

Integrated Strategy to Curtail Illegal Gold Mining: A Case Study in Central Kalimantan, Indonesia

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Abstract. *Illegal gold mining has disturbed the operation of a mining company (Indo Muro Kencana) in Central Kalimantan since the early 1990s. Several disputes have happened, including two serious conflicts, causing financial losses, damage to facilities, and fatalities, forcing the company to stop operations in 2002 and 2013. Eventually, the original investors abandoned the site. Various countermeasures were taken, including harsh law enforcement involving police and military forces' deployment, yet the illegal mining activities continued. Since 2015, the new management has implemented new approaches; within five years, the number of illegal miners has decreased considerably. This study aims to identify the reasons behind the disputes and how the new management reduces illegal mining within its concession without triggering further conflict. This research is a case study using in-depth interviews, complemented by a study of corporate and media documents. Five factors were identified behind the previous conflicts. The new management's integrated strategy to manage social issues, including illegal mining, started with social mapping, then an integrated team to deal with social issues was established, and finally, an integrated plan was introduced with four agendas: engagement, presence, respect and inclusiveness, and cohesiveness. This study contributes to company-community model building in similar circumstances and, in practice, offers a solution to curtail illegal gold mining, particularly in Indonesia.*

Keywords: *Conflict, illegal gold mining, illegal miners, integrated, Kalimantan.*

1. Introduction

The history of gold mining in Indonesia started before the colonial era. Ancient Sanskrit documents mention Sumatra as being rich in gold, and small-scale mining (SSM) had begun before the Dutch Indies Company arrived in the 17th century (Aspinall, 2001). In Kalimantan, mining activity started during Hindu times and became more active between the 4th and 18th centuries (Aspinall, 2001). After independence, SSM was detected in the 1960s in Central Kalimantan, which attracted President Sukarno's attention, who stated that the minefields in South and Central Kalimantan were strictly reserved for SSM run by individuals or cooperatives (Aspinall, 2001). Modern mining in Indonesia started with the issuance of Mining Law No. 11/1967, which marked the arrival of foreign investors. Indo Muro Kencana (IMK), operated by Aurora Gold, was one of the companies granted a Contract of Works (CoW) signed by the

President of the Republic of Indonesia on 21 January 1985. The CoW area is 47,940 ha, situated in Murung Raya Regency, 450 km northeast of Palangkaraya, the capital city of Central Kalimantan Province. Murung Raya Regency's total population is 109,951, and the workforce of 53,459 (2019); mainly work in the agricultural sector dominated by traditional rubber plantation; 10,579 people work in the mining sector (BPS-Statistics of Murung Raya, 2020). Twenty-three villages with 23,945 inhabitants and a workforce of 11,642 surround the CoW area, which stretches across five districts, namely Permata Intan, Sungai Babuat, Murung, Tanah Siang, and Tanah Siang Selatan.

In terms of the distribution of mineral wealth, Law No. 11/1967 was paradoxical. It is more in favour of large-scale international mining companies and does not pay much attention to the growth of SSM. Wiriosudarmo (2001) criticized Mining Law No. 11/1967 and the

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CoW system as being highly influenced by colonial heritage. Practically all forms of SSM across all provinces in Kalimantan, except for panning activity in the rivers, were considered illegal. In 2015, around 43,000 illegal gold mining (IGM) operated in Central Kalimantan alone (Nainggolan, 2015).

There were about 15,000 illegal miners on the IMK site in 1986; despite many attempts to remove them, problems persisted. Thousands of illegal miners invaded mining pits in 1998, forcing the company to shut down for weeks (Aspinall, 2001). The company had no choice but to agree to allocate one day a week for illegal miners to take ore out of active pits. In the initial agreement, ore could only be taken and transported manually, but in reality, the miners used small trucks, and the number involved increased. Finally, the company decided to cease operation in mid-2002, and the investor sold the company in 2003.

The new investor needed two years to re-start the mining operation. From 2005 on, the company struggled through tough years until the second conflict erupted in June 2013, which caused fatalities and damages to equipment and infrastructure (JPPN.com, 2013). The investor closed the activity, abandoned the site, and filed a bankruptcy case before the courts. In August 2015, the new owner took over the company through a limited auction (Perdana, 2014).

The new investor, an Indonesian national private company, began restoring the facilities, including infrastructure, camp, and processing plants. New management was assigned, mostly comprising Indonesian nationals, except for three expatriates who helped restore the processing plant. Restoration of the processing plant was completed in November 2017 and it was back in operation in December 2017. By January 2018, the company was back in full operation (Indo Muro Kencana, 2018).

During the inactive period (June 2013 - August 2015), thousands of illegal miners occupied the prospective mining areas. Disturbances to the company's operations continued and tensions

escalated. On May 28, 2018, some 400 illegal miners insisted on entering the active pit, outnumbered the security forces, and succeeded in looting mineral ores until early the following morning. The illegal miners struck again on June 2, 2018, demanding access to the pit to take ore; the situation deteriorated and the illegal miners began committing acts of violence and hurling stones at the security forces, leaving the security team no option but to retaliate with water cannon and tear gas. The security forces backed by police from Murung Raya managed to hold them back, with some minor injuries suffered by the police forces (Faturrahman, 2018).

Despite the conflicts and the persistence of social issues in the surrounding community, there has not been any researcher investigating the relationship between IMK and the local community.

