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A review of social license to operate in Southeast Asian mining

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ABSTRACT

The United Nations has proposed 17 sustainable development goals (SDGs) to achieve a better and more sustainable future for all stakeholders and the community. Either facing poverty, quality education, gender equality, increasing economic growth, innovating industry and infrastructure, environmental protection, or creating sustainable cities and communities, the mining industry is engaged.

Southeast Asia consists of countries at various economic development stages that are increasingly integrating into trade, investment, and finance. The mining industry plays a critical role in Indonesia, Laos, Myanmar, Thailand, and Viet Nam, partly contributing to the increasing growth rates of the Gross Domestic Products in these countries for years. Mining companies are also top taxpayers and the biggest employers, although modern mining is using fewer laborers.

However, mining in these countries faces challenges from its social and environmental impacts, misconceptions of the community and media, and the interference of civil societies, etc. Consequently, withdrawals of the mining licenses happen sometimes.

The paper reviews how mining companies in Southeast Asia deal with the social acceptance of mining activities. Aspects such as economic development, culture, and social background are characterized.

1. Introduction

According to member states of the Association of Southeast Asian Nations (ASEAN), ASEAN is a region rich in mineral resources. It can be one of the primary growth drivers in Asia's economy. The total value of minerals trade in ASEAN increased in the past decade, rising from about US\$ 14 billion in 2004 to US\$44 billion in 2013. Countries in this region are rich in gold, copper, nickel, tin, iron, bauxite, zinc, coal, and gemstones.

ASEAN includes many differences from mineral requirements and supply, mining conditions, culture, religions, economic requisites, and politics. The contribution of the mining industry in some ASEAN countries is rather significant. However, disadvantages should be considered, such as intensive labor force, adverse impacts to the environment caused by the operation of artisanal and small scale mines, inadequate sanctions in the legislative framework, and, recently, the increasing of misperception from media, NGOs, and civil society organizations about mining and its contribution. In Southeast Asia, mining projects were widely accepted in the past by stakeholders. The mining industry was a pillar of the economy in countries like Indonesia, Lao PDR, Myanmar, the Philippines, Thailand, and Viet Nam, meeting the high demand for development, utilizing natural resources, employing many direct and

indirect laborers, and contributing to exports. Indigenous communities also benefited, thanks to small and artificial (re-)mining. Today, mining is still important to these countries. However, communities and other stakeholders have been more aware of other outside impacts of mining on the environment, safety, water management, land management, cultivation, ethnic cultures, etc. They tend to against mining and relevant activities in recent years. Also understanding of the necessity to contribute to the mining community, corporate social responsibility (CSR) programs have been applied to gain communities' acceptance of projects regarding education, healthcare, local infrastructure, etc. in various mining regions. In fact, giving is a part of the culture and Buddhist philosophy in Southeast Asia through donations, charity campaigns, sponsoring activities, and voluntary services. After the proposal of the Extractive Industries Transparency Initiative (EITI) in 2002, it seemed that campaigns to protest mining projects would have widely increased, requesting more social contribution and transparency of mining companies both in finance and production. Not only in Southeast Asia but also in the rest of the world, social license to operate in mining is now a significant topic that threatening the existence of mining companies.

This paper analyses some cases of mining companies to see how they are winning the social license to operate. Besides, the failures are also

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discussed.

2. Methodology

The paper uses secondary document investigation from published research papers as the primary method regarding literature review of social license to operate. Besides, results from field observations of the author are sources of additional analysis. About thirty excursions in Myanmar, Thailand, and Viet Nam since 1998 are official visits organized by mining and/or consulting companies or universities; meanwhile, field trips in Indonesia are visits arranged by civil society organizations. In this study, other data are from national and company annual reports, international organizations publications, media releases, and websites of companies and journals. The analysis of strength, weakness, opportunities, and threatens is vital for mining companies, regardless their production scales, to have the social license to operate. The period under this study is from 1998 – 2018, in case the data and information are sufficient and adequate, except for special notes.

