

Livelihood security and artisanal gold mining in Prey Rumdeng, Preah Vihear, Cambodia

KEO Bora^{1*}, and OEUR II¹

¹Analyzing Development Issue Centre (ADIC), Borey Piphop Thmey Choukvar 2, Khand Posenchey, Phnom Penh, Cambodia

*Corresponding Author: KEO Bora (keoboratino@gmail.com)

To cite this article: Keo, B. & Oeur, I. (2021). Livelihood security and artisanal gold mining in Prey Rumdeng, Preah Vihear, Cambodia. *Cambodia Journal of Basic and Applied Research (CJBAR)*, 3(1), 122–157.

សង្ខេប

ធនធានដីដូចជា ដីបុកស៊ីត ថ្មកាបូណាត ត្បូងថ្ម មាន ម៉ង់កាណេស ផូស្វ័រ អំបិល ស៊ីលីកាជាដើម ត្រូវបានរកឃើញដោយកូគព្រីទូជនជាតិបារាំងនិងចិន តាំងពីសតវត្សរ៍ ទី១៩ មកម៉្លេះ។ ប៉ុន្តែ ទោះជាប្រទេសយើងបានឆ្លងកាត់សង្គ្រាមរ៉ាំរ៉ៃ និងខ្វះទុនវិនិយោគយ៉ាងណាក៏ដោយ ក៏ទ្រង់ទ្រាយដើមនៃធនធានទាំងនោះនៅតែរក្សាបានស្ទើរតែដូចដើមទាំងស្រុង។ ទន្ទឹមនឹងនេះ ការធ្វើអាជីវកម្មដីមានតាមប្រពៃណីត្រូវបានអនុវត្តយ៉ាងខ្ជាប់ខ្ជួន ហើយអ្នកកូមិ និងជនចំណូលពីក្រៅស្រុកអាចប្រកបរបរចិញ្ចឹមជីវិត តាមរយៈការជួញដូរ និងការផ្លាស់ប្តូរចំណេះដឹងជាមួយអ្នកដទៃទៀតដែលមានវប្បធម៌ផ្សេងៗគ្នា។ នៅពេលដែលប្រទេសកម្ពុជាបើកចំហសេដ្ឋកិច្ចទីផ្សារ នៅដើមទសវត្សឆ្នាំ ១៩៩០ មាសគឺជាប្រភេទទំនិញដែលមានតម្រូវការខ្ពស់។ ទីតាំងដីមានតូចៗដែលធ្វើដោយដៃ ទំនងជាកាន់កាប់ដោយបុគ្គលមានអំណាចនិងក្រុមហ៊ុនខ្នាតធំ ដែលអ្នកធ្វើដីមានខ្នាតតូចនៅតាមមូលដ្ឋាន ត្រូវបានប្រាប់ឱ្យចេញពីកន្លែងនោះ សូម្បីតែនៅលើដីសាធារណៈរបស់រដ្ឋក៏ដោយ។ នេះគឺដោយសារកង្វះការសម្របសម្រួលក្នុងការរៀបចំចំណាត់ថ្នាក់ដីធ្លីប្រកបដោយប្រសិទ្ធភាព និងការកំណត់ព្រំប្រទល់នៅក្នុងតំបន់ដែលមានប្រជាជនរស់នៅ។ ជាផលវិបាក ក្រុមអ្នកធ្វើដីតាមប្រពៃណី ប្រភេទទី៥ ត្រូវទទួលរងការកេងប្រវ័ញ្ច។ ក្រុមអ្នកធ្វើដីតាមប្រពៃណីប្រភេទផ្សេងទៀត នៅតែបន្តរស់នៅព្រៃរំដេងនៃតំបន់ភ្នំលុង ដែលដីធ្លីពួកគាត់ស្ថិតក្នុងជម្លោះ និងមិនទាន់មានដំណោះស្រាយនៅឡើយ។ ទោះបីស្ថិតក្រោមស្ថានភាពច្របូកច្របល់យ៉ាងណាក៏ដោយ ទាំងអ្នកមានទី

លំនៅនិងអ្នកធ្វើមាសចល័ត នៅតែបន្តធ្វើមាសតាមបែបប្រពៃណី យ៉ាងសកម្មដដែលៗ ។ ថ្វីបើការធ្វើមាសបែបប្រពៃណីជាមុខរបររួមផ្សំ ដែលទទួលបានប្រាក់ចំណូលទាបក៏ដោយ ក៏វានៅតែជាមុខរបរដ៏សំខាន់សម្រាប់ប្រាក់ចំណូលគ្រួសាររបស់អ្នកនៅតំបន់ទាំងនេះ។

Abstract

Mineral resources such as bauxite, carbonates, gemstones, gold, manganese, phosphate, salt, silica and zircon have been charted by French and Chinese geologists in Cambodia since the 19th century. However, they have remained relatively untouched due to prolonged conflict and a lack of capital. Meanwhile, customary gold mining practices have been applied persistently and have provided villagers and in-migrants with a livelihood through trading and the exchange of knowledge with other cultures. As Cambodia opened to a market economy in the early 1990s, commodities such as gold have been in greater demand. Artisanal mining sites have tended to be co-opted by powerful individuals and large-scale companies, with local miners pushed aside, even on State public land. This has been facilitated by a lack of effective land classification that demarcates areas that have already been settled. As a consequence, customary Type V miners have been exploited. Other types of miners remain in the Prey Rumdeng of Phnom Lung where their land has been contested and is still not secured. Even under this turbulent situation, both settled and mobile artisanal miners, are still actively engaged in customary mining practices. While the significance of the financial contribution or these practices towards a diverse livelihood is low, they remain an important aspect of household income in these areas.