This study aims to reveal the causes of the various conflicts between the illegal miners and the company in the past and uncover the current management's strategy and practices to curtail IGM within the concession area without generating significant conflict.

In order to achieve these objectives, three research questions need to be answered:

- (1) Why did the various conflicts happen in the past?
- (2) How do the new management team curtail IGM activities within the company's territory without generating conflicts?
- (3) How well do the chosen strategy and the currently implemented programmes fit with the stakeholders' aspiration?

2. Literature Review

IGM is a worldwide phenomenon; it is found in more than eighty countries and provides a livelihood to more than 30 million people globally (Buxton, 2013). It contributes to poverty alleviation in developing countries; however, it also causes environmental damages, especially through the use of mercury for gold

extraction, which is widely practiced in small-scale gold mining (SSGM) worldwide (Cochrane, 2014; Male, Reichelt-Brushett, Pocock, & Nanlohy, 2013; Sumantri, Laelasari, Junita, & Nasrudin, 2014; Tomiyasu, Kono, Kodamatani, Hidayati, & Rahajoe, 2013). The United Nations Environmental Programme (UNEP) estimated that SSGM releases 1,400 MT of mercury into the atmosphere annually (Ismawati, 2014) and contributes around 37% of global atmospheric mercury emissions (Basu et al., 2015).

Socio-economic issues are one focal topic of the discussions about SSGM and artisanal gold mining (ASGM). The poor understanding of SSGM/ASGM combined with its informality and negative environmental impact made it an easy target for the media, governments, and other groups that portray the sector as criminalized and anarchic (Hilson, Amankwah, & Ofori-Sarpong, 2013; Spiegel, Keane, Metcalf, & Veiga, 2015), and even as a 'plague' on investment (Persaud, Telmer, Costa, & Moore, 2017). Most of the relevant literature addressed this issue as the primary problem in rural mining areas. However, it has never been recognized as a component of rural economic development; policies and actions opposed to it were often uncoordinated and concerned only with short-term solutions (Wilson, Renne, Roncoli, Agyei-Baffour, & Tenkorang, 2015).

Gold is also a political object; it generates political struggle and conflict between local communities and the government (Kervankiran, Dziwornu, & Temurçin, 2016). The increase in the international gold price in the past decades has increased not only legal but also illegal mining (Idrobo, Mejia, & Tribin, 2014). Communities in gold-rich areas extract gold on a small scale, and this activity has been a traditional source of income. It also attracts migrant workers from both neighbouring (Nyame & Grant, 2014) and distant regions/countries (Crawford & Botchwey, 2017). Often this creates conflicts between the miners and the indigenous communities (Plummer, 2015), the migrant miners and the

local communities (Ofofu-Mensah, 2012), and the communities and the companies (Okoh, 2014). Serious conflicts have occurred between villagers who felt their livelihood was being threatened and migrant miners, especially those from foreign countries. Crawford and Botchwey (2017) described several incidents involving Chinese miners and villagers in Ghana, such as times when Chinese miners were armed; a Chinese boy was killed during the police raid on IGM in October 2012; and the shooting of three Ghanaians by Chinese miners in February 2013 due to a mining dispute (Daily Graphic Newspaper, 2013).

Globally, conflicts driven by socio-cultural, socio-economic, and environmental issues are common in mineral mining countries, including Indonesia. Resosudarmo, Resosudarmo, Sarosa, & Subiman (2009) argued that the uncertainties in land tenure regulation and the authorities ruling mining permits are the primary causes of the conflicts. In addition, the fact that investors often ignore the existence of customary laws has led to tensions (Setiadji, 2015).

Several conflicts have been reported between companies and local communities, some leading to deaths, such as the conflict in Sumbawa between the community and Newmont (Ryter, 2001 in Welker, 2009); and conflict between *gurandils* (the local term for illegal miners in West Java) and Antam in December 1998, where thousands of illegal miners raided Antam's Pongkor branch office (Lestari, 2007). In North Sumatera, two conflicts were reported in the past ten years, i.e., the conflict between the local community with Sorik Mas Mining, an Australian-Indonesian joint venture company in Mandailing Natal Regency in October 2011 (Madina Bersatu, 2011) and July 2012 (Kompas.com, 2012), and at the Martabe project in South Tapanuli Regency, operated by G-Resources, where the local community burnt down a District Police Office due to an environmental issue related to the discharging of tailing to the river (Tribun.com, 2012).

3. Methodology

This paper presents a case study using a qualitative approach. Data were collected using two complementary methods: in-depth interviews to explore the root causes of the conflicts, and a literature review to obtain supplementary information. In-depth interviews were conducted with several informants from the company, local government, police, village heads, tribal and religious leaders, ordinary community members, and illegal miners. The literature review was conducted on the companies' reports and documentation, as well as media publications.

Semi-structured interviews were conducted using open-ended questions; pointers were provided as guidelines. All interviews were recorded, and had an average duration of 48 minutes. Informants were selected from three groups of stakeholders: authorities; corporate executives; and the community, including illegal miners, informal leaders, and ordinary community members. The majority of the respondents had either experienced previous conflicts or had extensive knowledge of them through interactions with the IGM communities, as indicated by their profiles (Table 1). Interview records were manually transcribed and then coded using NVivo qualitative data analysis software.

