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Post-print version of the article:

Lyytimäki Jari, Peltonen Lasse (2016). Mining through controversies: Public perceptions and the legitimacy of a planned gold mine near a tourist destination. *Land Use Policy* 54: 479-486. DOI: 10.1016/j.landusepol.2016.03.004

<http://dx.doi.org/10.1016/j.landusepol.2016.03.004>

Accepted 2 March 2016

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Mining through controversies: Public perceptions and the legitimacy of a planned gold mine near a tourist destination

Abstract

The economic, social and ecological implications of the extraction of mineral resources have been increasingly discussed under the heading of the social licence to operate. In Finland, critical public framings characterised by impressions of failed economic promises, unreliable technology and environmental hazards have dominated the recent mining debate. Operators probing for opportunities to establish new mines have faced critical public reactions. Changes to legislation, natural resource management and corporate responsibility have been demanded in order to effectively address environmental concerns and local social acceptability issues. We studied media representations and planning documents in order to identify the variety of publicly presented concerns related to a planned gold mine and mining company's social licence to operate. Our case study focuses on the planning processes of a gold mine adjacent to an important tourist destination in the Kuusamo municipality in north-east Finland. We highlight the role of public debate on the formation and erosion of legitimacy and the fragility of the social licence to operate.

Keywords: Communication; Mining industry; Natural resources policy; Newspaper coverage; Planning; Public perceptions

Highlights

- Legitimacy and social licence to operate are key issues for land use policies
- Social debates related to land use planning in the mining sector are studied
- Public criticism can be a valuable asset for developing natural resource management
- The concept of legitimacy helps to connect social licence to operate with wider social concerns

50

51 1. Introduction

52

53 The mining industry intensively modifies surface and subsurface areas, affects regions
54 far beyond mining sites through atmospheric emissions and hydrological cycles, and has
55 a wide impact on local economies, social structures and cultural values. Critical public
56 debate often accompanies the planning, construction and operation of a mine, and
57 controversies may also emerge during or long after the closure of a mine (Hilson, 2002;
58 Worrall et al., 2009). These public debates may remain as mere discursive acts without
59 any discernible impact on mining operations, or they may directly or indirectly lead to a
60 refocusing of mining schemes or even the cancellation of operations. Through intensive
61 media reporting and various online and social media applications, local-level public
62 controversies can gain wider attention at national and international levels, especially if
63 conflicts between different societal sectors – such as mining and tourism – are involved
64 (Urkidi, 2010; Tiainen et al., 2014). As noted by McLennan et al. (2014), even though
65 mining and tourism are local issues, they are likely to be reported through national-level
66 media coverage.

67

68 The concept of social licence to operate (SLO) is a framework that allows for the causes
69 of conflict and public acceptance to be organised and articulated. It has been increasingly
70 used to understand the formation of local acceptance or opposition towards mining
71 operations, and to manage conflicts between the mining industry and local communities
72 (Owen and Kemp, 2013; Prno and Slocombe, 2013; Bise and Moffat, 2014; Parsons et
73 al., 2014; Koivurova et al., 2015). SLO refers to the constraints and opportunities related
74 to locally determined societal expectations. It aims to inform conflict management
75 strategies by focusing attention on the activities that local communities consider
76 unacceptable, the need for early and active interaction, transparent disclosure of relevant
77 information, and context-sensitive decision-making that is responsive to local culture and
78 history (Prno and Slocombe, 2013). The concept points to social acceptance and
79 legitimacy beyond formal planning and permitting processes, and highlights the need for
80 learning, not only by the employees of the mining industry but also by the members of
81 local communities.

82

83 SLO was initially used as a metaphor for the ability of communities to resist or stop
84 mining projects (Boutilier et al., 2012). It is typically perceived in terms of local
85 acceptance of mining operations characterised by a set of four steps or linear stages,
86 ranging from distrust and the withdrawal of licences to acceptance, approval and
87 finally trust-creation of the mining company's presence in the local community (Boutilier
88 and Thomson, 2011; Koivurova et al., 2015). In this article, we consider this as an
89 oversimplification. Instead, we claim that the formation of SLO requires legitimation that is
90 a result of many parallel and often non-linear social processes with opportunities for
91 amplification and attenuation. Here we focus on the roles of public debates.

92

93 Social licence, and more broadly, societal legitimacy, is granted to mining companies and
94 operations through various stakeholders (Prno and Slocombe, 2013; Table 1). Legitimacy
95 can be understood as a resource that an organisation must acquire from its environment.
96 Here we take the characterisation of Hybels (1995) as a starting point: the legitimation of
97 an organisation or industry comes from different constituencies through two general
98 types of actions. First, the stakeholders communicate their good (or ill) will towards the
99 organisation and second, they grant (or deny) some kind of resources that are important
100 to the organisation. Here we adopt a broad definition of stakeholder (Mitchell et al., 1997)
101 and consider actors such as government or municipal authorities and the media as
102 stakeholders. Stakeholders such as NGOs or journalists can direct critical or positive
103 public attention towards the company, whereas authorities may have a direct influence
104 through permitting procedures. Stakeholders such as customers may communicate
105 complaints about a product or service and then withdraw their support by boycotting the

106 company. Legitimacy is thus coupled with the control of resources that are critical to the
107 organisation, with real leverage.

108
109 The media has not traditionally been considered as a separate constituency of legitimacy
110 (Hybels, 1995). However, the media – and more recently, social media – has an
111 important indirect influence over how various groups and institutions perceive and react
112 to the legitimacy of a given organisation. Legitimation processes involve different
113 discursive underpinnings that highlight and institutionalise certain examples,
114 interpretations, ideologies and narratives (Vaara et al., 2006). Thus, the media does not
115 directly govern resources vital to the organisation, but it does affect constituencies'
116 considerations and decisions over the acceptability of a company and its plans and
117 operations, leading to concrete measures of support or withdrawal thereof (Vaara and
118 Tienari, 2008; McLennan et al., 2014; Lyytimäki and Assmuth, 2015).