3. Features of the mining industry in Southeast Asia

3.1. Usage of intensive labor force under weak labor safety

Mining is one of the industries using intensive labor force in Southeast Asia as the geological conditions do not support automation but require numbers of manual workers and create a scattered location of mines. In 1994–1995, the Myanmar mining sector employed approximately 105,000 workers, or 0.6% of the total working population (Saito, 1996). About 236,000 workers (including the legal mining industry only) are employed in the Philippines' mining industry (ILO, 2020). Besides formal mining, artisanal and small-scale mining, which is usually considered informal/illegal in Southeast Asia, employs many workers. For example, in Indonesia, there are approximately 109,000 people directly involved in artisanal and small-scale mines (Devi, 2013). Up to 50,000 people engage in artisanal mining in Lao PDR, and approximately 75% of that figure is made up of women (GIZ, 2015).

Safety in Southeast Asian mining is a big topic. The national reports of safety, incidents, and accidents in Viet Nam Ministry of Labour, Invalid and Social Affairs (MOLISA) 2015, 2016, 2017, 2018, 2019) show that mining usually ranks at the top, just behind vehicles' fatal accidents. In Myanmar, at the beginning of July (2020), Myanmar Fire Department confirmed 162 bodies had been covered, and another 54 people had been taken to hospital on the first day of the terrible landslide in Kachin State in the north. Landslide and cliff slide are significant reasons for fatal accidents in the country (Lin et al., 2019). Except for large - scale mining companies, working conditions, occupational safety and health supports, welfare, accommodation, and transportation conditions for miners are insufficient (wLin et al., 2019, MOLISA, 2020). Drug abuse is a significant problem in all gem-producing areas (Myanmar, 2016). Besides, miners in Myanmar also must suffer from ethnic armed organizations (Lin et al., 2019). Toxic from mining, which causes unhealthy workers, is a significant issue in Indonesia, especially in artisanal and small-scale gold mines (Casey, 2019).

3.2. Negative impacts on the environment from mining and processing activities

Mining often deforests and contaminates air, land, groundwater, and surface water in Southeast Asia (GIZ, 2015, Myanmar, 2016, Broemme and Stolpe, 2011, CODE, 2011). Despite many environmental protection measures, air quality, noise, dust, erosion, etc. are still significant mining issues. Contamination in fields is also put into consideration as Southeast Asia is also a rice production region. Heavy metals concentrations also increase health hazards, as analyzed in the case of a chromite mining area in Viet Nam (Chu et al., 2011). Using mercury in extracting gold mines in Indonesia is a source of contamination in rice

paddy fields, according to research in 2019 (Novirsa et al., 2019), or a causal factor in pollution of rivers (Devi, B., 2913).

Environmental issues are not only coming from mining activities but also from processing and smelting as well. Chemicals are used in large volumes to process the ores, and tailings dams in processing and smelting plants challenge the safety of ecology. Therefore, besides health and safety standards, controlling environmental failures such as chemical leaks, toxic contaminations, waste dumps failures, etc. is vital for processing plants. Processing and smelting plants must foresee and monitor environmental risks, and consequently, social arguments of the ecology from the community and other stakeholders (Nasruddin and Bustami, Dak Nong People's Committee, 2018, Lines, 2015).

3.3. Development sanctions in the legislative framework

The legislative framework is now developing in Southeast Asian mining countries to match regional development and international standards. ASEAN agreements relevant to mining nowadays are more promoted in countries of the area to reach global and local standards and regulations regarding mining laws, environmental protection regulations, safety and health management standards.

However, in this legislative framework's reform process, mining authorities' decentralization creates disadvantages in resource governance. At the sub-national level (Indonesia) and provincial level (Lao, Viet Nam), some policies somehow disjoin or reduce the powers of those from the central governments. The conflicts come from various concepts of development and minerals governance of the local authorities. In other words, local authorities are acting as shareholders instead of being stakeholders (Devi, 2013). Field observations from quarry mines in Northern Central of Viet Nam (Thanh Hoa and Nghe An provinces) show that the provincial authorities issued mining licenses for different mine-owners in different corners of the quarry areas to get higher financial benefits, without caring of environmental matters or even safety at work.