Table 1.
Informant Profile

Brief Profile	
A1	Senior local politician, served three terms as local legislature before his current political position. He has extensive interactions with the community in the area, including the IGM community.
A2	A senior official and Head of an Agency at the Murung Raya Regency; extensively interact with IGM communities in the past 25 years. Since the beginning he has been serving in the Regency office, and as a senior officials, he is well aware of the conflicts between illegal miners and the company.
A3	The Head of Police Resort of Murung Raya. Although he has just been one year in the current position, he has been serving in various positions within Central Kalimantan Regional Police for more than ten years and well informed on various IGM activities in Central Kalimantan, including those in Murung Raya Regency.
C1	Site Operation Director; coordinates on-site operations and frequently handles conflicts with the illegal miners.
C2	Site General Manager, in charge of site operation, extensive contacts with illegal miners within the concession area in the past five years. He worked with the company under the previous Management when the conflict of 2003 occurred and re-joined the new Management Team in 2015.
C3	Health, Safety, and Environmental (HSE) Manager. He was directly experiencing the 2013 conflict.
C4	Corporate Social Responsibility (CSR) Manager; continuously interacts with the local community, both miners and non-miners.
C5	Security Manager; works closely with the Police Department and the Security Service Provider; his responsibilities put him in confrontation with the illegal miners within the company's area.
D1	The <i>Damang</i> (District Head of the Indigenous Dayak Community); serves as a customary judge for dispute resolution between communities. He is a highly respected senior citizen. He follows closely and very knowledgeable about IGM issues as people often consult him on various social issues within society. He has been handling various disputes between IGM and the company.

- D2 Village Head, actively involved in IGM, is widely known as one of the prominent businessmen on IGM in the area. He owns a sizeable traditional mining area and many traditional processing plants (*gelondong*). He knew precisely and was even involved in various conflicts between the IGM community and the company.
- D3 An active illegal miner's group leader; has been involved in IGM for more than 20 years. He leads a group of miners who often in conflicts with the company, including the 2018 conflict.
- D4 Prominent local business owner, another IGM figure who often conflicts with the company; own several traditional mining sites, and establishes cooperation with the financier from other provinces for IGM activity.
- D5 Local farmer, occasionally involved in IGM for additional income, especially when the agricultural commodity price is low.
- D6 A chairman of a *Majelis Taqlim*, a religious studies group, also served as the marriage registrar officer. He interacts daily with the IGM community; therefore, he knows the previous conflicts' background to a certain extent.
- D7 A traditional (illegal) miner, working as digger under a group leader's coordination with a revenue-sharing scheme.

4. Findings and Discussion

Current practices

Soon after acquiring the company, the new investor formed a management team comprising gold-mining professionals. The new team considers social issues to be the company's primary challenge, and the existence of IGM within the company's territory is at the heart of this problem. Careful treatment of illegal miners is, therefore, a prerequisite of smooth operations.

The management realized the high complexity of social issues, and therefore, they developed an integrated strategy comprising an integrated structure and programmes to handle social

issues. A special department was formed, called the Special Project (SP) department, which consists of a small team of informants and influencers, specifically recruited both from outside the area and the locals, who work under cover, and live in the villages, and negotiators who formally deal with the illegal miners in the field. The SP department is integrated with the Security, Corporate Social Responsibility (CSR), and Land Management (LM) departments, under the same directorate. These four departments work together in resolving social problems, which are primarily linked with three main topics: job vacancies or business opportunities for locals, land tenure and compensation, and IGM within the concession area (Figure 1).

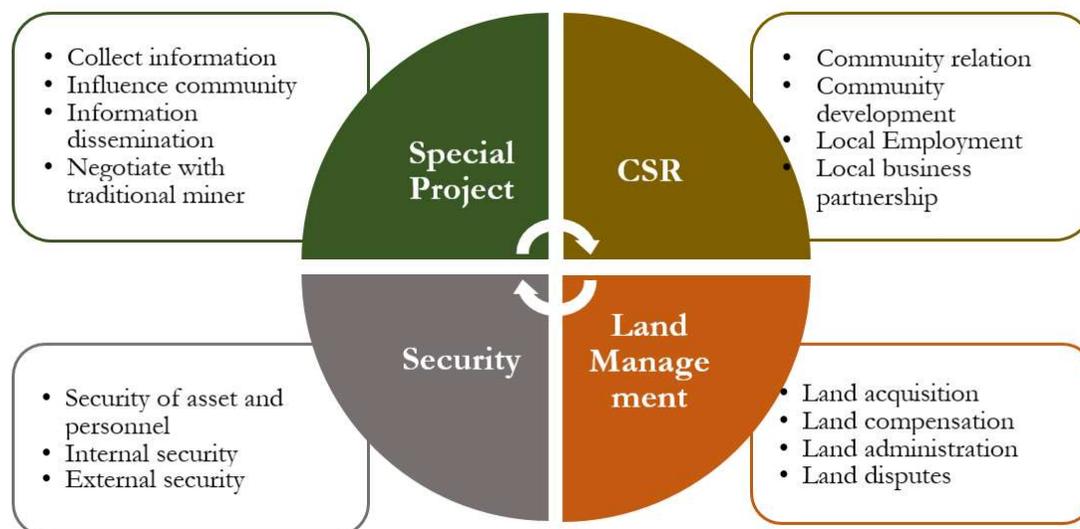


Figure 1. Integrated Structure to Manage Social Issues

The first programme launched by the new management was a social mapping project, which was carried out by a team comprising an external surveyor, consultants from the University of Indonesia (UI) and the University of Palangkaraya (UPR), and personnel from the CSR department. The scope of the programme included demography and socio-economic conditions. The investigated area covered 23 villages around the company, with specific attention on 12 villages within a 15 km radius of the plant, called 'Ring-1'. The survey was conducted from October 2015 to January 2016.