Keywords: *artisanal small-scale gold mining, customary practices, governance, household income, Cambodia.*

Background

Mineral resources such as bauxite, carbonates, gemstones, gold, manganese, phosphate, salt, silica and zircon have been charted by French

and Chinese geologists in Cambodia since the 19th century. This was later followed by interest in chromium, copper, iron ore, limestone, nickel, and tungsten. While many Asian countries increased their exploitation of these resources in the 1980s, the resources remained largely untouched in Cambodia due to war and lack of financial capital (ADI, 2010). In 1975, French geologists found gold deposits in ten locations in the western region of Cambodia and two in the northwest. In the 1980s, local farmers found seven other gold deposits in the upland area to the northeast, sparking a rush to the area to supplement agricultural incomes (MoE, 2011). The artisanal small-scale gold mining (ASGM) activities by smallholder farmers as well as migrants have drawn attention to the general public, including the private individual and corporate investors, and it has since prompted Government's regulatory measures for national revenues.

In accordance with existing mining laws and regulations, the Ministry of Mines and Energy (MME) has granted 17 mining licenses, 37 mineral exploration licenses, and 323 mine construction licenses to private companies (MME, 2018). In addition, the Ministry of Agriculture, Forestry and Fisheries (MAFF) has granted 267 economic land concessions covering an area of 1.5 million hectares. At present, the MME is attempting to attract local and overseas investment in mining licenses across the five provinces of Kep, Preah Vihear, Siem Reap, Oddar Meanchey, and Banteay Meanchey for new mine zones covering 455 km². In March 2020, a further 16 exploration licenses were granted to companies in Mondulhiri, Kampong Thom, Siem Reap, Kratie, Stung

Treng and Preah Vihear. At the time this article was published, a total of 40 companies held between one and three mining licenses in Cambodia¹.

Beyond these commercial mining and exploration activities, artisanal and small-scale gold mining (ASGM) operations are present in the country. Up to 100 million people are engaged in ASGM in developing countries worldwide (IGF, 2018) and in 2004, an estimated 5,000 to 6,000 people were engaged in these activities in Cambodia (ASGM, 2011; Spiegel, 2013). This has driven an increase in the migration of local miners seeking livelihoods in diverse and difficult locations including remote farmlands and plantations in mountainous forested areas. In these locations, miners tend to live in makeshift shelters made from bamboo, timber and tarpaulins. They often lack access to health care, education, running water, sanitary facilities and electricity (Angela, 2016).

There are five main types of mining operations in Cambodia. Type I refers to licensed, large-scale mining conducted by companies that employ large numbers of people. Type II refers to large-scale mining activities that apply heavy machinery and equipment and employ large numbers of people that may be licensed or unlicensed. Type III refers to unlicensed groups that operate drilling machines on a small scale. Type IV refers to groups of about 10 people known as *Chhit*, who collectively hire land of up to a hectare and use pumping machines to operate unlicensed, small-scale mining operations.

¹<https://construction-property.com/nearly-1-million-ounces-of-goal-expected-to-be-extracted-in-okvau-says-an-official-of-mine-ministry/>; 1 million ounces of gold expected from Okvau, says Ministry of Mines, on 24 April 2020

Type V refers to ASGM, where small groups, often comprising women engage in traditional mining practices. They are often vacated from mineral deposits by larger operators and end up relying on the residual deposits of Type III & IV operations. Type V operators may include either settled or transient workers (Oeur & Cham, 2021).

Artisanal small-scale mining (ASGM) is viewed as dirty, dangerous, disruptive, and an activity that should be discouraged by some, while others perceived it as productive and a method of lifting people out of poverty (Spiegel, 2013). ASM does not tend to have a universal definition across different country contexts. It has been referred to as *“mining activities that use rudimentary techniques to extracting gold, by workers in small-sized operations.”* (BOT, 2010, p.18). Many of these activities operate without licenses (Hinton, 2006) but contribute significantly to rural livelihoods (Hilson, 2010).

Artisanal mining licenses are available for small-scale mining activities under the following conditions: (i) Only Cambodian nationals may be granted a license; (ii) Only locally available, common instruments may be used; (iii) Only individual or family labor, up to a maximum of seven people may be employed; and (iv) Activities may take place over an area no more than one hectare to a maximum depth of five meters. Small-scale miners may apply for a license from the District Office of Mining and Energy, however, at present, most small-scale miners in Cambodia are unlicensed. They regularly encounter conflicts with large licensed mining operators who take ownership of mining deposits that they are working on (DPA, 2011). This conflict is the focus of the present study.