119
120
121
122 Table 1. Legitimation as control of resources by stakeholder groups in the mining sector
123 (compiled based on: Hybels, 1995; Mitchell et al., 1997)

Key stakeholders	Examples of resources controlled by stakeholders
Authorities (state/municipality)	Legislation, regulations, permits, subsidies, taxation, contracts
The public (local communities)	Patronage (as customer), support (as community interest), labour
Finance sector (investors)	Investments
Other industries (e.g. tourism)	Intensity of competition, indirect control by influencing other stakeholders
Media (including social media)	Indirect control by influencing other stakeholders, informing, framing

124
125
126 SLO and the legitimacy of mining operations have been studied predominantly from the
127 perspective of developing economies and corporate social responsibility (e.g. Dashwood
128 and Ptoplampu, 2010; Hanna et al., 2016). Here the focus is on an industrialised but
129 sparsely inhabited northern country and on public debate. The mining sector in Finland
130 stagnated at the end of the 20th century, but experienced a revitalisation after the turn of
131 the millennium. The amount of functioning metal ore mines increased from six to twelve
132 between 2007 and 2012 and over 30 global companies have recently carried out
133 exploration for further deposits (Wessman et al., 2014). The best-estimate future scenario
134 shows continuous growth of the industry and it has been estimated that the metal mining
135 industry has the potential to provide benefits, especially in economically regressive areas
136 (Tuusjärvi et al., 2014). Management of the environmental and economic risks and
137 maintaining the industry's social licence to operate have been identified as key
138 challenges (Jartti et al., 2012; Tuusjärvi et al., 2014).

139
140 Public criticism towards the mining industry has intensified in Finland during recent years.
141 One mine in particular has influenced the critical tone of the public debate (Rytteri, 2012):
142 The Talvivaara mine, situated in Sotkamo, in the eastern part of the country, was first
143 welcomed – both locally and nationally – as an economically promising large-scale
144 investment with innovative domestic bioheapleaching technology to extract the metals
145 from ore. The planning phase, the construction of the mine and the commencement of
146 production in 2008 did not draw major public criticism (Meriläinen-Hyvärinen et al., 2012).
147 Critical debate started in 2010. That was first mainly related to the planned uranium
148 production from the by-products of the mine. In addition, the occasional odour nuisances
149 and deterioration of water quality in nearby watercourses attracted criticism. A major leak
150 from the gypsum waste pond caused severe water pollution in 2012 and several

151 subsequent environmental management failures intensified the debate (Tiainen et al.,
152 2014). The critical tone was strengthened by the very poor economic performance of the
153 mine.

154
155 Largely because of the high-profile media debate related to the Talvivaara mine, the
156 mining sector as a whole has recently been discussed under critical public framings. As a
157 reaction to the critique, various activities for improving environmental management
158 practices, environmental performance and the public image of the mining sector have
159 been launched. For example, in addition to traditional forms of environmental
160 governance, the Finnish Ministry of the Environment launched a voluntary stress test that
161 was conducted on nearly half of all Finnish mines (Välisalo et al., 2014) and the Ministry
162 of Employment and the Economy has launched a sustainable mineral industry action
163 programme (Jokinen, 2013).

164
165 This article studies how the legitimacy forming the basis for the social licence to operate
166 is created or eroded while the land use planning processes of a new mine take place. We
167 focus on public perceptions and local debates that inform us about, or advance or
168 oppose the plans for gold mining. We ask who the actors occupying the public discursive
169 space are and how they aim to create, stabilise or destabilise the legitimacy of the
170 planned mine and the mining sector more generally. The main focus is on the views
171 presented as a result of the Environmental Impact Assessment (EIA) process and on the
172 roles of traditional media and online debates to create framings that legitimise or
173 delegitimise the mining industry. We identify key issues and concerns that are framed as
174 relevant by different actors on different platforms of communication. By frames, we mean
175 ways of selecting and highlighting certain aspects of a perceived reality and to
176 intentionally or unintentionally promote a particular problem definition, causal
177 interpretation, moral evaluation or recommendation (Entman, 1993).

178
179 Our discussion is based on newspaper coverage, online debate and planning
180 documents. We employ a case study approach and focus on the municipal-level planning
181 process in Kuusamo, north-east Finland. It should be noted that some of the lessons
182 from the case are directly applicable only to the Finnish planning and management
183 context. Here we focus on the more widely applicable lessons related to public debates.
184 Our study contributes to the critical discussion of the concept of the SLO and the
185 formation of legitimacy.

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188 *2. Materials and methods*

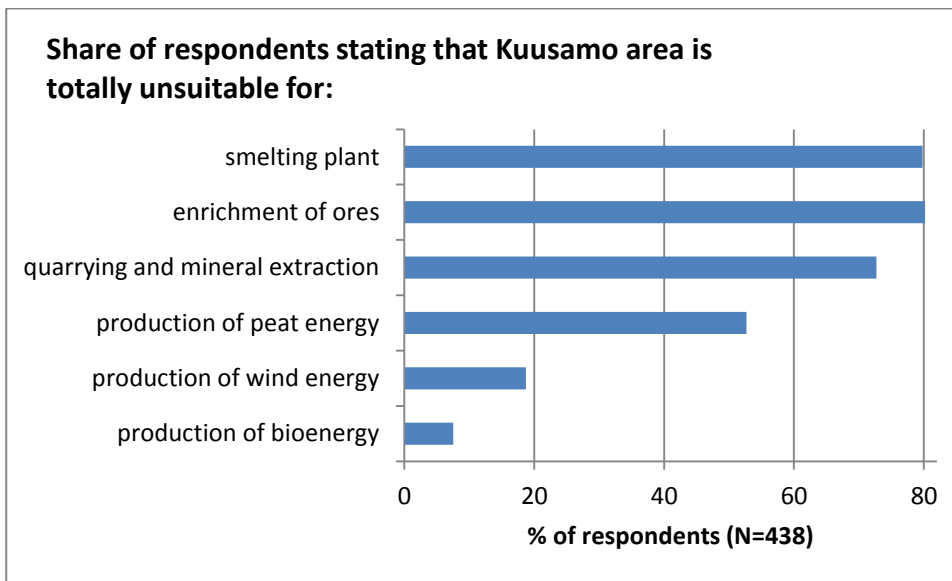
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190 *2.1 The case context*

