AVOIDING MINE-COMMUNITY CONFLICT: FROM DIALOGUE TO SHARED FUTURES

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ABSTRACT

Environmental and social conflict in the extractive resource industries can lead to significant costs for both companies and community. On the company side a conflict can lead to delays or rejections of government approval, damaged infrastructure, lost reputation, and in extreme cases shutdown. Community may suffer a loss of cohesion, identity, amenity and health. Mine-community conflict ostensibly arises due to grievances with mining operations. This may take the form of disputes over the relative distribution of costs and benefits, decision making process, the control of the resources under extraction, or competition for the broader social and environmental landscape resources that community and mining may utilise (e.g. conflict over water security in the Huasco Valley, Chile). At essence in most disputes, however, is the perceived and/or real loss of community control over the ability to shape a future consistent with their own vision. When avenues by which a community can assert their future vision are absent or shut down they may pursue actions outside of the political process. In this paper I identify common issues that may generate mine-community grievances and conflict, and draw lessons for avoiding mine-community conflict from case studies where conflict occurred and where potential conflict was avoided. By opening meaningful dialogue, understanding the community's past and desired futures, addressing real and perceived community concerns, and negotiating a space for development within that vision, resource companies may be better placed to avoid conflict with community and the costs that conflict brings.

INTRODUCTION

The extractive resource industries are coming to accept the importance of a social licence to operate yet it is often not clear how one can be maintained. In this paper I investigate common issues that may generate mine-community grievances and conflict, and draw lessons, from case studies, that may help to limit the occurrence, extent and costs of conflict. The aim may not necessarily be to avoid mine-community conflict altogether but to maintain a constructive dialogue to respond to issues early, effectively and proactively and avoid conflict escalation. Community conflict in the extractive resource industries can be reduced in intensity and frequency through effective community relations, engagement and development [10, 19]. This paper does not aim to provide a complete overview of such methodologies or literature[1]. The intention, here, is instead to highlight a number of key issues that may inform these broader processes.

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[1] For more on the role of community relations, community engagement and community development in the extractive resource industries see [1, 4, 10, 16, 18].

Mine-Community Conflict

Mine-community conflict is a relatively familiar feature of the global mining industry. The Peruvian Government Public Defenders Office (*Defensoria del Pueblo*), for example, tracks over 70 mine-community conflicts with around 30% currently active [24], while the *Observatorio de Conflictos Mineros en América Latina* tracks more than 50 mining conflicts in Latin America [21]. Conflict can lead to significant costs for both companies and community. On the company side a conflict can lead to delays or rejections of government approval, damaged infrastructure, lost reputation, and in extreme cases shutdown. Community may suffer a loss of cohesion, identity, amenity and health.

Mine-community conflict ostensibly arises due to grievances with mining operations. Table 1 presents a list of some of the common issues that may generate grievances. Disputes may arise over the relative distribution of costs and benefits, decision making process, the control of the resources under extraction, or competition for the broader social and environmental landscape resources that community and mining may utilise. In their analysis of 38 human rights complaints, the International Council on Mining and Metals found the majority complaints related to health concerns from pollution, Indigenous rights, and security issues. Economic impacts and consultation, however, were found to underlie many of the complaints [14]. The mining industry is beginning to explore mechanisms to manage community grievances [17]. Processes for grievance resolution are an important step toward reducing the occurrence, scale and costs of conflict. Remedying past grievances is often an important part of resolving mine-community conflicts (see for example [6]).

However, conflicts are not exclusively about grievances and understanding the relationships between community grievances and conflict is complex. According to Banks "untangling the causality of, and identifying potential pathways out of, 'resource conflicts' requires a through understanding of the culturally specific ways in which 'resources' are constructed, contested and ultimately accessed" [2]. There are often multiple values associated with landscape resources. In many cases these values are non-economic. For example, changes in water availability may not just affect the agricultural sector but may also result in demographic change and a changing sense of place. Mine-community conflicts may also be implicated in broader or historical conflicts and issues that make it difficult for single mining operation to resolve in isolation of broader efforts [2].

