

Review

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Review

Educated Socially Responsible Mining Professional CSR Standards and Engagement with Indigenous People

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Abstract: This review stresses the need for mining education students to be introduced in their undergraduate studies to social and sustainability issues so they would have the skills and knowhow in their work after graduation, as professionals, to engage Indigenous People for mutual benefit. Large - scale mining development often takes place on Indigenous land and these educated mining professionals in their contact with these vulnerable communities must act in a responsible way. This includes the important mining policy issues and standards of corporate social responsibility (CSR), social license to operate and free, prior and informed consent from the Indigenous People before mining. For example, these policy standards issues would have been important to consider in Indonesia where the Indigenous Muluy Dayak community in East Kalimantan tried to resist large-scale mining operations by depicting their small-scale mining as part of their Indigenous customs and identity and in Australia where there was the recent destruction of an Aboriginal sacred site during large scale mining operations.

Keywords: corporate social responsibility; Indigenous People; mining education

1. Introduction

In general, most science and engineering undergraduate courses are technical with little regard to social implications and engagement with local communities [1] and this is also lacking in mining education [2]. This is especially relevant regarding the mining industry record of social and environmental impact on Indigenous People [3]. These students should be made aware that social standards related to sustainable mineral development are becoming more and more important. The principal social impact standards that apply to mining companies' relations to Indigenous People include corporate social responsibility (CSR) where companies adopt standards, policies and practices to reflect their commitment to local communities; free, prior and informed consent (FPIC) that must be obtained from Indigenous People before mining development and social license to operate (SLO) where communities accept a project to operate with legal, social and economic legitimacy [4]. This review stresses the need for the introduction of social responsibility content and CSR, FPIC and SLO standards awareness into the students' undergraduate mining education as these geology, mining and petroleum engineering graduates are often the first point of contact with Indigenous People in their professional work. Therefore, as mining professionals their social skills standards can be put to good use in their engagement with the Indigenous People as they would understand the importance of respecting their culture and traditions for sustainable outcomes.

2. Context

With years of experience, as a mineral exploration and Quebec Government geologist in Canada from 1960 - 1967, a Canadian Government academic development expert at the University of Sri Lanka from 1967 - 1970 and as a University of New South Wales (UNSW) Australia academic from 1971 - 1988 led to an appointment as Director International, Key Centre for Mines (KCM), UNSW from 1988 - 2010 [5]. This position and further opportunities as a consultant for the UNDP, APEC

and the Australian Government from 2011 – 2020 included many activities that involved Indigenous People.

Early experience as a mineral exploration geologist from 1960 – 1961 was the awareness in the project, although at that time it was not company standards policy, for formal engagement with Indigenous People. More recent experience with Indigenous People was first highlighted during an invitation to visit the Freeport mine in Papua, Indonesia in 1991 where the Kamoro and Amungme tribes were heavily impacted by the large-scale mining and waste products, which were not adequately considered by the company. Another opportunity arose during a meeting visit to the Goro Nickel mine in New Caledonia in 2002 where the Kanak People were in dispute with the company. There was a general awareness in Australia of the Aboriginal land rights and mining impact and approaches were made to various authorities on how the KCM could be involved and be of assistance. It wasn't until the Faculty of Engineering, School of Mining Engineering, UNSW with KCM support organized a summer series of lectures in 2004 for Aboriginal students intending to attend university. In that year an Indigenous education and training proposal was presented to the Mineral Council of Australia and to the invited World Mines Ministry Forum at the PDAC Toronto. This led to further proposals at the Communities and Artisanal Small-Scale Mining CASM learning event in Manila in 2005 and the UNDP UNIPP regional meeting on Extractive Industries and Indigenous Peoples Rights in Bangkok in 2013 which also included a review of the International Council of Mining and Metals, Indigenous People and Mining: Good Practice Guide [6].