3.4. Different views from media and civil society organizations about mining and its contribution

The development of civil society organizations (CSOs) in Southeast Asia countries helps the local community raise their ideas on how to benefit from mining (Myanmar, 2016). Still, misperception also exists. CSOs tend to establish coalitions against mining, for example, in Viet Nam, as they have less understanding of the industry's essence and contribution. For years, the so-called Minerals Coalition (MC) gathers members of different associations and individuals who do not have sufficient mining background, nor directly involved in the mining industry. Consequently, reactions of MC to the mining industry are adverse and mislead the community with half-truth information. CSOs also integrate media in their activities and utilize media better than mining companies in broadcasting news. Mining projects, such as Nhan Co aluminum production and Thach Khe iron mining in Viet Nam, were severely impacted by broadcasting and social network. Thach Khe was terminated by the end of 2010s, losing about VND 2 trillion (appr. US\$ 86.6 million). Besides, Thach Khe project was stagnated for ten years before its closure due to conflicts among stakeholders.

In 2014, Havey (2014) mentioned that mining companies are generally mistrusted. It seems that in Southeast Asian mining countries the situation has not changed much since then.

3.5. Conflicts, disparities and distrust in mining

Conflicts in mining occur between artisanal and small mines and companies in Indonesia (Devi, 2013), Myanmar (Lin et al., 2019), or between national mining companies and FDI mining companies in Lao PDR (Phouphet, 2020), regarding mining licenses, and other financial investment. In Indonesia, consequences from the governance, conflicts

between mining companies and communities are mostly in environmental issues and land tenure, and social problems in and around mine areas (Devi, 2013). Field observation in Myanmar (2019), Indonesia (2017, 2018), Thailand (2013, 2016), and Viet Nam (2003–2020) proves that mining generally conflicts with many other fields such as forest conservation, rice production, land, and water utility, which are very vital to the welfare of the people. Conflicts between small-scale mining and large-scale mining over access to mineral-yielding land were also discussed topics in the Philippines due to changes in legislative regulations, according to Verbrugge (2014).

In regions of mass mining productions, such as gold production in Batu Hijau Indonesia, coal and bauxite production in Quang Ninh and Dak Nong in Viet Nam, etc., higher income was an explanation for the decision of laborers to join the industry. However, the higher salary partly increased the prices for other goods and services, putting pressure on other people living in the areas (Devi, 2013, field observations in Viet Nam 2005, 2018). Nowadays, the situation is changed; therefore, somehow, mining is not an attractive job regarding income, causing a shortage of laborers. Especially in Viet Nam, the lack of miners in underground coal mines becomes one of the biggest challenges for developing the mining industry to meet the demand for expansion.

There is also a big gap between income (and other incentives) of expats and local workers, as shared by executives in Masan Resources in Viet Nam.

The distrust from stakeholders is a challenge for mining projects, regarding insufficient or misleading information, creating strong opposition from authorities and the public. For example, bauxite projects in Viet Nam were suffering from public objection to Chinese involvement and workers or fear of red mud dam leakage (Lines, 2015). However, in these projects, Chinese workers worked with the contractors, living in separate camps, and did not have any involvement with the local community (Field observation in Viet Nam, 2018). Red mud from aluminum production is not in solid form but turns to powder and can be used to produce building materials, cement raw mix additives, pigments for concrete, etc. (Nguyen et al., 2016). It is worth noting that due to the public objection, risk prevention is the top priority of these projects. Consequently, the design of red mud ponds also had to adjust above safety standards; therefore, the construction of the ponds became costly for investors (Field observation in Viet Nam, 2018). Misinformation and politicization of the environmental issues concerning production are also a topic in Malaysia the Lynas Advanced Materials Plant, leading to movements against mining and processing activities (Nasruddin and Bustami).

4. The contribution of mining in Southeast Asian countries

4.1. Economic contribution

Mining, minerals, and metals are essential to the ASEAN region's socio-economic development towards the ASEAN Economic Community (AEC) integration.

To better contribute to the regional economic growth, investment in modern and environmentally sound mining technologies is necessary to support less waste of mineral resources, water, and energy. Additionally, it can improve the productivity of employees and their safety and health. Consequently, the added value and profit of the mining industry can increase. These advanced technologies, therefore, can support economic development and human well-being. Mining companies, thus, become significant contributors to the development of the regional and country economy, such as Nui Phao Mining in Viet Nam which can contribute primarily to Thai Nguyen Provincial budget, with a total of VND 1,200 billion (equivalent to USD 54.5 million) in only 2019 (Masan Resources, 2020).

Revenue from taxation and rent of mining companies is one of the state and local budget sources to return to other social expenditures, such as infrastructures of the community like roads, hospitals, and

schools. Better economic and social conditions allow the community, especially the minority ethnic people, to maintain their cultural features.