Conflict resolution must be supported by a proactive approach to avoid situations of conflict and community concerns must be identified and acted upon prior to open conflict [11]. At essence in most disputes, is the perceived and/or real loss of community control over the ability to shape the future in their own vision. When avenues by which community groups can assert their futures are absent or shut down they may pursue actions outside of the political process. The following case studies illustrate some of the challenges and opportunities the extractive industries face in avoiding mine-community conflict.

Engaging in Dialogue - The Andacollo Copper Project

The Andacollo Copper Project is operated by Carmen de Andacollo. The mine is currently owned by Canadian mining company Teck, after it acquired the operations from Aur Resources in August 2007. The mine is located in the community of Chepiquilla, around 2 km from the city of Andacollo and 55 km from La Serena, in Region IV, Chile. Chepiquilla is within the city limits of Andacollo. Work on the mine began in 1996. The project is a heap leach copper operation that processes copper oxide and supergene (weathering produced) sulphide ore.

Table 1: Common issues that may generate mine-community grievances

Social and Cultural Change	Population and Demographics	in-migration, out-migration, workers camps, social inclusion, growth or decline of towns, conflict an tensions between social groups
	Social Infrastructure and Services	demands on and investment in housing, skills (shortages and retention), childcare, health, education and training
	Crime and Social Order	corruption, domestic violence, sexual violence, substance abuse and trafficking, prostitution
	Culture and Customs	breakdown of traditional family roles, changing production and employment base, effect of cash economy, reduced participation in civil society, community cohesion, sense of place
	Community Health and Safety	disease, vehicle accidents, spills, alcohol and substance abuse, pollution
	Labour	health and safety, working conditions, remuneration, assembly, representation in unions
	Human Rights	particularly vulnerable and marginalised groups (women, disabled, aged, ethnic minorities, indigenous, young)
	Security	abuses by security personnel (government, contractor, company), social disorder in camps, suppression of demonstrations, targeting of activists
Economic Change	Distribution of Benefits	employment, flow of profits, royalties and taxes, training, local business spend, community development and social programs (and capacity to deliver), compensation, managing expectations, equitable distribution across state/regional/local/ethnic/family groups, cash economy
	Inflation/Deflation	housing (ownership and rents), food, access to social services
	Infrastructure	demands on and investment in roads, rail, ports
Socio-Environmental Change	Pollution	air (e.g. dust), water (e.g. acid and metaliferous drainage, cyanide, tailings seepage, riverine and submarine disposal), noise, scenic amenity, vibration, radiation, traffic, government capacity to monitor and regulate
	Resources (Access/Competition)	land, mobility, water (groundwater, river, ocean), mineral resources (artisanal and small scale mining), cultural heritage, forest resources, human
	Resettlement	consent and consultation for resettlement, compensation, ties to land, adequacy of resettlement housing and facilities, equity
	Disturbance	disruption (including exploration), consultation for land access, frequency and timing, compensation
Process	Consultation and Communication	access to decision makers, transparency, timing, inclusiveness, respect of customs and authority structures, clear reporting
	Consent	indigenous sovereignty (Free Prior and Informed Consent), community consent (tacit or Free Prior and Informed Consent)
	Participation	development of programs, monitoring, selection of alternatives and technologies, planning of operational aspects
	Redress	grievance and dispute resolution, acknowledgment of issues
	Agreements	equity, timely honouring of commitments, issues with delivery, duress, clarity of obligations, capacity and governance (including government capacity to manage income)
	Community Development	consultation, adequacy, appropriateness, capacity to deliver

The leaching piles of the Andacollo copper project are located just 200 m from homes in Chepiquilla. They cover an area of 520,000 m^2 and have a height of 60 m [15]. The sulphuric acid *lixiviant* applied to leach the ore utilised spray technology. The community representative body complained of health problems as a result of the mining operations, particularly respiratory illnesses due to the contamination by dispersion of the sulphuric acid spray. They further argued that pollution from the mine has caused their trees to dry up and for the fruits to

become ill and acidic (at interview, 2003). The health impacts of the spray were confirmed by the Coquimbo Health Service [5].

The direct impact of the pollution was accompanied by a change in community identity. Before the mine community members considered Chepiquilla the *greenhouse* of Andacollo, "We had nice fruits and trees, clean water and people from other places used to come and relax and sightsee" (at interview, 2003). The loss in amenity mobilised the community members. The issues of pollution from the leaching process were brought to the attention of the company and Chilean government authorities without resolution.