191

192 This analysis is based on the multiple-material case study approach. Materials focus on
193 public debate and include data from newspaper and online debates, and views presented
194 in planning documents. The study area is the municipality of Kuusamo in north-east
195 Finland. The municipality has almost 16,000 inhabitants and it covers a land area of
196 4,978 km². About two-thirds of the population live in the town of Kuusamo. Most of the
197 land area is sparsely inhabited rural areas and forests. Oulanka National Park is situated
198 in the northern part of the municipality. The main economic sector is tourism, with about a
199 million tourists visiting the area each year. The most popular tourist destination is the
200 winter ski resort of Ruka. Other key economic sectors include forestry, reindeer
201 husbandry and small industries. The unemployment rate has been around 12% in recent
202 years (Statistics Finland, 2014; Ruka-Kuusamo matkailuyhdistys, 2013). The permanent
203 residents of Kuusamo municipality as well as the owners of second homes living
204 elsewhere have shown critical attitudes towards the plans for a new mine (Sweko, 2014,
205 Fig 1). One key explanation for the criticism is the perceived risks of the mine to the
206 tourism sector. It has been estimated that the number of annual visits of domestic nature-

207 based tourists to Kuusamo will fall to about half if the mining plans are implemented
208 (Hietala et al., 2014). This would lead to a decrease in employment and wages in the
209 tourism sector equalling the increase in employment and wages brought about by the
210 mine.
211
212



213
214 Figure 1. Attitudes towards different types of land use in the Kuusamo area (source:
215 Sweko 2014).
216

217
218 The Kuusamo mine, planned by the Australian-based Dragon Mining Oy (formerly Polar
219 Mining Oy), is a potentially important new investment in the area. The metal deposits –
220 gold in particular – in the Kuusamo area were discovered in the mid-1980s. A Finnish
221 state-owned company (Outokumpu Oy) acquired the prospecting rights in 1990 and
222 examined mining options until 1994. However, mining activities were not started and the
223 company renounced the prospecting rights. Dragon Mining Oy conducted wide
224 explorations between 2010 and 2013 with more promising results. The company has
225 valid mining licences for five deposits, the largest being the Juomasuo deposit.
226

227 The Environmental Impact Assessment (EIA) process for the gold mine required for the
228 environmental permit was initiated in 2011. The ore input of the planned mine is
229 approximately 500,000 t/y. According to the mining company, gold is considered the only
230 economically potential metal, but the EIA process also includes an evaluation of the
231 potential impacts of producing a cobalt-bearing concentrate. It is specifically emphasised
232 that ‘the Company is not contemplating uranium extraction or producing uranium-based
233 products.’ (Dragon Mining, 2013: 8).
234

235 2.2 Materials

236

237 Various data sources illustrating the level of public acceptance were used in order to
238 examine the case (Table 2). The planning documents studied here include comments
239 made during the assessment programme of the EIA for the Kuusamo mine. This material
240 consists of the summaries of statements by municipal or expert organisations and
241 summaries of opinions by private individuals or non-governmental organisations (NGOs)
242 as compiled in the official statement of the EIA authority (North Ostrobothnia Centre for
243 Economic Development, Transport and the Environment) (ELY, 2011). The purpose of
244 this material is to provide information on the views presented in the context of the
245 planning process.
246

247 In addition to planning documents, the media debate is studied. Representations created
248 by the media – including various social media applications – both reflect and influence

249 public and policy agendas (Anderson, 1997; Cox, 2010). Issues and risks related to
 250 mines are brought to people's attention and are amplified or attenuated largely through
 251 the media. Media material was selected from the leading local newspaper of the area,
 252 Koillissanomat. It is a daily newspaper with a circulation of 6,449 in 2013
 253 (Levikintarkastus, 2014). Material was collected using keyword searches from the
 254 newspaper's online archive. After testing several search strings, keywords denoting gold
 255 mining (kultakaivo*) and the place of the planned mine (juomasuo*) were selected. Data
 256 collection stopped in August 2014 and all preceding hits were included. It is possible that
 257 some news items related to the case but not containing the keywords tested here
 258 remained outside the sample. However, we consider the sample adequate to identify the
 259 key phases of the debate.

260
 261 The news stories were analysed to generate a long-term overview of the public
 262 discussion. Online debate sparked by one newspaper item was analysed to provide a
 263 snapshot of a more interactive and informal debate. The studied online debate was
 264 based on a newspaper column entitled 'Hysterical people disappointed with EIA'
 265 (Hysteerikot pettyivät yvaan, published on 13 December 2013), published both online
 266 and in the printed newspaper. It was felt that the publication of the EIA report was a
 267 focusing event influencing the public agenda-setting and opinion formation (Birkland,
 268 1998). All 44 comments published in the newspaper's discussion forum on this column
 269 were analysed. The number of online comments can be considered relatively high for a
 270 local newspaper with a limited readership.

271
 272 Both the document and media analysis followed the standard content analysis approach
 273 (Krippendorff, 2004). Materials were screened for the key issues presented, the overall
 274 tone towards the mining industry, and the key frames of concern. The coding scheme
 275 included an element of subjective interpretation. Cohen's kappa was used to test
 276 intercoder reliability. The test showed perfect consistency between two researchers on
 277 the main subject of the news item ($\kappa=1.00$), and good consistency on the overall tone
 278 ($\kappa=0.74$) and key actors ($\kappa=0.64$) of the news item (Landis and Koch, 1977). The chi-
 279 square tests were used to identify statistically significant differences between binary
 280 coded variables.