Mining is also one of the intensive-labor employers in Southeast Asia, not only in excavation companies but also in all the supply chains from geological units, processing plants, and commercial businesses. The development of mining is also bringing other opportunities for relevant industries and services, such as banking, transportation, insurance, etc.

The economic outlook for ASEAN countries is considered prospectively, and the potential of the region is massive. Therefore, the demands of mining products for energy and construction are growing strongly. Mining production in the Philippines, Malaysia, Viet Nam, Myanmar, Laos, and Thailand is forecasted to increase in the forthcoming years. In general, mining is on a small scale; however, there is also mass production in the Philippines (notably copper, nickel, and gold), Malaysia (tin and bauxite), Viet Nam (coal, bauxite, copper, and tin), Myanmar (tin and copper), Laos (copper and nickel), and Thailand (zinc and tin) (Humphreys, 2018). Indonesia is famous as the second exporter of coal and nickel in the world. Additionally, Southeast Asia is also prosperous by various minerals resources, such as gemstones, gold, iron, tungsten, and other minerals.

4.2. Social contribution

Mining provides livelihoods for its direct employees and other people from auxiliary fields such as suppliers, carters, hospitalities, healthcare, education, etc. Therefore, local economic benefits and local communities are supported by the mining activities, getting income from its development. In rural or remote areas, such contribution is valuable for society. Investment of mining companies in infrastructures or organizing cultural programs also partly contributes to preserving local cultures. Requirements from mining companies of qualified staff and skill-full and experienced workers promote human resources development in the mining areas.

It is estimated that in 27 provinces in Indonesia, livelihoods of more than one million people are provided by activities of artisanal and small-scale gold mining activities (Spiegel, 2018). Mining companies in northern Viet Nam or the central highland help the indigenous people to maintain their festivals and other cultural activities (field observation 2016, 2018).

Although the induced employment rate from mining in Southeast Asia cannot be calculated, it can be a considerable number of employees.

From the abovementioned analysis, a SWOT matrix about mining in Southeast Asia can be offered in Fig. 1.

5. The evolution of social license to mining in Southeast Asia

5.1. Overview of social license to operate

The social license to operate was developed as a response to a United Nations initiative that requires industries that operate in the territories of indigenous people to secure free, prior, and informed consent from those indigenous people (Wilburn and Wilburn, 2011). Wilburn stated that the Social License to Operate (SLO) model was first used by global extraction companies to protect their profits as part of their Corporate Social Responsibility (CSR) strategy. Wilburn also cited the Ethical Funds Company in 2009 that a company can only gain a Social License to Operate through the broad acceptance of its activities by society or the local community. Without this approval, a business may not be able to carry on its activities without incurring serious delays and cost.

Thompson and Boutilier (2011) established phases of earning a social license at four levels of (1) Withholding/withdrawal level (worst-case scenario), (2) acceptance level, (3) approval level and (4) Co-ownership level (best-case scenario).

SLO is becoming significant for mining, oil and gas development, and other resource-related projects in the past two decades, cited Gehman (2017). The concept of SLO reflects the reputation of a company and its

social acceptance. If this “license” is missing, there are considerable doubts from stakeholders if the company’s projects can be successful so that stakeholders should cooperate with the company (Goerke-Mallet et al., 2020). SLO, cited by Komnitsas (2020), can only be granted when trust has been developed between the mining company and all local major stakeholders.

As artisanal and small-scale mines widely occur in Southeast Asia, socioeconomic benefits can be the reason for social acceptance of mining. However, if the awareness of environment matters is arising, the preservation of the “license” can be lost.

Therefore, SLO is an unwritten and impermanent contract between companies and society to maintain their business operation. SLO and CSR are interactive, which CSR helps to earn and nurture the SLO.

It seems that companies in the mining industry now understand better the importance of SLO to their smooth operations worldwide. From the survey of Top 10 business risks facing mining and metals by Ernst and Young in 2019, 44% of the respondents ranked “license to operate” the first risky business topic in 2020.