Prior to the development, in 1994, a voluntary Environmental Impact Assessment (EIA) was submitted by the then owners Canada Tungsten. The project was approved under the Environmental Framework Law, however, the regulations to guide the approval process had yet to be adopted by the state when approval was granted by the authorities. A number of environmental criteria were thus not applied in this case, including public participation in the EIA process [15, 25]. The location of the heap leach piles was also given approval despite the fact that part of the area was within the city limits and zoned as residential. The municipal authorities were notified of this irregularity by the local community representative body. While the authorities acknowledged the illegality of the location of the mine, the city master plan was modified to administratively resolve the issue without resolving the environmental and social impacts [15, 25].

Following escalation of the conflict the project operators suspended the use of the urban area and attempted to mitigate the impacts of the sulphuric acid application by using a drip system instead of the original spray delivery. The suspension of the spray system was on the order of the Coquimbo Health Service [22] and significantly reduced the scale of the impacts.

According to local community representatives:

Obviously, in the beginning the scale of the environmental impact was larger than nowadays, as the mining company didn't have any care to dispose its waste, they used to irrigate the mine with very fine droplets, and the wind carried further away the pollution...As a result one day all the trees got burnt overnight and neither did they accept responsibilities nor they did anything about it....Nowadays, at least they are a little bit more controlled and the pollution is less dramatic (at interview, 2003).

A simple process of community engagement and participation, during the planning phase, and efforts to profile and understand the community, and the resources they rely on, might have identified the potential for adverse socio-environmental impacts from the spray leaching and prompted the adoption of the alternative drip technology. Such processes may have avoided the conflict and associated costs.

Managing Expectations – The Stuart Oil Shale Project

The Stuart Oil Shale project was a joint venture between an Australian company, Southern Pacific Petroleum/Central Pacific Minerals, and a Canadian based multinational, Suncor, to commission a $250 million experimental oil shale plant and mine near the Central Queensland port city of Gladstone, Australia [31]. Oil shale is a sedimentary rock that is mined for the production of fossil fuels. Airborne emissions released from the project led to health complaints and community opposition, with the conflict contributing to the eventual closure of the facility, hundreds of millions of dollars in lost capital,many hundreds more lost in potential future production, and lost income and benefits to the community. The declaration of the region as a

state development area by the Queensland Government resulted in the closure of the nearby Targinnie community and the resumption of their properties. Recent attempts by the successors of the Stuart Project to develop another Central Queensland deposit were met with a 20-year moratorium by the State government, a direct legacy of the original conflict [29].

The Stuart Oil Shale Project was planned as a three-stage development. Stage 1, a research and development stage, involved the construction and commissioning of an experimental plant. Construction of Stage 1 was completed in 1999. Stage 2 was to involve the up-scaling of the Stage 1 technology, while Stage 3 was proposed to replicate the Stage 2 plant into a commercial scale project. The Stuart deposit is located 15 km north of the city of Gladstone, just 3-4 km east of the community of Targinnie, and 5-6 km north of the community of Yarwun. The community of Targinnie was made up of approximately 150 properties, some rural residential, others deriving an income from fruit growing (mainly mangoes and paw paws).

Prior to the construction of the development, public community meetings were held in association with the Stage 1 EIS. The impression the community held about the development, derived from the community information sessions and communication materials produced by the company, was that the project would not pose any risks to the community. One resident of Yarwun described the characterisation of the project as "you won't even know we're here" [20]. A communications document to the community, separately confirmed by multiple interviewees, stated that 'you won't hear us, see us or smell us' (at interview, 2008).

While the proponents of the project may not have anticipated adverse impacts, characterising the risks of the project in this way was not consistent with information on the process of oil shale extraction and processing available at the time [9], nor with the eventual practice of the plant. Airborne emissions from the plant resulted in health impacts for the local Targinnie community, including irritation of mucous membranes (tingling lips and tongue, dry and irritated throat, burning skin, sore and stinging eyes, runny nose, sinus problems), headache and nausea. These health impacts were confirmed by field officers of the Environmental Protection Agency who on multiple occasions were forced to withdraw from the field due to health effects [28].