281
 282

283 Table 2. Characterisation of the material

<i>Type of material</i>	<i>Actors presenting their views</i>	<i>Number of units</i>	<i>Timing</i>
Representations by local newspaper	Newspaper editors, writers of the letters to the editor	124 media items	Oct 2010 – Aug 2014
Online debate	All people active in the online environment	44 online comments	13 – 29 Dec 2013
Summaries of views presented in the EIA process	Limited to actors with a potential interest in the proposed project	50 summaries of statements or opinions on the assessment programme	29 Apr – 31 May 2011

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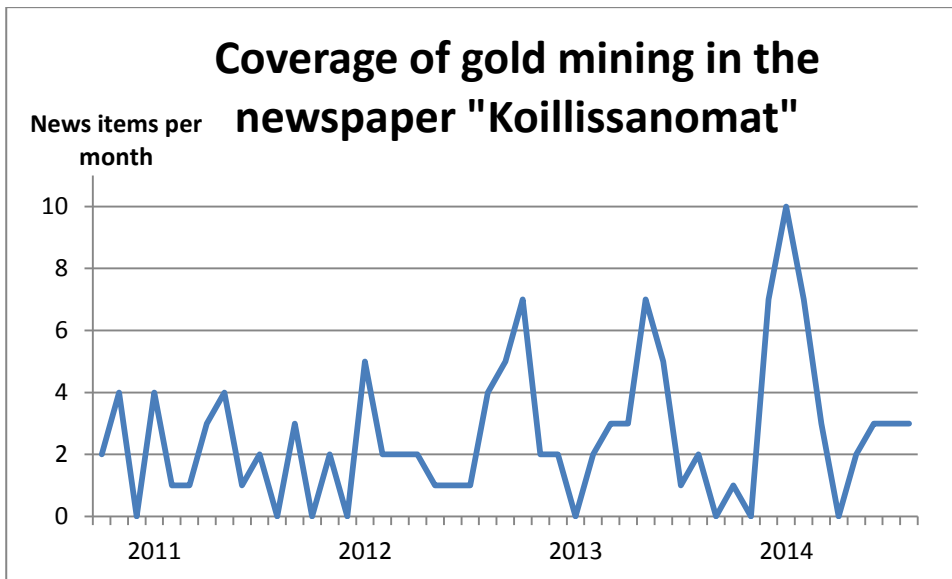
3. Results

288 The debate related to the planned gold mine in the Koillissanomat started in late 2010
 289 (Fig 2). The coverage was relatively stable during the early phase of the debate in 2011.
 290 The coverage increased during late 2012, largely because mining issues were discussed
 291 as one of the themes related to the municipal elections. The second intensive phase of

292 discussion in mid-2013 was related to the preparation and release of the EIA report on
293 the mine. This intensive debate continued in early 2014. The coverage thus followed a
294 cyclical pattern, revolving around critical events relevant to the support of the gold mine
295 project.

296
297 The overall number of news items in our sample was 124. Over half (58.9%) of the
298 sample consisted of news stories, while the rest were letters to the editor or columns by
299 newspaper editors or external writers. The majority (83.9%) of the items in the sample
300 focused on mining issues. The rest focused on other issues and mentioned mining as a
301 side topic. The items with mining as a side topic often presented mining activities as
302 examples of negative development, and were more critical towards mining plans than the
303 items focusing on mining issues ($\chi^2=7.63$ $df=2$, $p=0.022$).

304



305

306 Figure 2. Coverage related to the planned gold mine in Koillissanomat.

307

308

309 Over half (52.4%) of the coverage had a neutral tone towards mining while 40.3% had a
310 critical tone and 7.3% positive tone (Fig. 3). The overall tone of the debate changed over
311 the years ($\chi^2=16.61$, $df=8$ $p=0.034$). A neutral or positive tone towards the planned mine
312 dominated during the first years of the debate, while a negative or neutral tone dominated
313 the last years.

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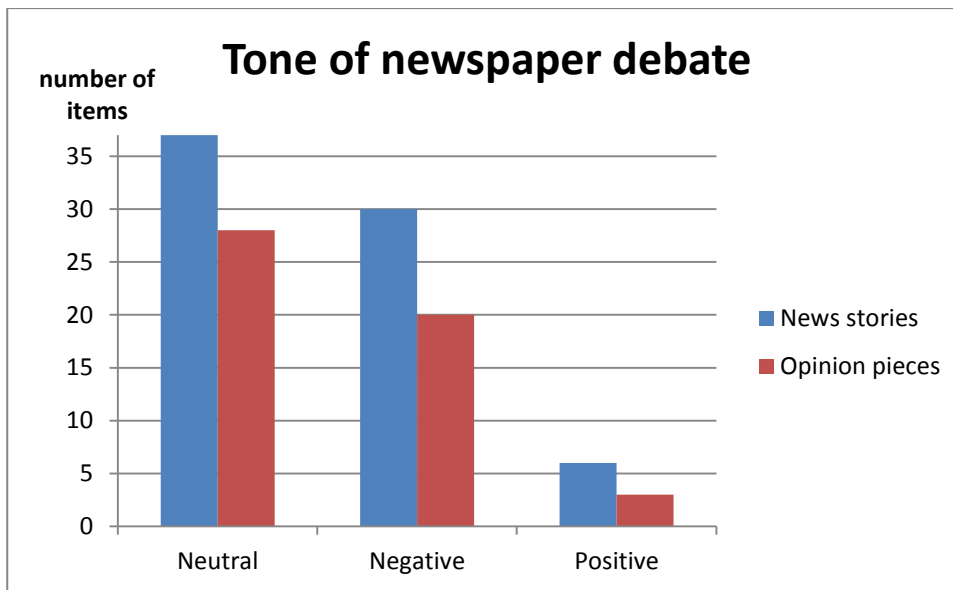
315 Criticism was mainly related to the environmental risks of the planned mine. Potential
316 risks related to water quality, dust and odour problems were emphasised. Risks related to
317 uranium were highlighted even though there were no official plans for uranium mining.
318 Environmental risks were highlighted by taking the Talvivaara mine in eastern Finland as
319 a reference point. A considerable share (N=17) of the sample mentioned the Talvivaara
320 mine, all with a negative tone. For example, a letter to the editor entitled 'Talvivaara
321 forces us onto tiptoes' (11 Nov 2012) emphasised the need for caution and careful risk
322 assessment. A news item entitled 'Decisions needed at Juomasuo' (1 Jan 2012) took the
323 Talvivaara case as a cautionary example of public image control and highlighted the fact
324 that the actual performance of the mining sector is better than the reputation that had
325 been ruined by the problems at the Talvivaara mine.

