Mining Practice and Capacity Building Based on ESG Principles

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Abstract

Multiple governmental agencies around the world are involved in regulating the mining industry. This is particularly true in the United States because of the vast amounts of government owned/managed lands in the west, and the extent of mining on tribal lands. Mining on tribal lands is almost always subject to approval by both tribal governments and the United States government. In the United States, 30% of the nation's coal reserves west of the Mississippi River and 50% of all uranium reserves are on tribal lands. Tribal governments in the United States are often poorly understood by the mining industry, but they play an important role in mineral development. In almost all cases tribal governments can exercise sovereign authority over mining on their lands and can significantly impact mining on public lands because of laws and policies requiring consultation. Increasingly, tribal communities are demanding that mining be done in a way that respects their view of the environment and culturally significant resources, both on their own lands and on federally managed public lands. Indigenous communities have also gained considerable power internationally, and in some cases regulating agencies will not issue mining permits if the affected indigenous communities object. The long history of mining-induced damages and the enduring societal impacts have, in many cases, created an atmosphere of mistrust and opposition with some environmental organizations and indigenous communities – from northern Canada to the southern Andes. The ongoing – and in some areas growing – objections to mining from the affected communities and environmental organizations speaks to the truth that the mining industry must do better.

For these reasons, capacity building (CB) premised on the notion of environmental, social, and governance (ESG) requirements, including a social license to operate, has become a significant part of the mining industry's practice. A World Bank summary of participatory processes refers to capacity building as the improved ability to make decisions about a project and transfer information between groups. The focus generally is on building a community's or group's capacity to participate in decision-making about a

certain subject, as opposed to identifying capacities in a community and strengthening these elements (Gibson, 2001).

However, capacity building needs to continue to evolve beyond its current framework and implementation. The focus must shift from just encompassing the idea of overall social benefit, to specifically including the building of technical capacity within affected communities, enabling them to fully understand the implications of the mining operation. The enhanced technical capacity must be integrated with mining operations from the conception through operations and to the post-closure and monitoring stage. Capacity building must also be expanded to enable affected communities to share existing information about culturally important resources that could be impacted by mining, and where necessary support efforts by these communities to engage in new research and data collection regarding culturally significant resources.

Introduction

The current issue of *Global Mining Outlook (*KPMG, 2022), an annual report put forward by the international consulting company KPMG with strong ties to the mining industry, ranks "environmental risks, including new regulations" as the number one risk for the mining industry. "Community relations and social license to operate" ranked third on this list. For the first time in the 12-year history of this report environmental issues ranked at the top of the list, jumping from no. 5 in the previous year; community relations and social license also jumped a step up. The mining industry itself is aware of the changing social dynamics. In a recent interview, the Society for Mining, Metallurgy and Exploration president Ronald Parratt said, "On one hand, it would seem like the new green economy could be a threat to the mining industry, but in reality, there is a lot of opportunity" (Mining Engineering, 2022a).

In the context of mining, ESG refers to the industry's approach to managing air, water, and soil pollution, treatment of and attitude towards employees and the broader community, and management practices like diversity, transparency, and good relationships with regulatory and non-governmental organizations (MarshMclennan, 2022). In recent years, the mining industry has embraced these concepts as fundamental components of mining (Natural Resources Canada, 2015). In a recent survey of nearly 4,000 business executives and analysts, the international mining company Newmont Corporation, a mining industry leader, scored very high on social responsibility and management quality fronts (Mining Engineering, 2022b).

The term CB (capacity building) was originally conceived in the educational arena and subsequently adopted by the United Nations Development Program (UNDP) in reference to personal or professional development. Since then, UNDP applies capacity building or development principles in practically all of its programs and even has a special team, called the Community Development Group (CDG, 2009). In

reference to the mining industry, CB points to improving communities' understanding of a project's long- and short-term goals and implications and a concerted effort to eradicate the hurdles caused by lack of this understanding. This is necessary in part because mining operations are rarely locally owned or managed businesses, and rapid globalization has further intensified the gap between the understanding and expectations of the local community surrounding a mine and the planners and developers of the operation.

This paper discusses capacity building in the context of ESG and a social license to operate, and how it is currently being applied, and then discusses what more needs to be done, including some recommendations for how capacity building can be expanded.

How is it actually working?

Capacity building has acquired a broad definition with the focus ranging from developing individual skills and ability for accomplishing goals to improving the capacity of an organization or team to "produce, perform or deploy" (Merriam-Webster, 2022). Different institutions have applied it in the context of decision-making, information transfer among various stakeholders of a project, and community support. In the mining industry, capacity building has generally occurred through funding community development and educational opportunities and holding town-hall-style workshops. In the context of education, mining companies routinely fund schools, scholarships, and mentorship programs.