3. Review of CSR Standards in Relation to Indigenous People

Undergraduate mining education worldwide have in the past focused on technical subjects at the expense of social- economic content [7]. The introduction of CSR standards in the course work have been recognized more recently [8] which also includes the role of students' awareness and appreciation of artisanal and small-scale gold mining (AGSM). Little attention was assigned to the most mining impacted communities, the Indigenous People. A recent study [9] shows that in the modern rush for critical energy transition mineral and metals (ETM) about half of the resource base is located on or near Indigenous communities. No mention is made that this important Indigenous FPIC issue should be introduced in the mining education course work as a principal CSR standard. Mining professionals working in Indigenous areas need to have the social responsibility and sustainability capability and awareness that ideally should have been introduced in their university undergraduate studies. A student questionnaire is presented as a research project to define this need.

3.1. Questionnaire Research Questions for Undergraduate Mining Education Departments

In the first instance a suggested mining education departmental and student questionnaire should be designed to assess and evaluate this subject as follows:

For the department:

- Is there a CSR standards component presented in the syllabus?
- If so, is there any focus on Indigenous People FPIC?
- Do you have the necessary staff skills and resources to support this content?
- In the field exercises are there any requirements for Indigenous People engagement?
- In the senior year report are there, if necessary, CSR / Indigenous components?
- Is there a need to introduce this subject in your class / field program?

For the student:

- Are you aware of CSR and Indigenous People engagement in your studies?
- Is this compatible with your technical subjects?
- Would you be interested to have this subject in your course and fieldwork?
- In your field studies is it important to engage Indigenous People?
- Do you understand the meaning of free, prior and informed consent FPIC?

4. Discussion

These responsible educated geologists and engineers working with the mining industry and Government and with Indigenous People are all essential stakeholders and these commitments are especially important in developing countries [2]. Educated geologists and mining engineers during their undergraduate studies in the classroom and especially in the field should be offered subjects for them to be made aware of their responsibilities in their careers as they engage society and especially Indigenous communities. These educated mining company professionals would have the knowledge and capability in managing and leading the companies CSR standards and the awareness of the Indigenous Peoples' FPIC concerns and SLO commitments [10]. It is in the interests of Government mining policy to support and encourage social responsibility, standards and sustainable development in the mining sector. It is greatly advantageous for the success of mining development projects, especially regarding Indigenous People, to have responsible Government professional staff involved in mining act policies and standards to be also knowledgably aware of the CSR, FPIC and SLO standards and issues [11].

Two examples are presented to illustrate mining impact on Indigenous People and the necessary CSR, SLO and especially the FPIC standards that should have been applied:

- one concerning a Tribal Community in Indonesia relationship with an Indonesian mining company ANTAM and the
- other that involved the destruction of an Australian Aboriginal sacred site during operations of Rio Tinto a leading Australian and global mining company.

4.1. Small Scale Mining Indigenous Community Interaction with ANTAM Mining Company Indonesia

For the Indigenous Muluy Dayak community in East Kalimantan, Indonesia small-scale mining (ASM) of gold is part of their traditional way of life. *Adat* (customary law) governs their gold-panning activities, practiced by using simple equipment made from materials collected in the surrounding forests. But this integral part of Muluy livelihood is now under threat. Mining company surveyors have recently shown interest in the community's gold mining area. In response, the Muluy community has taken the decision to oppose large-scale mining. [12]¹. Indigenous mining rights are not recognized by the Indonesian authorities, which favor large-scale over small-scale mining. In the 1990s, a large-scale mining (LSM) company PT Aneka Tambang (ANTAM), part-owned by the Indonesian government sent a team to conduct a survey of the gold resources in the Muluy area. A meeting called by the *Adat* Leader to discuss the presence of the ANTAM survey team decided to resist any attempt to bring in heavy equipment. The community also selected two young Muluy villagers to consult with NGOs and they drew up strategies to oppose mining, which included raising awareness of the potential threat to other villages downriver whose water supplies would be affected by large-scale mining. The Muluy villagers have also approached the sub-district and village heads and issued a general appeal outlining the impact of mining and stating the Muluy's opposition to a mine. In this case, in a developing country like Indonesia, there would have been a better outcome if there were educated responsible ANTAM mining professionals that would be able to apply best practice CSR and be aware of FPIC and SLO in their engagement with the communities. It is noted that ANTAM tends to conduct CSR programs that are unrelated to its core business [13].