5.2. Obtaining and preserving social license to mining

The improvement of economic conditions in the mining communities in Southeast Asia, from cases in Indonesia, Lao PDR, Myanmar, Thailand, and Viet Nam (those who are deeply impacted by mining activities regarding cultivation, jobs diversification, changes of ecology and environment, etc.) shows a shift in social license to operate in mining. In the 1990s, local communities in Viet Nam or Myanmar were happy from finding coal from the river flows/minerals from mines or

waste dumps for their better income (field observation 2003, 2005, Lin et al., 2019). In the late 1990s, the financial crisis significantly impacted Southeast Asia, witnessing the shift of miners to artisanal and small mines for their living after they lost their income from the large-scale ones (Gary McMahon et al., 2000). In the 2000s, people had better awareness of environmental issues and the overlaps of mining and other industries, which drove them to discuss mining or not (Openjadedata.org, Gary McMahon et al., 2000). Civil-society organizations were established in Southeast Asia then, aiming to support people, especially those in the mining areas, to comment about mining and its disadvantages or other challenges to the community’s well-being. Nowadays, local communities tend to protest the mining industry. In some areas, people do not consider sufficiently the contribution of the mining companies in both economic and social aspects. Mining companies contribute to the community’s general development regarding taxation and employment and other social programs such as schools and hospitals for the community, health programs, better roads, infrastructures, etc. (Gary McMahon et al., 2000). However, less confidence about mining projects’ feasibility also protects local authorities in the approval of production licenses (the case of Thach Khe iron mine in Viet Nam). From the field observations (2020) and other literature resources, the evolution of social license to mining in Southeast Asia is similar to small and medium-sized to large-scale mining (Gary McMahon et al., 2000). Only the timeline is different from country to country, depending on each nation’s social and economic background. For example, nowadays, jade mining in Myanmar cost lives, but the workers are still working illegally there.

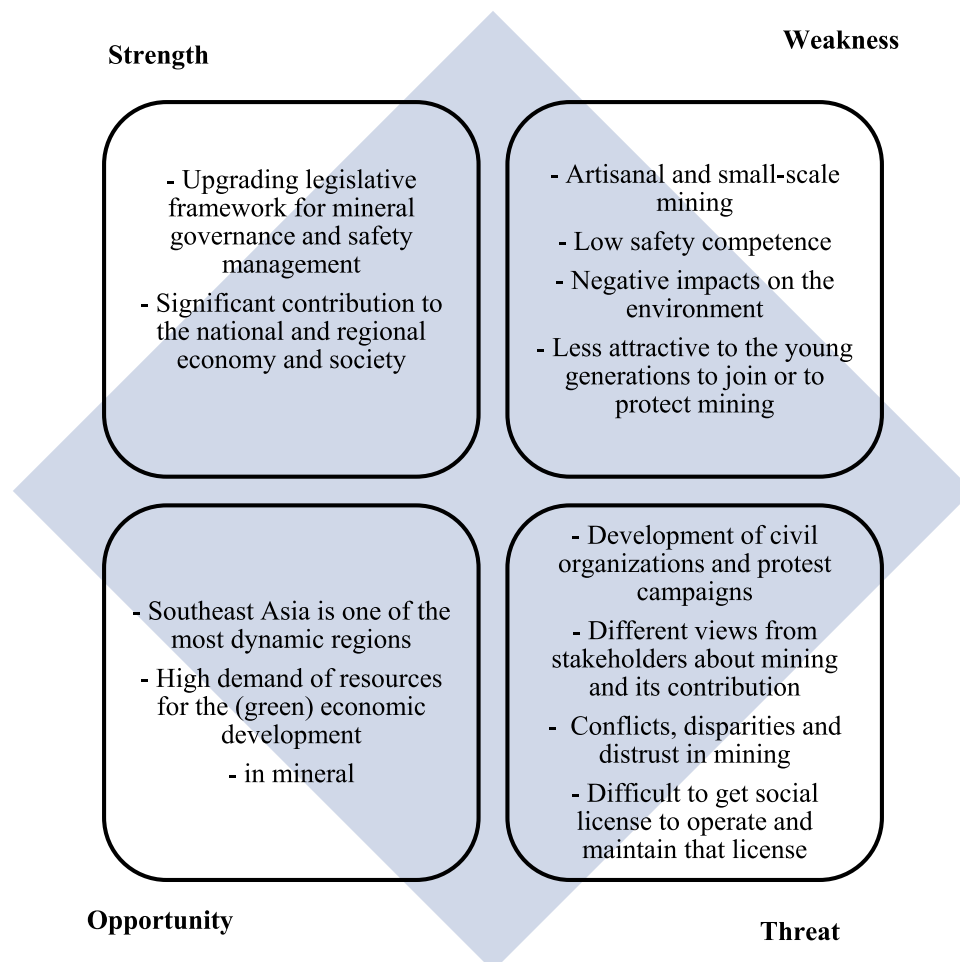


Figure 1. SWOT analysis of mining in Southeast Asia.