Operational changes later reduced the scale of emissions, however, the community conflict continued and was a major factor behind the abandonment of the project. Understating the potential impacts of the project created a false impression, distorting expectations. The less than frank assessment offered during the early community engagement process become an ongoing point of contention and exposed the proponents to a potential breach of trust when impacts were eventually experienced. The loss of trust, furthermore, left a lasting legacy that hampered resolution of the conflict when emissions were later reduced.

Securing Landscape Resources – Pascua Lama

Pascua Lama is a gold, silver and copper mine on the border of Chile and Argentina, 150 km to the Southeast city of Vallenar in the Commune of Alto del Carmen, Province of Huasco, Region III, Chile. The developer of the mine is Barrick Gold (through its Chilean subsidiary Minera Nevada). The processing facilities consist of a combined floatation method (to remove the copper ore) and leach processing (to remove the gold/silver ore).

Huasco Valley, located downstream of the mine, is populated by around 70,000 people [30]. Water for the Huasco Valley comes from the summer snow-melt runoff in the Andes and runoff from the glaciers at the headwaters of the valley. The run-off is important for the livelihood of agriculturists in the valley [7, 26]. Barrick conducted an EIA that was submitted to the Chilean government for approval in the year 2000. The EIA proposed the relocation of ice patches

(remnant glaciers) overlying the deposit [7]. The EIA was approved in 2001. The project, however, was put on hold due to low gold prices [3].

Agriculturalists feared that the mining project would impact negatively on the source waters of the valley. Concerns about water quantity and quality generated an ongoing conflict in the valley [23]. "As residents of the Huasco Valley, our interest is maintaining a permanent ecological balance so that people and farming can develop and prosper," said Mauricio Ríos, president of the Committee for the Defense of the Huasco Valley, a civic group in Vallenar, the provincial capital [30]. In addition to the impact on glaciers and other ice features some community groups expressed concern in regard to the use of cyanide in the processing of the ore, the safety of tailings impoundment facilities in the earthquake prone region, and the potential for acid rock drainage from waste rock disposed at the headwaters of the Estrecho River [23, 26]. In 2004 Barrick sought Chilean government approval for modifications of the project and made plans to begin development [3]. In March, 2005, 500 people demonstrated in Vallenar against the project. The demonstration was the first public demonstration in the city since 1973 [26]. In June of the same year around 2,000 people demonstrated in Santiago and a similar number in Vallenar.

Barrick argued that the project would generate a large number of jobs and would not negatively impact any other activities in the valley, that the project is designed without discharge of water to the environment (on a routine basis), and with leak collection and recovery systems. They argued that any acid rock drainage (ARD) production would undergo treatment before it would be discharged and that the low rainfall in the area would limit the amount of ARD produced [7]. Furthermore the company stated that while some water would be required for ore processing a minority would be derived from the Chilean side [7].

Following the demonstrations Barrick was subject to a broader international environmental campaign. Crucially the legitimacy of the campaign was strengthened by the presence of local concerns about the project, particularly from within the influential *Junta de Vigilancia.* The 2,500 strong *Junta de Vigilancia* is a formal association of water rights holders in the Huasco Valley that has the authority to regulate water use. Members of the group held concerns about the potential impacts of the project on water quality and quantity [7, 27]. Barrick negotiated a protocol with the *Junta de Vigilancia* for the water users in the valley. The protocol was approved by 94% of *Junta* members in 2005 and included a $US60 million dollar compensation fund. The agreement provided greater water security through investments in improved irrigation facilities. As part of the agreement Barrick sought the involvement of the *Junta de Vigilancia* in modifications of the project design, mitigation and monitoring measures.

The regional environmental regulatory body for the region, COREMA, granted conditional approval for the modified project in early 2006 [3]. The approval was endorsed by CONAMA, the national regulatory body in June 2006. The project was redesigned to avoid disturbance of the ice features [7].

The case illustrates that importance of considering the security and livelihood concerns of project stakeholders and the benefits of responding to stakeholder issues. Despite the confidence that the industry had in its environmental management, and the community development and employment benefits of the project, the perceived and real competition for scarce landscape resources such as water motivated significant concern from the existing users in the valley. By making an investment in the future livelihoods of a key stakeholder group a mutually beneficial relationship developed with an important section of the community that previously held concerns about the project.