According to their web site, within their CSR policy strategy, ANTAM has three commitments consisting of 1) positive impacts on the environment, 2) prosperous and independent communities, and 3) human resource development. In carrying out this commitment, ANTAM strives to contribute and improve indirect economic benefits, the potential of local communities, and independence of post-mining communities through a program called sustainable community development program (PPMB) [14].

¹ (translated summary by DTE from "Bila Orang Muluy Menambang Emas," by Jidan, Muluy community; Gaharu no. 06-07/i/2000)

4.2. Indigenous People Sacred Site Destroyed by Large Global Mining Company Australia

Aboriginal landowners have called for a "reset" in Australia's lucrative mining sector after an inquiry denounced Rio Tinto for blowing up a 46,000-year-old heritage site to expand an iron ore mine. Rio sparked outrage after destroying caves, known as rock shelters, at Juukan Gorge in Australia's ore-rich Pilbara region in May 2020 against the wishes of the Indigenous Puutu Kunti Kurrama and Pinikura (PKKP) people of Western Australia. An Australian parliamentary inquiry recommended that the Anglo-Australian mining giant pay restitution to the PKKP, rebuild the destroyed site and commit to a permanent moratorium on mining in the area [15]. The [preliminary report](#) also recommended that all [mining companies](#) operating in Western Australia review agreements with Indigenous traditional landowners and halt any planned destruction of heritage sites until [legal protections](#) are bolstered. A PKKP Aboriginal Corporation spokesman said that the group welcomed the inquiry's findings and he said. "We hope the inquiry's preliminary findings prompt a fundamental reset of the sector, particularly in the relationships between Traditional Owners and mining companies; and pave a way forward for more equal partnerships fostered by greater respect and mutual benefit". Rio Tinto said it was committed to "never again" destroying culturally significant sites and was working to modernize existing agreements with Indigenous groups as well as rehabilitating the Juukan Gorge area and building a facility to store artifacts removed from the site. The company said it would review the inquiry's recommendations and are working very hard to progress a remedy with them. Though Rio Tinto had permission from the state government to blast in the area, the PKKP have said they warned that the placement of some explosives would destroy two heritages rock shelters. A public backlash and investor revolt forced the mining giant's CEO and two top officials to resign in September. The site had contained some of the oldest Aboriginal artifacts ever found in Australia and was considered sacred by the PKKP. Rio Tinto has many CSR activities [16] but in this case has failed [17].

Australia has an excellent university undergraduate mining education record recognized globally for its first-rate geologists and mining engineers. [18]. The students are well versed in modern and even future mining technology including subjects such robotics, data analyses, digital application, virtual reality, AI and automation. But what is often missing is the social and sustainable course content including mining impact on Indigenous People especially in the field exercises where they can potentially interact with them. Is this an example of the lack of awareness of CSR standards and policy content for social best practice and leadership in their mining operations engagement with Indigenous People and the need for free, prior and informed consent FPIC from these communities [2]?

5. Conclusions

Socially responsible skills and applications enable mining professionals to fully participate in their work for the benefit of their company and all stakeholders particularly Indigenous People especially in developing countries [19]. These skills should be acquired during their undergraduate mining education programs and field exercises. Sustainable and social responsibility issues in the mining industry are now recognized as essential in government policy, industry best practice and community and Indigenous engagement [20]. Thus, they would be capable of managing CSR operations and applications that involve mutually beneficial FPIC engagement with Indigenous People and in general the awareness of the small – scale miners SLO as exemplified in the Indonesian ASM – LSM interaction and the Rio Tinto destruction of an Indigenous sacred site during mining operations. The future responsible mining professionals would also have to be trained to take up the modern-day challenges of green transition, which involves the exploration and mining of critical minerals, often interacting with ASM and Indigenous People in developing countries, for the high-tech renewable energy and electric car industries. [9]. Therefore, there is an urgent necessity for university mining education departments to consider initiating undergraduate course development in an important and timely subject that could be entitled 'CSR standards for engagement with Indigenous People'.

Conflicts of Interest: The authors declare no conflict of interest.

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