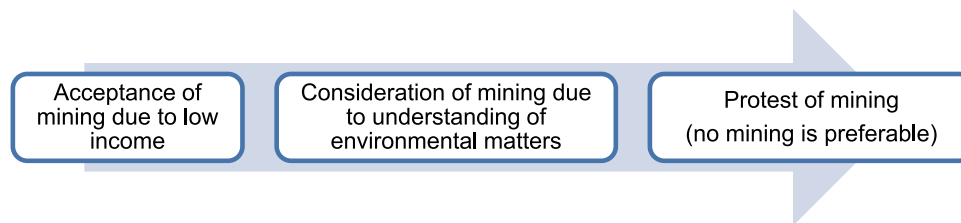


Fig. 2. The evolution of social license to mining in Southeast Asia.



Fig. 3. Common house of a village in Bojonegoro, Indonesia, meeting with the local community about CSR and accountability (field observation 2017).

6. Lessons learned to earn and preserve Social License to Operate in mining

6.1. Integrating corporate social responsibility into legislations

Indonesia requests mining license holders to prepare a program of Community Development and Empowerment (CDE) in the mineral and coal mining law. The social acceptance of mining are results of CDE programs regarding infrastructure and essential utilities, economy, education, health, environment, and donation (Devi, 2013).

Mining in the Philippines also implemented a social development program for host communities at the Mining Act of 1995. As recognized as best practices in sustainable development in minerals in the frame of the ASEAN Minerals Cooperation Action Plan 2016–2025, the Nickel Laterite Mining in Rio Tuba, Palawan, the Philippines, conducted social development programs for the host community such as supporting the hospital, educational instruction, indigenous learning system, and housing units for indigenous peoples (ASEAN Secretariat, 2017).

In Lao PDR, leading companies in many sectors, including mining are implementing Corporate Social Responsibility (CSR) as an integral part of their operations to get a license to operate. Mining companies are more aware that their reputations and their social licenses to operate are dependent on their relationships with the local communities that are impacted by their projects (GIZ, 2015). For example, the Huay Xai sapphire mine implemented its community development programs with reasonable compensation and land restoration, provided jobs for the local community with adequate training opportunities, and respected local culture.

CSR has not been officially mentioned in the law system of Viet Nam. However, mining companies have supported the local community with building infrastructures and social activities. Once CSR is promulgated in the legislative documents, both mining companies and the local community can have a legal framework to observe relevant activities.

Applying international certifications and national certifications during the mining production also influenced these companies to consider the implementation of CSR and community development programs.

6.2. Considering the welfare of the community

Challenging the mining industry in countries like Myanmar, Thailand, Viet Nam, etc., are issues of water resource pollution, deforestation, land and crop damages, resettlement, occupation change for people whose land was recovered, and especially unsafety extraction. Opposing mining activities appeared in all kinds of minerals mining, such as coal, gold, iron, potash, etc., in these countries, driving the authorities to withdraw mining licenses. There are some example from Freeport mine in Indonesia; Chatree mining complex of gold in Thailand, consequently laying off more than 1,000 employees, most of them are locals; Thach Khe iron mine in Viet Nam, indirectly impact other manufacturers of steel or trading are typical examples.

However, in Southeast Asia, there are also successful mining projects with support from stakeholders, in which mining companies show their consideration to the welfare of the community by building the infrastructure of schools, healthcare centers, environmental protection, education, and training. For years, in Bojonegoro, Indonesia, near oil



Fig. 4. Nui Phao Mining supports the local community in Dai Tu Commune, Thai Nguyen Province to organize a factory producing packaging products (field observation 2018).