The following are the main findings of the social mapping related to IGM activities.

1. Nearly 13,000 inhabitants lived in the 12 villages in Ring-1, out of 23,945 inhabitants in the 23 villages.
2. 80% of the workforce were farmers; however, around 70% also engaged in IGM, either as their primary or alternative source of income. Traditional processing plants were found in all the 'Ring-1' villages; the majority were in Mangkahui, Dirung Lingkin, and Oreng.
3. There were 52 traditional gold processing facilities, locally known as *gelondong*, which use mercury in the processing, and 18

secondary processing plants, called *tong siram*, which use cyanide; each employed between 8 and 12 workers.

4. Owners of the processing plants also cooperate with the miners on a revenue-sharing basis. The processing plant owner, as the financier, pays all mining costs; miners deliver ores to the plant, and the profits are divided between participants after deducting operational expenses.

Based on the results of social mapping, the management set up programmes to minimize conflicts with the community, especially the IGM community. The goal was to ensure smooth operations with few and manageable conflicts with the community. The management realized that it was almost impossible to eliminate IGM in the area; however, it should be minimized and should not disturb the company's operation.

Following the social mapping project, the 'Integrated Security Program' was deployed which had four main agendas (Figure 2):

1. Engagement: establish a good relationship and collaboration with local authorities.
2. Presence: establish the company's presence in the community, focusing on

- socio-economic approaches, with particular attention to the 'Ring-1' villages.
3. Inclusiveness: understand the psychosocial condition of the community,
 4. Cohesiveness: build cohesiveness among employees, and continuously strengthen internal solidity and resilience.

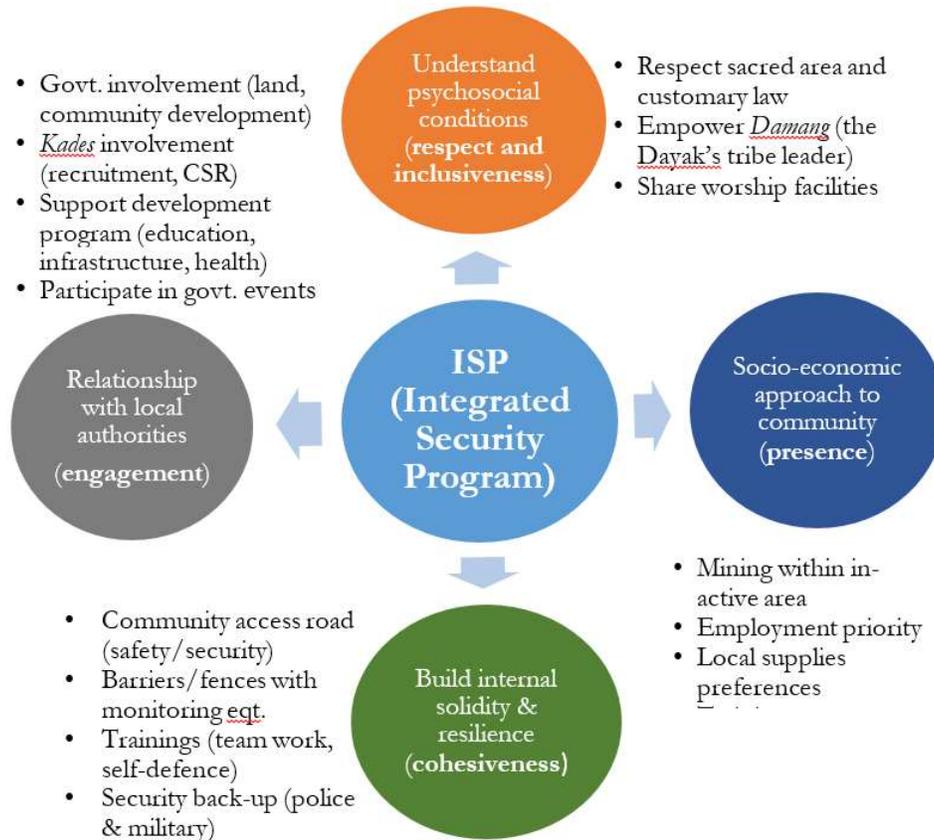


Figure 2.
Integrated Security Program

Relationship and Collaboration with Local Authorities
The management was aware of the importance of good relationships with local authorities, despite the investor not having any official contractual obligation to report to them. It was agreed that the local government should be well informed of the company's activities, particularly those related to the community, and the company should always participate in government programmes and events in the area whenever possible.

The company developed programmes to involve the local government in its activity, such as involving the local government in dealing

with various community issues (land compensation and community development) and village heads in designing and implementing CSR programmes and local recruitment. Meanwhile, the company actively participates in every event organized by the local government, including cultural and development exhibitions in regional and national events.