326

327 The high level of scepticism towards the efficiency of environmental management and
328 environmental technology of the mining industry was clear, particularly in the letters to
329 the editor. However, the majority of the opinion pieces framed the mining industry in
330 neutral tones. For example, a column entitled 'People must be asked about the mine' (10
331 Jan 2014) demanded that the local people be consulted, partly in order to prevent the
332 escalation of local controversy to the national or even international level. However, the
333 column did not express a clear opinion for or against the mine.

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All the news items that took a positive stance towards the mining industry highlighted the potential benefits to the local economy and employment. However, the economy was also presented as a rationale for opposing the new mine. Both the negative impressions related to the planned mine and actual risks related to the mining industry were raised. The former included potential image damages and economic loss to the tourism industry, and the latter the direct and indirect costs related to potential environmental damages.



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Figure 3. Overall tone of the coverage towards mining industry in the local newspaper Koillissanomat

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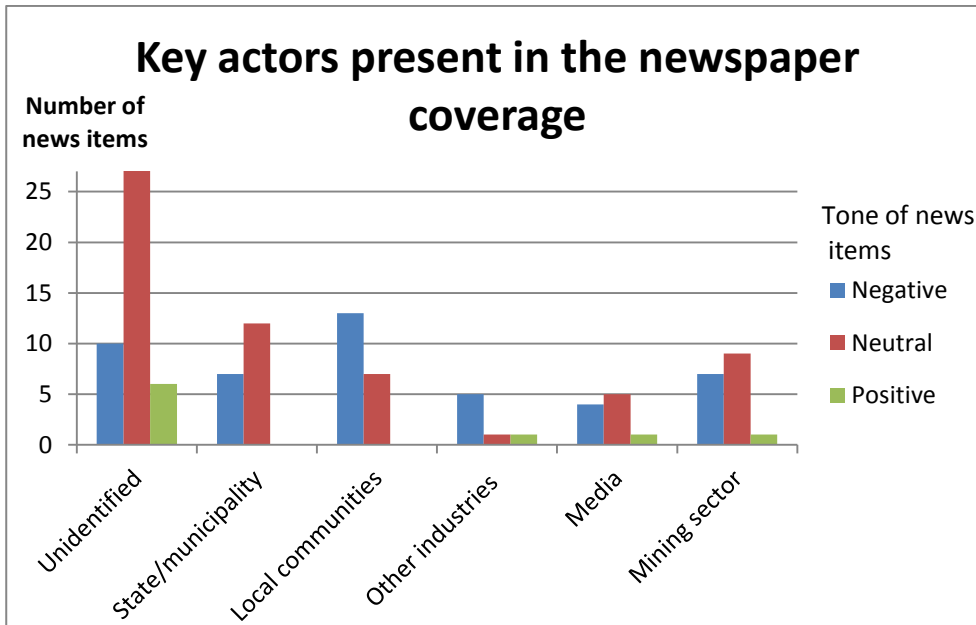
The key actors defining the issue and creating the framings in our sample were journalists and private individuals writing letters to the editor or comments in social media. However, a wider set of actors presented their views through the newspaper coverage as interviewees or information sources (Fig. 4). Over a third (36.3%) of the newspaper sample did not contain any dominant actor that could be identified from the title or first paragraph of the news item. These news items took a neutral or positive tone towards mining more often than the news items with a clearly identifiable dominant actor ($\chi^2=11.28$, $df=2$, $p=0.004$). This suggests that the actors with a strong negative view are likely to end up as interviewees in the news industry – emphasising the idea that ‘bad news is good news’ (Lowe and Morrison, 1984). Since the debate was focused mainly on the local level, the most commonly featured actors were the municipal policy-makers and members of local communities. The tone of the news items with local level actors as key information sources was more critical than the tone of other news items ($\chi^2=6.71$ $df=2$, $p=0.035$).

361

Actors representing regional administration and national-level policy-makers were present only occasionally – when the EIA authority issued its decisions and when the minister for the environment commented on mining issues during trips to the region. The news items with representatives of the local community as dominating sources were often critical towards the mining industry. The finance sector and investors were not directly present in our sample. Perhaps surprisingly, the other industries, notably tourism, were discussed more by other actors than the representatives of the relevant entrepreneurs themselves. The passive role adopted by other industries may be explained by the uncertainty around economic impacts of potential mining activities (Hietala et al., 2014). Also, the tourism industry was part of a broader lobbying group and may not have wanted to speak publicly through individual companies. The tone of these news items was generally negative towards the mining industry.