Fig. 5. A church in Dai Tu Commune, Thai Nguyen Province, built by Nui Phao Mining for the local people whose community infrastructure is relocated for mining, left, and an indigenous museum of Cao Lan ethnic group (field observation 2018).

mining sites, there have been new kindergartens and schools for the children in the villages, social contributions of the mining companies such as donation, the common house building, etc., are transparent. The local community recognized what they benefit from the companies, both in financial and non-financial aspects (Field observation 2017). Nui Phao Mining Company in Viet Nam, which operates in the largest multi-minerals mine in the country, supports the local community with local employment and opportunities for diversification in the household economy and even become local suppliers for the mine (Field observation 2018, 2019, 2020). The company also organizes an annual health check for the community (Masan Resource, 2020). Two representatives of the Thailand mining industry received ASEAN Mining Awards, in which Pipatporn Co. Ltd. is engaged in feldspar mineral distribution. (ASEAN Secretariat, 2017). The company is appreciated for its contribution to the community, including water supply, material and aggregates for building material donations, building for community facilities and infrastructure, and supporting educational facilities and materials. These examples show the companies successfully established “mining communities” through the diversity of livelihoods and social sustainability, as described by Segerstedt and Abrahamson (2019).

6.3. Respecting the indigenous culture, religions, and beliefs

Culture is a significantly vital aspect to distinguish nations or regions and their people from others. Southeast Asia's spatial diversity is overlain with cultural and ethnic diversity (Hirschman and Bonaparte, 2012). Hirschman also mentioned the differences between the mainland and island in the region to explain culture and religion's influences. Social patterns and cultures are influenced mostly by Buddhist beliefs in Cambodia, Lao PDR, Myanmar, Thailand, and Viet Nam. Meanwhile, the majority of the population in Indonesia and Malaysia is Islam. Mining companies that understand the beliefs and practices, showing their respect to the indigenous culture, can accept the community for their business. For instance, Nui Phao Mining in Viet Nam occupied lands from the ethnic group Cao Lan and other Kinh people, whose beliefs are Christian and Daoism. A museum of the Cao Lan ethnic group is now located near their new village to conserve objects and documents and

introduce the indigenous people's original culture. The mining company also built a new church and a new temple for the local community to maintain religious activities and worship places.

6.4. Building mutual trust between mining companies and the local community

Field observations during 2016–2019 in Indonesia and Viet Nam show that once representatives of mining companies joined other community activities as invited, exchanging information about the mining activities, the mutual understanding and trust are seeded and nurtured. In Thailand, the ASEAN Potash Chaiphaphum Public Company Limited also gives the highest priority to community development. One of the company's policies places a high value on community development, which is deeply committed to supporting and interacting with the communities around the project area. They also organize meetings to map out strategies.

7. Conclusion

From cases of mining countries like Indonesia, Lao PDR, Myanmar, Thailand, and Viet Nam, a mining company can only gain their SLO once they get the trust from and bringing benefits to stakeholders in environmental protections, economic aspect, sustainable social development, and ensure safety at mines. Companies that aim to reach the co-ownership level can maintain their SLO from stakeholders for their production. Their productions and CSR programs need to be transparent so that the community and authority can monitor. Local authorities must strictly govern illegal mines so that formal licenses are more potent than SLO – in this case, the informal ones. Small mines should be encouraged to overcome their difficulties of finance and organization structure to promote their CSR programs at the local level to nurture their SLO besides the formal ones.

The ASEAN Economic Community (AEC) will promote regional economic integration and create a legislative framework for many sectors of the region in three pillars of socio-culture, political-security, and economy. Southeast Asian mining countries should have a similar policy and reform to improve their environmental, social, and economic outcomes. Sharing knowledge and experiences and building capacity in mining education and industry are requirements to promote better mining industry changes in the coming years for stakeholders. Figs. 1–5 and Table 1.

Table 1

Percentage contribution of the mining industry to the Gross Domestic Products (in current price) of Southeast Asian countries (2013–2017).

Countries	2013	2014	2015	2016	2017
Indonesia	5.50	5.01	4.03	4.23	4.7
Laos	14.92	14.19	6.80	6.49	6.56
Myanmar	5.03	1.02	1.27 (Q1)	n/a	n/a
Thailand	n/a	3.47	2.94	2.58	n/a
Viet Nam (*)	11.00	10.82	9.61	8.12	7.46 (est.)

(Source: PricewaterhouseCoopers, Laos Statistics Bureau, National Statistical Office Thailand, Myanmar Statistical Information Service, Viet Nam Statistic Bureau, and Author's calculation (*))

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