The company also assists local government in development programmes, such as infrastructure development for surrounding villages (road and bridges construction, electrification, and water supply); school

building renovation, training of school teacher, scholarship for higher education in Kalimantan and Java, English and computer courses for students; community health care, and the provision of medical equipment and an ambulance. In addition to providing security back-up, local police and military personnel are frequently encouraged to participate in various community events organized by the company. These activities are labelled as 'Local government collaboration with the company.' With these efforts, the relationship between local authorities and the company has strengthened. Regent, Deputy Regent, and local government officers visited the company several times a year, not only for ceremonial events but on regular friendly visits. The regional police chief and regional military commanders have also visited the site, which, to a certain extent, reveals and confirms full government support of the company.

Socio-Economic Approaches to the Community

Socio-cultural and economic issues frequently trigger conflicts between the local community and the company. Therefore, one of the strategic programmes aimed at avoiding conflicts prioritizes socio-economic engagement to show the company's presence in the community. There are three approaches pursued: providing opportunities, alternatives, and assistance.

In persuading illegal miners to leave sites, the management starts by socialization and still allows the miners to continue mining in the areas yet to be exploited. The company informs the miners three months before it begins operations in a particular area, to allow the miners time to complete their work, dismantle their facility, and move to another location. In some instances, the company helps them dismantle and transport the equipment to the new location or their village.

The company also gives the miners employment opportunities by prioritizing ex-miners in local recruitment and requesting all its partners to do the same. However, due to the limited skills, knowledge, and education of

community members and the limited number of positions suitable for their qualifications, not all of them can be hired. Therefore, the company also provides training on various activities through Community Development Programmes, such as agriculture and handicraft; some training was provided in Java. Upon training completion, the company provides financial assistance for individuals to start businesses, then buys some of their products, and market the rest to its business partners.

Meanwhile, the financiers, suppliers, and traditional processing plant owners willing to cooperate are offered to become suppliers or service providers to the company, with a 10% price preference against external competitors. Moreover, for those who are primarily farmers but occasionally engage in illegal mining when agricultural commodity prices are low, the company builds product quality improvement facilities to increase the added value of their agricultural goods and provides marketing assistance through the company's network. For example, the company has built a rubber drying and storage facility, known as *Rumah Getah*, provides soft loans to the group as initial working capital, and sells products directly to the rubber processing plant.

The company also initiated other community development programmes, such as goat farming, freshwater fisheries, sewing, food processing, and handicraft. It employs specialists in each sector for these programmes. Gradually, the local community felt the benefit of the company's presence, including those with no direct business relationship with the company's activities.

Understanding The Community's Psychosocial Conditions

The psychosocial conditions of local communities are also a central concern of the management. The existence of *Puruk Kambang* believe to be the place where the ancestor of the *Dayak Siang* first landed on earth, as a sacred area and cultural heritage is recognized and respected. Although the hill lies within the

concession boundary, the management prohibits mining within 100 meters of the foothills of *Puruk Kambang*.

The company also participates in various cultural and religious events. The company refurbishes, maintains, and utilizes the *Rumah Betang*, a tribal house of the *Dayak Siang* for various cultural activities, including training of traditional dancing and art performances. A group of dancers and local artists are regularly sent, at the company's cost, to participate in various cultural festivities, from the regency up to the national level. The local tribal leader, known as *Damang*, is always invited to engage in company activities with the community. His decision on any dispute and conflict with the community is always respected and followed by the management.

In religious affairs, the company's management and employees share the church and mosque with the community, participates in religious events in the villages and the regency, provides scholarships for teenagers to attend seminary schools in Java, and send local Islamic scholars (*ulama*) to perform *umrah* in Mecca.

These are part of many efforts to build close relationships with the community, trying to establish a sense of community ownership of the company's activities. The management wants to be present in the community and considered an integral part of it, and act inclusively in society.

Strengthening Internal Solidity and Resilience

Additionally, management considers internal solidity and resilience as essential factors. Cohesiveness between management and employees will help the company build its resilience to various challenging situations. The employees need comfort and security at work; therefore, each employee's sense of responsibility and togetherness must be built and fostered.

Various efforts have been made in this direction, including constructing several alternative roads so that the community does

not have to use mining roads, building of fences and gates with CCTV cameras, and gradually limiting the community's access into the active mining zone. Cooperation with the police and military for security support was intensified, including reinforcing local police forces with necessary equipment and facilities. Although these actions seem contradictory to management's desire to be inclusive, they are considered essential protective measures. Management argues that good defenses will reduce the intentions of illegal miners to disturb company activity.

Meanwhile, to increase bonding among employees, the company carries out various training programmes for every employee level, including outbound training to build cohesiveness and boost team spirit; basic military training to form discipline, physical strength, and self-defense skills in defending themselves as well as the company's property in case of riots; and capacity building to improve competence.

After implementing this strategy, the number of illegal mining activities within the concession area gradually decreased from around 3,000 in 2016 to less than 300 in March 2020 (Indo Muro Kencana, 2020). The number of processing plants in the vicinity reduced from 70 in 2016 to less than 15 by 2019. The decrease in processing plants is mainly due to insufficient ore to process. There has not been any serious conflict with the miners since June 2018.

Analysis of Current Practices

The present study was conducted on the management's ongoing practices, to explore the causes of the previous conflicts and understand how the company's management managed to reduce them. The analysis is divided into two parts: findings from the informant interviews and a discussion of the challenges and implications of the current management policy. *Causes of Previous Conflicts*
Based on the interpretation of the interview transcripts, five factors emerged as the leading causes of former conflicts (Table 2).

Table 2.