Community development efforts have included infrastructure planning and development, job training, workshops for local entrepreneurs, and even funding micro-enterprises through loans and equity funding. While employment opportunities for the local community surrounding a mining operation is an assumed beneficial impact of most new mines, capacity building efforts have expanded on this concept to include employment outside of the mining sector as well. As part of capacity building efforts, the mining industry is supporting locally generated endeavours like bakeries, butcher shops, cooperative farms, tire repair shops, as well as helping to establish business ventures supporting the mining projects (Government of Canada, 2015). CB efforts have also included meetings with community councils and inviting community input into developmental, health standards, and educational issues.

These examples are important and significant steps forward, and should be supported, but they all focus on capacity building in the context of overall social benefit such as better opportunities for employment, and more small businesses. Extremely limited efforts have been focused on building capacity within affected communities to advocate for mining practices that will better protect their communities. Few of the current capacity building measures will result in the affected communities being better able to bargain effectively with the mining industry on a technical level about the nature of its operations, such as the type of wastes generated, impoundment designs, monitoring programs, or reclamation plans. These are areas that are ripe for continued community participation. For example, in a recent Canadian decision, the

owners of two operating mines were ordered by the Yukon government to more than double the amount of their combined closure securities, though the prior securities had been vetted by both the government and the affected First Nations (Crawford, 2022).

Further, these are the types of issues that frequently result in the most significant concerns and impacts to the community, and where disputes are most likely to occur. There is a limited number of experts willing and able to provide technical support to affected communities, and often the affected communities and environmental organizations lack the funds necessary to hire technical experts. As a result, community members and staff working for the government of the affected communities are often in the position of having to educate themselves, as much as possible, about the impacts of mining operations based on information provided by the mining industry, whose interests frequently do not align with the affected communities'.

In addition, mining operations are rarely local. Usually, regulators are physically located far away from the actual mining operations, in some cases thousands of miles away. Local communities are generally invited to participate in the decision-making by offering comments on planning documents, engaging in consultation, or in some cases serving as cooperating agencies. However, they often lack resources to offer technical feedback, and even when they do have resources and provide technical comments their comments are often ignored. Sometimes they lack the resources to even attend the project meetings. Ultimately, the decisions are principally made by the mining companies and distant regulators. We note also that often even the regulators may lack specific experience with the type of hard rock mining operation at issue. This is especially true in regions without a robust mining industry.

Empowering local regulatory authorities

A recent advance in capacity building is engaging independent consultants or experts to better equip the regulatory authorities and educate the affected communities. One of the authors of this paper has previously been hired by a territorial government in Canada to assist in the development of mining practice guidance documents, and hold workshops on these issues, including participation with the impacted First Nations. This is a prime example of how capacity building can and should be expanded. While in this case it was the regulatory authority that bore the cost of the specific CB efforts, there are valid arguments that the mining industry should bear some or most of the responsibility and costs of such efforts.

Taking this example one step further, this same author has also directly provided *pro bono* technical expertise and support to a tribe (Smith, 2011). In this case, with the backing of a well-recognized expert, the tribe was able to better engage with both the operator and the state regulatory authority. The work provided by the author has continued to be leveraged and relied upon by the tribe and affiliated NGOs to advocate for changes in the mineral processing operation itself. The ability to advocate on a technical level

has tangible long-term benefits for affected communities. It can allow them to hold operations accountable for promises of environmental sustainability and provide more specific and useful input about all stages of the operations, including closure. However, cases like this example are rare.

To fully protect their interests, and to ensure a meaningful social license to operate, impacted communities must be able to offer informed feedback to better align mining operations with community values. Affected communities frequently have regulatory and natural resource professionals, as well as political leaders, who are fully aware of what the community wants in terms of land management, environmental protection, and public health. As an example, the Navajo Nation has its own environmental protection agency, and the Ute Mountain Ute Tribe and the Confederated Tribes of the Colville Reservation have their own environmental departments. All three communities have been impacted by mining operations. These leaders and professionals also generally understand mining operations; however, they may not have technical expertise about the specific types of hard rock mining at issue. However, if they had access to technical experts, they would be able to more effectively offer technical feedback that incorporates their understanding of the community's needs and values. This is not to suggest revamping of regulatory structures; rather, it is to advocate for a collaborative role for affected communities within the existing regulatory structures.