374

375 Over a tenth (13.7%) of the news items had the representatives of the mining sector as
 376 primary actors defining the issue. No statistically significant differences in the tone of
 377 news items were observed between news items with mining sector actors and other
 378 actors as key sources. The overall tone of news items with an emphasis on the views of
 379 the mining sector was typically neutral or negative, with just one news item taking a
 380 positive tone. This suggests that the actors in the mining sectors were unable to influence
 381 the framing of the news, even in cases when they served as the key information sources.
 382
 383



384
 385 Figure 4. Key actors present in the press coverage according the tone of the news item.
 386
 387

388 The comments given to the EIA programme in 2011 ranged from brief statements noting
 389 that there are no major concerns, to general-level expressions of concern opposing all
 390 mining activities. The statements also included detailed technical critique of absent or
 391 misdirected assessment of impacts. The majority of the statements and opinions did not
 392 present direct views for or against the planned mine, but instead presented demands for
 393 issues to be taken into account in the assessment report. The issues ranged from the
 394 assessment of potential archaeological value to the estimation of potential vibration
 395 effects as a result of the mining activities, making the scope of potentially legitimate
 396 issues very wide.

397
 398 Only one of the 50 statements took a clearly positive tone towards the planned mine. The
 399 opinions of private individuals and statements by environmental NGOs were highly
 400 critical. For example, the Northern Ostrobothnia district organisation of the Finnish
 401 Association for Nature Conservation stated that 'The programme clearly avoids
 402 presenting relevant information.' The tone in the statements by expert and municipal
 403 institutions and stakeholders was more neutral, even though various concerns about the
 404 scope and depth of the EIA were presented.
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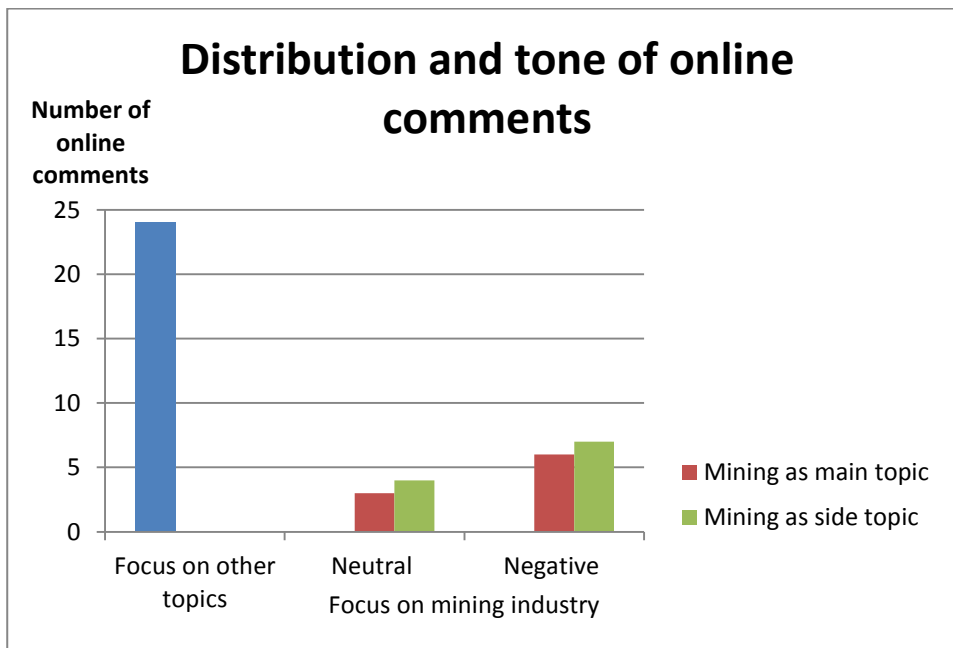
406 The timing of the assessment proved to be a key issue defining the legitimacy of the EIA.
 407 A major shortcoming mentioned by several statements was the lack of information about
 408 the key methods used in the treatment of metal ores. Such information was not yet
 409 available. Other commonly noted issues included the need for further assessment of
 410 wastewater treatment options, the impact on air, water and groundwater quality,
 411 requirements for infrastructure and traffic, impacts on reindeer husbandry, and the
 412 relationship between the mining and tourism sectors. The management of uranium in the
 413 mining waste was raised as a potential problem in the absence of uranium recovery. The
 414 impact on tourism was highlighted together with fears of damage to image because of

415 questions about uranium. The damage to tourism because of concrete dust and noise
416 problems and changes to the landscapes and scenery were also noted as subjects for
417 more in-depth assessment.

418
419 In addition, the presentation of the results from the assessment was strongly criticised.
420 Easy-to-read maps with adequate scale and outlining, and the use of photographs to
421 illustrate the impacts on landscapes were required. Improving the possibilities of the
422 inhabitants and entrepreneurs to follow and participate in the planning was called for. The
423 language of the assessment programme was criticised as being too technical. Several
424 errors and a number of inconsistencies were detected from the material and the layout
425 was criticised as unfinished.

426
427 Despite the critique, the EIA programme was accepted by the EIA authority and the
428 process continued with the preparation of the assessment report. It was released on 11
429 December 2013. The newspaper column that served as a starting point for the online
430 debate studied here was published soon after the EIA report on the mine was released.
431 The online debate consisted of 44 responses to the column and it was characterised by
432 critical overall tones. However, over half (54.5%) of the online comments focused on
433 issues other than the mining industry or the EIA report. These comments contained
434 arguments directed at people rather than issues, and commonly used ironic or satirical
435 expressions aimed to ridicule the opponents. In particular, the ability of the newspaper to
436 serve as a trustworthy and objective communication platform was questioned because of
437 the critical views towards people opposing the plans presented by the editor-in-chief who
438 wrote the column. The majority of those comments focusing on the mining industry were
439 critical (66.7%), as were the majority of comments mentioning the mining industry as a
440 side topic (63.6%) (Fig. 5).

441



442
443 Figure 5. Topics and tone of online comments sparked by the newspaper column. Note
444 the absence of comments with a positive tone.