Causes of Conflicts

Source: Coded from interview transcripts

Factors	Authority			Company					Community							Total	
	A1	A2	A3	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	D6	D7	File	Ref
EC Economic	7	7	3	16	5	8	20	7	7	5	7	5	2	3	7	15	109
EN Network	4	2	5	10	4	9	7	3			2	1			2	11	49
PP Politic and Power			1	12	2	2	5	3			2	2				8	29
PS Psychosocial	2	6	6	4	1	4	2	1	19	3	1	8	1	5	5	15	68
SC Support & coordination	6	11	15	8	3	16	12	5	2			1	1		1	12	81

These five factors are socio-economic, established network, lack of support from local authorities, politics and power behind the conflicts, and community psychosocial condition, as illustrated in Figure 3.

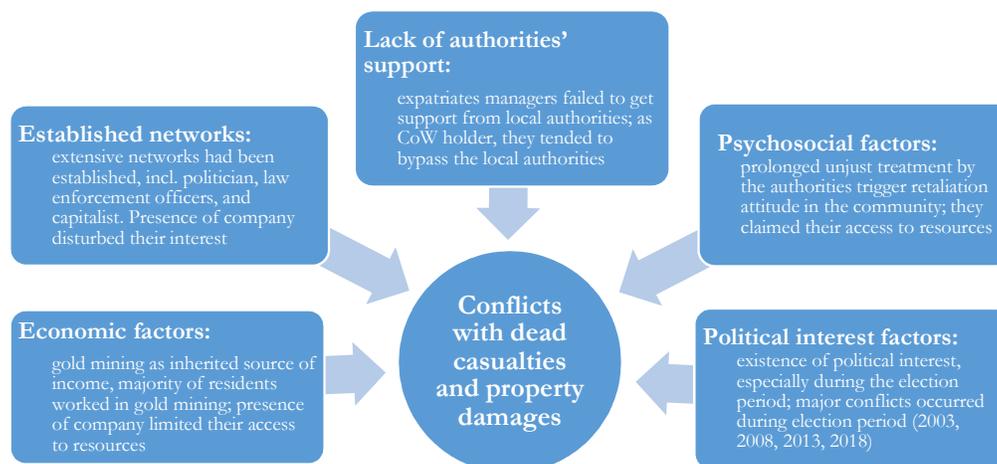


Figure 3.

Main Causes of the Previous Conflicts

Regarding the socio-economic factor, traditional mining is an inherited activity, and it is the primary source of income for the locals. Impoverished villagers need cash to fulfil their basic needs as in Maslow's Hierarchy of Need, and as they have limited knowledge that would enable them to obtain formal employment, IGM is the fastest short cut to get cash (Hasibuan, Tjakraatmadja, & Sunitiyoso, 2020). However, the company's presence limits their access to resources, creating conflicts. Referring to Marx's original social conflict theory, this conflict is based on access to gold

resources. Poverty, limited education, and lack of other income-generating activities are among the community's push factors making them fight for access to resources (Ismawati, 2014; Persaud et al., 2017).

The established network factors refers to the network among IGM perpetrators, involving a wide range of stakeholders. IGM perpetrators collaborate; as Huxham (2003) theorized, collaborative action is formed when a group of actors shares the same goal. Local politicians and power holders were part of this network.

The company's presence disturbed their common interest, and therefore they mobilized the network to occupy mining areas, resulting in conflict.

Regarding the psychosocial factor, all informants recognized certain psychosocial conditions that morally support illegal mining activity. According to some informants, the company's land acquisition was backed by military forces during the 'new order' era. They felt unjustly treated by the government, particularly regarding land tenure and access to natural resources, which refers to distributive justice in Rawls (1971) theory of justice. Therefore, the IGM community had social legitimacy to reclaim their indigenous rights over the gold resources, which inevitably triggered conflict. This phenomenon shows that there had been a latent relationship tension between the company and the community.

Another factor causing conflict was the absence of local government support, rooted in the disharmonious relationship between the previous management and local authorities. As the CoW holders, the previous expatriate managers considered maintaining good relationships with the local government and the local police to be irrelevant. Instead of utilizing local police, the management formed a security force from local thugs, called PAM Swakarsa, and hired Brimob (the special police squad) to provide additional security. When social issues gradually increased, the local authority did not support the company, encouraging illegal gold miners to invade the mining pits.

Finally, the political interest factor played an essential role in the conflicts. Despite continuous disturbance to the company's operation, the three physical conflicts occurred around election years (2003, 2013, and 2018). To win the electorate's confidence, politicians promised the community they would fight for

their interests in mining operations or share the income from mineral resources extraction. When tensions rise, politicians stand on the community's side or try to obfuscate the community's view that the politicians support the company.

In summary, the previous conflicts seem to be rooted in ignoring the importance of social license to operate. As Prno and Slocombe (2012) argued, mining-affected communities' voices have become more influential in mineral development. Thus, a strong company-community partnership is a must and should not be overlooked by mining companies (Coulson, Ledwaba, & McCallum, 2017). Moreover, Sícoli Póseleman and Sallan (2019) discovered four determinant factors in the companies-communities relationship in mineral-mining, i.e., "socio-economic, company's commitment to the community, presence of the government, and effective communication."

Proposed Solutions to Curtail IGM

In terms of conflict mitigation and providing solutions to curtail IGM, seven proposed measures emerged from the interviews, as shown in Table 3. Learning from individual action failures in many developing countries (e.g., Crawford & Botchwey, 2017; Hilson et al., 2013), these measures should be integrated and carried out simultaneously.

