. <http://www.kaivosvastuu.fi/handbook-2/> [15.10.2015].

Kestävän kaivostoiminnan verkosto 2016. *Malminetsintäjärjestelmä: Arviointityökalut*. Saatavissa: <http://www.kaivosvastuu.fi/malminetsinta/arviointityokalut/> [29.12.2016].

Ministry of Employment and the Economy 2013. *Making Finland a leader in the sustainable extractive industry – action plan*. Publications of the Ministry of Employment and the Economy, Concern 22/2013, 55 p. <https://tem.fi/documents/1410877/3437254/Making+Finland+a+leader+in+the+sustainable+extractive+industry+04072013.pdf>

Geological Survey of Finland

Toni Eerola, Senior Specialist, GTK, tel +358295032155, e-mail:toni.eerola@gtk.fi