Community-based monitoring

Another aspect of technical capacity building with significant potential is community-based monitoring (CBM). While community-based monitoring is occurring to a limited extent within the mining sector (Pareja et al., 2019), it has not generally been incorporated within the concept of capacity building. CBM is described as a collaborative process where stakeholders from different sectors partner to monitor, track, and respond to environmental and social issues. The overarching purpose of CBM is to share monitoring data with influential stakeholders in order to contribute to decision-making processes. Globally, the CBM approach has been recognized and is being accepted in different arenas in developing countries, as well as in North America, Russia, and Australia (Conrad and Hilchey, 2011; Conrad and Daoust, 2008; Sader, 2016).

Previous research has cited funding as a limitation and also found that in some cases volunteer training is inadequate. These are the very types of limitations that capacity building can directly address. CBM has the potential to significantly benefit the mining industry by increasing trust between affected communities and mining operations, as well as by focusing energy and resources on the most important issues. On a practical level, at least in some cases, CBM could be achieved through partnering with regulatory entities established by indigenous communities. These entities generally lack the funding to hire the additional personnel and purchase the equipment necessary for effective CBM, but have high levels of regulatory and

oversight expertise, and significant experience with impacted resources such as groundwater, soil, and air. Overall, CBM fits well within the overall goals of capacity building and is an area where capacity building can and should be expanded.

Concerns about mining's impact on food resources

Finally, one of the biggest concerns of indigenous communities, particularly in communities with high rates of subsistence hunting, fishing, and gathering, is how mining may impact critical food resources. South American indigenous groups commonly cite the loss of native species supporting their food habits (fishing, hunting, nuts, seed gathering) during mining as a significant concern, and push to have these returned at closure. Impacts to ceremonial areas are another major concern of these communities. The following examples demonstrate the type of positive outcomes that can be achieved by listening to such concerns and collaboratively working with indigenous communities.

One of the co-authors of this paper worked on a project where an affected indigenous community was concerned about the potential impact of the mining operations on caribou migration. Caribou had not been seen in this particular area for decades, but caribou were still important to the community. Specifically, the community was concerned that if the reclamation plan attracted moose, caribou would not use the area. To address this concern, the mining operation worked closely with the First Nation to develop topographic features and utilize native plants that were caribou friendly and either disliked by, or neutral, to competing animals such as moose. This work was prescient, because two years into the project study caribou returned to the area.

Another project, currently under development in Brazil, has adopted as part of its reclamation policy specific actions that will be implemented jointly with the affected communities to better incorporate traditional knowledge about land use and food supplies. This type of collaborative work is only possible when the affected communities have the resources necessary to effectively engage with the mining industry and regulators.

What more needs to be done?

While the increasing acceptance of the concepts of ESG and CB by the mining industry have been important and have resulted in mutually beneficial developments, there is more that can and should be done:

- Capacity building should be expanded to include opportunities and funding for affected communities to develop and share information to help mitigate damage to important cultural resources and foster resource management in a way that is meaningful to the affected communities.

- Specifically, the mining industry can fund additional staffing dedicated to advocating for protection of cultural resources and engaging with the mining industry, and can also fund community-based research focused on cultural resources and on mitigating harm from mining operations.
- In countries like the USA where consultation and public participation are conducted by the federal or state governments, the industry should consider voluntarily seeking direct input from affected communities about cultural resources and integrating this input into its operational plans.
- The mining industry must be willing to invest more in the capacity of communities, NGOs, and regulatory agencies. In order to facilitate this educational process, the industry should help fund independent technical experts who are accessible to surrounding communities. This technical capacity is essential both to obtain a meaningful social license to operate and also to ensure meaningful community engagement on an ongoing basis.
- Capacity building should be expanded to include community-based monitoring. In some situations affected communities, particularly indigenous communities, have sophisticated and well-developed regulatory agencies and well-trained staff within their own governments. In these cases, the existing community expertise can be utilized to develop monitoring and compliance data.

Conclusion

Capacity building has been a valuable tool for the mining industry and affected communities. It has helped the companies achieve ESG goals, and it has improved engagement by the communities, NGOs and, to a lesser degree, the regulatory agencies. Expanding on CB's success will increase trust between the various stakeholders which, in turn, will help build better mines and better communities. But it must be expanded upon to encompass technical capacity, allowing affected communities to not only benefit from the end results of the mining operations but shape the very nature of the operations themselves to align with community values and needs. Moreover, it must more actively engage affected communities in oversight such as monitoring. To this effect, industry must commit to expanding upon CB to build technical capacity; to share resources and information, particularly about cultural resources; and to gain community trust.

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