Cooperation between the company and community is a solutions voiced by 14 of 15 informants. There are several types of cooperation proposed, such as providing opportunities for the community to work with the company, prioritizing local business owners as the business partner (as suppliers/service providers), and helping the local community to develop small businesses by providing technical, management, and initial financing assistance.

Table 3.
Proposed Solutions

Categories and Factors		Authority				Company					Community					Total		
		A1	A2	A3	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	D6	D7	File	Ref
AL	Alternative Livelihood	1	4				3			5		6		6	7	7	8	39
CO	Cooperation & Assistance	4	2	1	5	2	1	6	1	4	3	2	1	3			14	38
ED	Education	4	1		1	1		1				2			1		7	11
RS	Share of resources	3	3	2			1	1	3			1		2	2		9	18
LE	Law enforcement	2	8	5	3	1		6	7	1							8	33
MC	Multisector collaboration		5	8		2		1	1	2							6	19
RC	Regulatory change		3	7		4			1	3	6	1	2	2			9	29

Source: Coded from interview transcripts

Another form of cooperation is multisector collaboration, which involves various stakeholders, including the company, community, government, and other stakeholders. One example proposed by informant A-2 is the formation of a joint operation body to build a traditional processing zone, involving the government, the company, and the community. Processing plants that are currently in villages should be moved to the specified zone. The company would provide technical assistance and carry out the environmental study required for the operation permit. The government would provide the land, permits, and supervision, while the processing plant owners would be obliged to follow the co-developed operating standard. Supply of ores would come from the specific mining area dedicated to the traditional miners (*Wilayah Pertambangan Rakyat – WPR*); the company would buy the products and pay corresponding royalties and taxes to the government.

This collaboration model needs regulatory change, simplification of procedures to obtain operating permits, and allocation of WPR that satisfy the aspiration to share mineral resources with the community. Once the WPR and processing zones are ready, no more mining

and processing activities beyond the specified area would be permitted, which would necessitate strict law enforcement.

Alternative livelihoods and education also emerged as a solution proposed by informants. However, the alternative livelihood programme should be co-designed and co-developed with the community. Informants noted that the previous alternative livelihood development programme’s failure was mainly due to the top-down approach, based on a mindset whereby the company knows what the community needs, which was worsened by insufficient mentoring during the programs’ implementation. An informant from the community (D6) considers that providing alternative livelihoods should be coupled with training, mentoring, and marketing support. ‘The presence of *Rumah Getah* (rubber drying and storage facility) has encouraged the community to be more focused on rubber tree plantation.’ He further predicted that if the natural rubber price stays at 9,000 IDR/ kg, IGM will reduce naturally, as the community could rely on rubber for their primary income.

The seven measures proposed by the informants should be integrated and interlinked, as illustrated in Figure 4.

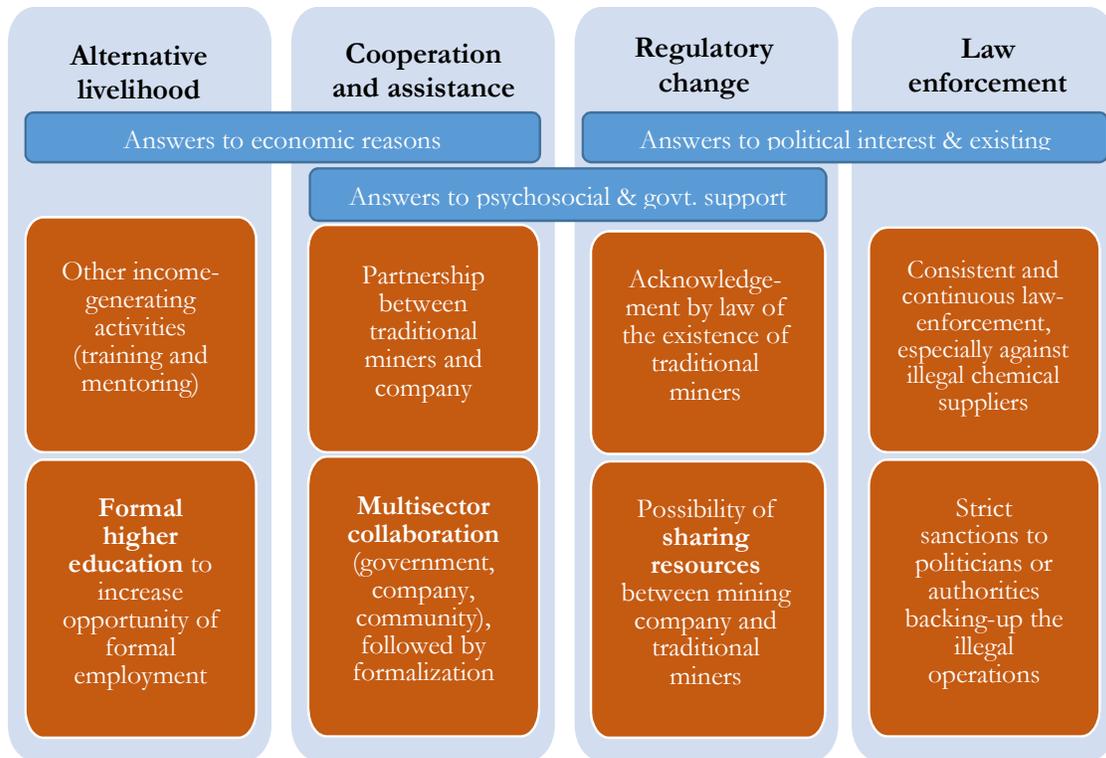


Figure 4. Summary of Proposed Integrated Solutions to Curtail IGM

Regulatory change is the crucial factor, which will drive the other solutions, particularly cooperation/collaboration and law enforcement. However, regulatory change and law enforcement fall within the lawmakers' domain, and therefore, the management could only provide inputs through the government.