Shaping Mutually Beneficial Futures – The Clermont Coal Mine

Clermont is a small rural town of approximately 2,500 people located 200 km inland from Mackay, in the Bowen Basin, Queensland, Australia. The town was established prior to coal mining in the region. At Clermont, Rio Tinto has responded to community and local government requests for infrastructure development by facilitating a community strategic planning initiative called the Clermont Preferred Futures. The requests for infrastructure followed the decision by Rio Tinto to open a second mine (Clermont Coal Mine) near the existing Blair Athol Mine, which is due to close in 2015, and the potential additional impacts that would arise from these transitions. Clermont has become dependent on the economic activity of the mine and the community visioning process provided an opportunity to target future investments to enable a positive post-mining legacy [8].

Sponsored by Rio Tinto, yet led by the Belyando Shire Council and facilitated by the Institute for Sustainable Regional Development at Central Queensland University the community plan is a strategic framework to guide development in the community over the coming two decades and ensure investments meet community goals [12]. The initiative was established in February 2007. The exercise began with a socio-economic baseline of the town. It consisted of stakeholder mapping, analysing the socio-economic characteristics of the region and the coverage of existing data, identifying previous work and existing plans and strategies, and developing partnerships. A vision was developed from targeted community consultation and input from a diverse steering committee. An action plan was formulated and an officer appointed to coordinate implementation. The position is joint funded between the local government and the company [8]. The plan is now used to guide community development activities. According to International Alert [13] *companies frequently believe that any contribution through social investment is, in itself, 'good'. This is not true.* Facilitating community visioning is one way to shape investments to meet community needs.

Lessons for Avoiding Mine-Community Conflict

A number of generalised lessons for avoiding community conflict can be drawn from the above cases and others, to inform broader community relations, engagement and development activities. It is important to note that communities are complex and, at times, difficult to predict, that local context is paramount, and that the transferability of approaches is often not straightforward. That said, consideration of the issues presented below may assist to tailor activities to build dialogue and articulate shared futures, in order to avoid the frequency and scale of mine-community conflicts.

1. Acknowledge and remedy past grievances and act on outstanding commitments.
2. Establish meaningful avenues of two way dialogue. Use dialogue to understand stakeholder histories, relationships, networks, world views, how people construct what is a resource, and the customs that guide how they relate to them.
3. Build relationships through understanding and goodwill. Be upfront and straightforward about potential risks.
4. Be responsive and adaptive, respect customs, political and authority structures, and where appropriate gain informed consent.
5. Facilitate the articulation of community concerns and visions.
6. Listen to and act on community concerns and visions.
7. Enable community futures and negotiate a space within such futures for the development.
8. Design development within the parameters of the negotiated space. Involve communities in shaping the proposal.

9. Ensure company wide understanding and respect of the community vision, such that it informs all actions.

10. Design monitoring in such a way that community's concerns are identified, and acted on. The developments must be invested in the future of the community. Feed back to point 1.

Trust is an important feature of community relations and engagement. As outsiders resource developers may be viewed with suspicion and must earn community trust. Resource companies may not be from the region, or familiar with the local culture, customs and lifestyles, but simultaneously may also have the power to transform the environment and society, and mobilise political power to undertake extraction. Even well meaning actions, when not socially, culturally or environmentally grounded, may be discordant. However, by opening meaningful dialogue, understanding the community's past and desired futures, addressing real and perceived community concerns, and negotiating a space for development within that vision, resource companies may be better placed to avoid conflict with community and the costs that conflict brings.

CONCLUSIONS

In this paper I have identified common issues that may generate mine-community grievances and conflict, and drawn lessons for avoiding conflict from case studies where conflict occurred and where potential conflict was avoided. I have argued that if resource companies shape futures in the absence of understanding, concern and the meaningful participation of the community they may be prone to conflict. On the other hand if communities feel secure that their future is protected and benefited by the outcomes of resource development than a company's social license to operate is strengthened, and disruptions, delays and shutdowns may be avoided. In short, resource developers must invest, and be invested in, the future of the community beyond the extraction of the resource.

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