445

446

447 The EIA authority received 225 comments and opinions concerning the EIA report,
448 including ones with several signatories. This can be considered as a high number in the
449 Finnish context. The responses were again critical of the planned mine. In addition, the
450 quality of the assessment report was criticised as poor, and several errors were pointed
451 out. The final decision was given in June 2014 (ELY, 2014). The EIA authority found that
452 the report contained significant shortcomings and that the instructions given based on the
453 assessment programme were not fully adhered to. Therefore, the assessment report was
454 not approved and it was returned for preparation. In practice, the process was taken back

455 several steps since a satisfactory EIA is the precondition of permitting the mine. This
456 exceptional decision did not cause a major peak in newspaper coverage. Dragon Mining
457 Oy publicly estimated that the additional studies required by the EIA authority would
458 cause a delay of several years (Koillissanomat, 4 July 2014). After this, the company
459 closed down its local office in Kuusamo. In August 2014, Finland's minister for the
460 environment visited in Kuusamo area and stated that he did not believe that the mine
461 would be established (Koillissanomat, 4 August 2014). At the same time, the national
462 economy and the mining sector were going through an economic downturn, which meant
463 that the future of the mining project remained uncertain. This situation prevailed during
464 the year 2015.

465
466

467 *4. Discussion*

468

469 The media is an important legitimisation arena for organisations (Vaara et al., 2006).
470 However, it is often fickle. Attention given to certain issues and the tone of the debate are
471 prone to rapid changes. The cyclical pattern of debate shown in our case study
472 resembled the development of other recent mining disputes in Finland (Tiainen et al.,
473 2014), as well as other environmental debates related to projects affecting land use
474 (Lyytimäki and Assmuth, 2015). This cyclicity can be caused by various factors such as
475 environmental accidents, policy events or campaigns, economic development or changes
476 in public attitudes. In our case, the changes in the intensity of the public debate largely
477 followed the cycles of municipal decision-making and land use planning. The EIA process
478 provided local actors with opportunities to present their views and motivated journalists to
479 include the issue in the news agenda. Our analysis also showed that the critical tones in
480 the public debate and the media used the tailings dam failure and other problems at the
481 Talvivaara mine as a reference point. Thus, the Talvivaara spill served as a 'critical event'
482 for both the Finnish mining sector and opponents to the Kuusamo gold mine. The
483 process of legitimisation was also influenced by the overall economic development and
484 global downturn of the mining industry.

485

486 In our case, the reporting by the local newspaper was relatively neutral towards the
487 planned gold mine. However, the case also highlighted that an actor operating in a
488 resource-intensive sector such as mining is very likely to face public criticism, which
489 eventually leads to partial erosion of the legitimacy and social licence to operate. In
490 particular, the claims presented via new online and social media applications may leave
491 the actor subject to stark criticism with little opportunity to respond effectively. Research
492 focusing on international corporations has suggested that even active corporate online
493 communication in social media is largely unable to build genuine engagement and
494 legitimacy (Colleoni, 2013). Likewise, in Finland, the Talvivaara mine company has been
495 unable to influence the critical public framings and restore the legitimacy of its operations,
496 despite the active communication strategy that was adopted by the company (Tiainen et
497 al., 2014).

498

499 Thus, our results show that because of the media reporting reflecting concerns on
500 various scales, the legitimacy of a local-level issue such as a mine is to a great extent
501 defined by national or even international factors. The critical framings created by the
502 national-level public debate related to the problems at the Talvivaara mine influenced the
503 local-level discussion of the planned gold mine in Kuusamo, despite the clear differences
504 between these two cases. Our results also showed that a local case can influence the
505 public agenda at national level. The Kuusamo case was raised up, for example, by the
506 national public broadcast TV-channel (TV1) that aired a special panel discussion
507 focusing on the conflict between mining and tourism (28 Nov 2013).

508

509 The critical tones of the media coverage, public opinion and responses to the EIA report
510 show that the gold mine project has been contentious since the beginning. This seems to

511 echo the observations by Boutillier et al. (2012) that local communities are often divided
512 in their opposition/support for mining, but, overall, mining has become increasingly
513 difficult to justify, especially in communities with prosperous economies. The benefits of
514 mining to local communities are not readily perceived and there is less tolerance towards
515 the environmental and social costs it incurs. In Kuusamo, moreover, the mine was
516 perceived as a threat to another key asset of the local economy: tourism, based around
517 the local ski resort.

518
519 Our results provide further support for the finding that trust is a key issue restricting the
520 co-existence of tourism and mining, as highlighted by the analysis of Australian
521 newspaper discourse (McLennon et al., 2014). In our case, the negative overall framings
522 cast over the whole mining industry, together with the local economic importance of the
523 tourism industry for the region (Hietala et al., 2014), created serious obstacles for
524 corporate communications aiming to convince local actors about the viability of the
525 mining scheme. In addition, the poor quality of the EIA documents compiled by an
526 external consultant firm accelerated the critique and decreased the trust.

527
528 In addition to external events such as the Talvivaara mine accidents, stakeholders who
529 are not local residents play important roles in defining social acceptance and legitimacy.
530 In particular, the mobilisation around the Kuusamo mine shows that interest groups
531 rallying against the mine were not all local. Cottage owners, typically living in Southern
532 Finland and seeing Kuusamo as their recreational landscape, were active and vocal in
533 their opposition. Interestingly, some commentaries questioned the justification of the
534 cottage owners' participation in the debate, on the grounds that they were 'not local' and
535 thus should not be considered as stakeholders in the planning process. However, the
536 cottage owners organised and founded their own association, which points to the fact
537 that the geography of the SLO cannot be strictly bound to the mining locality. Cottage
538 owners may well be affluent and influential, as well as very media-savvy.