Findings from interviews show that the new management has better understood the existing situation and addressed the issues proportionately. Current practices conform to the interviews' findings, except for regulatory change and law enforcement, which are beyond the company's control.

Challenges and Implications For Stakeholders

The consistency of the programme and increasing costs are two primary challenges faced by current practices. Mining can never be a sustainable business as the resources it extracts are not renewable; as production continues, the resources diminish, the deeper the pits, the higher the operating cost and the

lesser the profit, hence the lesser the funds available for CSR programmes. Therefore, it is essential that the local community's economic transformation, from high reliance on mining to a more sustainable economic source, be accelerated.

Agriculture has considerable potential in the area; there are sufficient fertile lands for the locals to cultivate. Most agricultural products, such as rice, vegetables, and fruits, come from Banjarmasin, South Kalimantan. However, developing agriculture would require strong efforts in many respects, especially in changing the community's mindset. The locals are not used to fixed farming; since the time of their ancestors, they lived from nomadic farming. They usually burn the forest to prepare the land for plantation, thus asking them to use mechanical tools in land preparation is not easy. For the older generation, the economic transformation from nomadic to fixed farming is unlikely to succeed. Provision of training on how to increase rubber production, which they

traditionally cultivate, and marketing assistance would be more feasible.

Meanwhile, for the younger generation, education and training will be the most appropriate approach. Although this is in the government's domain, the company can play a role, such as by providing vocational on-the-job training. Nevertheless, substantial efforts are needed, especially in motivating young people to pursue education. They have been spoiled by instant cash from IGM, although it is unlikely to lift them above their economic condition. Culturally, as expressed by one of the informants (A2), the locals have a speculative mindset. They like gambling and cockfighting. Once they earn money from IGM, they spend days gambling until they run out of cash, and then they go back to the mine site.

Another challenge is confronting the invisible financiers, especially the politicians and the unlawful government officials, who have been enjoying profits for a long time from IGM. They would find their way back to IGM as they would not personally benefited from the current management practices. For this, consistent and robust law enforcement is required, which is not within the company's domain.

The other stakeholders can be benefit from the current management practices, provided they take the available opportunities, as has been proven by several processing plant owners who became supplier/service providers to the company. The government will benefit from tax collection from these activities, which was not the case with IGM. Everyone will benefit from the reduction of mercury pollution, and the living environment will be better protected.

5. Conclusions

The main reasons behind the previous conflicts were primarily related to five factors: socio-economic factors, a cohesive network between

IGM actors, political and power interests, the community's psychosocial conditions, and the low quality of the company-government relationship. These factors can be summarized as the previous management's lack of understanding of the importance of social license to operate.

The new management seemed to understand the situation better and developed a strategy that has gradually suppressed the extent of IGM within its concession area, with minimum conflict. Creating an integrated management structure to resolve social issues has improved the efficacy of social issues management. The Integrated Security Programme with the four agendas, i.e., engagement of authorities, presence in the community, respect and inclusiveness within society, and cohesiveness among employees, have contributed considerably in decreasing IGM within the concession area and reducing conflict with the community.

The strategy chosen and implemented by the new management has to a certain extent, been able to attain the majority of stakeholders' aspirations, i.e., provision of alternative livelihood accompanied by training and mentoring; cooperation and partnership with the community accompanied by technical, management, and financial assistance; and maintaining good company-community and company-government relationship. This strategy has adequately addressed the proposed solutions that emerged from the interviews, except for regulatory change and law enforcement, which are beyond the company's control. Regulatory change and law enforcement combined with the company's current strategy would form an integrated strategy in curtailing IGM and anticipating the new emergence of IGM in the community.

The current practices would benefit all stakeholders, as long as they capitalize on the available opportunities. Local business owners could transform their activity from an IGM related business to having a formal business relationship with the company. Eligible IGM

perpetrators who meet the qualification requirements and/or those who are willing to be trained by the company could transform their source of income from IGM to formal employment in the company, and those who do not meet the qualifications could capitalize on training programmes in other income-generating activities and other alternative livelihoods promoted and developed by the company. Local farmers could capitalize on the company's local product commodity support, such as product quality improvement programmes and market access assistance. Meanwhile, through local infrastructure programmes, the community and the government will benefit from various village infrastructure development programmes initiated by the company (roads, bridges, clean water supply). These will lead to more sustainable local businesses, leaving behind the old traditions of nomadic farming and IGM, which cause environmental devastation.

Environmental activists, government, and society in general, will benefit from a better environment through the reduction of IGM. This study contributes to the development of management models under similar circumstances, with specific adaptations based on local conditions. It also provides insights for lawmakers in developing fair and mutually beneficial mineral resource management policies. However, stakeholders' firm commitment with an open-minded, open-hearted, and willing attitude is the pre-requisite for any programme's success.

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