539
540 Critical public debate around the mining industry can be seen as a sign of an active and
541 well-functioning civil society, and an important part of the social processes needed for
542 building legitimacy (Kronenberg, 2012; Owen and Kemp, 2013). The existence of the
543 possibility to present public critique is also a precondition for stable social structures
544 needed for making long-term investments in industries such as mining. Active
545 participation by non-governmental organisations and other stakeholders led to delays
546 and changes, incurring considerable costs to the exploration and mining companies.
547 However, such participation can also widen the knowledge base needed for natural
548 resources management. Wide debate including a diverse set of actors may help to
549 achieve the optimal long-term decisions taking into account all relevant information,
550 including local natural, social and cultural conditions. In particular, wide-based
551 participation as early as possible in the planning phase provides a means to reconcile
552 disagreements and identify 'known unknowns' that may otherwise remain unnoticed and
553 aggravate conflicts later on (Gross, 2010; Lyytimäki et al., 2012).

554
555 Perceptions about the importance of and trade-offs between the social, economic and
556 environmental impacts of mining activity can vary significantly (Rytteri, 2012; Rolfe and
557 Windle, 2015). A high capacity for social learning is required in order to create a shared
558 understanding based on different and often incompatible values, aspirations and
559 knowledge bases by various actors. In particular, interactive communication, sensitivity to
560 different perceptions and specific mediation and conflict resolution mechanisms are
561 needed in order to avoid an escalation of conflict and inclusion of different types of
562 knowledge in the assessment and planning processes (Bloodworth et al., 2009; Prenzel
563 and Vanclay, 2014). The results from our case study suggest that the formal EIA
564 process, newspaper debate and online debates lack the ability to serve such integration
565 and social learning.

566

567 Reflecting the contentious character of the Kuusamo gold mine, the public debate was
568 dominated by critical attitudes towards the planned mine. The debate showed little or no
569 sign of social learning or constructive engagement between different parties. In the
570 mining sector, this kind of failure to harness the positive potential of public debate is a
571 common one (Hilson, 2002; Hamann, 2004; Kemp et al., 2011; Tiainen et al., 2014). The
572 disapproval of the EIA report clearly indicated a lack of ability to include and learn from
573 the insights presented during the earlier phases of the planning process. The EIA
574 process can support constructive communication and conflict management, if these
575 functions are acknowledged (Peltonen & Sairinen 2010). It may provide opportunities for
576 collaborative learning affecting all participants, but such learning requires that special
577 attention is paid to adapting participatory methods and knowledge brokerage for a
578 particular context instead of just aiming to fulfil the minimum regulatory demands set by
579 legislation and the authorities (Saarikoski, 2000; Sinclair et al, 2008; Saarela et al.,
580 2015).

581
582 More generally, in our case, the EIA process demonstrated the important role of public
583 authorities in the process of legitimation. Since the mining operation cannot proceed
584 without an officially approved EIA, granting or holding such approval by the authorities is
585 a concrete act of (de)legitimation. This decision is partly informed by the publicly
586 presented stakeholder opinions and complaints filed with the authorities. Since the
587 sufficiency of an EIA process cannot be strictly defined by law, the consideration goes
588 beyond mere legality. Legitimacy, as seen through this lens, is not just a matter of
589 opinion, but a powerful factor in granting social licence to operate.

590
591 The legitimacy and public acceptance of an organisation is indirectly influenced by the
592 media. This ability is, in turn, influenced by the legitimacy of the individual media, which is
593 constituted by factors such as the perceived level of independence from political or
594 economic interests and quality of the media contents (Cox, 2010). An important trend is
595 the development of information and communication technologies towards more
596 interactive forms of communication allowing and inducing additional critique. As our
597 sample showed, the online debates induced by print media contents have the advantage
598 of meta-commentary over conventional print media content. More generally, social media
599 provides a channel of media criticism, thus serving as a measure of the contentiousness
600 and perceived neutrality of conventional media content. Anticipating and learning from
601 this meta-commentary remains one of the key challenges of developing the social licence
602 to operate.

603 604 605 *5. Conclusions*

606
607 In addition to legislative and economic issues, legitimacy and social licence to operate
608 are increasingly important questions in environmental governance and land use policies.
609 The importance of SLO is emphasised partly because of critical debates in traditional
610 media, new social media applications and more participatory planning and governance
611 approaches. Our observations on the use of social media as a meta-commentary on
612 media content, reflecting the acceptability of the framings and interpretations, warrants
613 future research on the effects of social media on the other organisational resources of
614 legitimacy.

615
616 The concept of social licence to operate has originated from the mining sector, but it has
617 gradually been used in other industries too (Boutilier et al., 2012; Bice and Moffat, 2014).
618 In order to be meaningful, the concept should not be seen only as a tool for restraining
619 local opposition or building positive corporate reputation. Instead, it should be used as a
620 conceptual aid for building practices and operations acknowledged as legitimate by all
621 stakeholders. A key issue is the preparedness of the mining industry to communicate and

622 justify planned actions and the willingness to openly engage local communities as well as
623 other stakeholders.

624

625 However, the challenge goes beyond issues of open communication. The ability to learn
626 from other actors is the ultimate key to building social licence to operate and to avoid the
627 erosion of legitimacy of operations. Our case highlighted the importance of including local
628 concerns and knowledge in the planning of operations that potentially affect local land
629 use and livelihoods. Our case study also suggests that conflicts are not necessarily
630 something to be avoided or feared. In most cases related to mining, they are
631 unavoidable, as local communities question the impacts and cost-benefit ratios of mining
632 operations. The emergence of the notion of social licence can be seen as a reaction to
633 such trends, with high demands of transparency, stakeholder engagement, ex-ante
634 assessments, and precautions for environmental and social harm. Therefore, it is very
635 useful to consider conflicts as potential opportunities for social learning.

636

637

638 *Acknowledgements*

639

640 This study was supported by the Sustainable Acceptable Mining (SAM) project funded by
641 the Finnish Green Mining Programme of TEKES. We thank Tuuli Vilhunen for her help
642 with the intercoder reliability testing.

643

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