Table 1. Types of gold mining operations in Cambodia

Particulars	Code	Type of group	Nationality	Area	Permit
A company with explorative or exploitative license	Type I	A group that employs many foreign and local workers	Chinese or Vietnamese	Fenced and inaccessible	Licensed
Heavy machinery operators	Type II	A group that employs many local men as miners and women as cooks.	Chinese, Cambodia	Open access areas that may be rented or seized land that is difficult to access.	May or may not be licensed
Informal drilling machine	Type III	A group that employs between 10 and 15 people	Cambodian	Open access rented land	Unlicensed
Informal threshing machine (Chhit)	Type IV	Individuals or a group of 20 males with a female cook.	Cambodian	Open access rented land	Unlicensed
Informal artisanal miner	Type V	Individual or a small group, mainly women	Cambodian	The leftover soil from, mainly Type III and Type IV	Unlicensed

Source: Oeur and Cham (2021)

Of the types of operations presented above, women tend to be engaged in self-employment in Type V, informal, artisanal mining activities. Before there was larger scale investment in mining operations, these women would tend to excavate manually, usually from residual deposits discarded by other operations for a basic income of 20,000 – 30,000 riels (5.00 USD-7.50 USD) per day. New investments in other types of mining activities tend to result in these women being removed from these operations and shifting to more transient activities. Women tend to be excluded from other types of mining activities, apart from a role as a cook paying approximately 150 USD per month (Oeur & Cham, 2021).

Other impacts found in other studies are, for example, a Jarai woman who lives in Ratanakiri whose village is located near a gold mine is concerned that

the mining operation has contaminated the water that her community uses for fishing and bathing. She also worries about the risk of potential landslides that may occur. This is also many examples where Indigenous villagers in Ratanakiri are concerned that the gold exploration activities of the Angkor Gold Mining company are contaminating land and water resources (Hufstader, 2018). Some women in these communities have worked with local NGOs and government agencies and the Institute of Technology du Cambodia to test the quality of water sourced by each community for daily use. Eight sources near the mines were found to have a total Nitrogen (Ni) level above safe standards set by the MoE. This includes a stream in *Oter Memong* in Keo Seima district, Mondulkiri Province; as well as a stream and open wells in *Otalouk* in Roveang District, Preah Vihear province (RDIC, 2019).

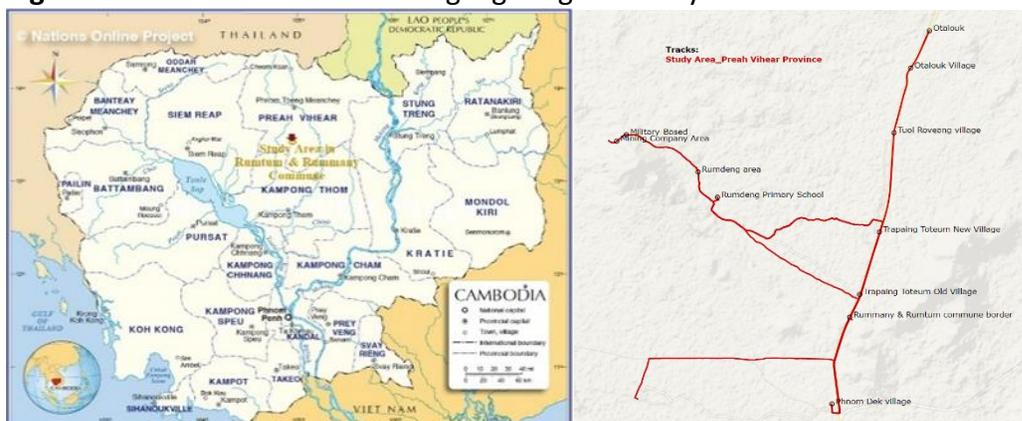
The objective of the study is to better understand the governance of mining operations in *Rumtum* commune, *Rovieng* district in Preah Vihear by exploring the relationship between Type IV and Type V miners and their relationship with other types of mining activities. It focuses on how these groups cope with the challenges they experience concerning the enforcement of government regulations. As these groups conduct ASGM activities in addition to their main livelihood, the contribution of these activities to the household economy is also of interest.

Study area and methodology

Rumtum commune comprises 6 villages, 1428 households, and 6184 people situated along National Road 64 (NIS, 2020). Most of these villagers usually engage in agricultural livelihood activities such as the cultivation of potatoes, corn, beans and rice. Some also work part-time in ASGM, while

others now are entirely dependent on this work (DPA, 2012). *Trapaing Toteum* is one the villages in Rumtum Commune. The village is divided into four administrative areas comprising more than 200 families in total. *Prey Rumdeng* is the largest of these areas, comprising more than 100 families, is located to the southeast of a mountain called *Phnom Lung*. In Lung Mountrain areas where *Prey Rumdeng* is located, extended from east to west about 25 km² area, and about 50 hectares of which is used for mining activities for the whole year by a private company and people living there permanently (see Figure 1).

Figure 1. Preah Vihear Province highlighting the study area



Note: The map on the right was created with the Geo-Tracker App and the GPS Visualizer Tool.

Type V activities occur here year-round as the area is sloped and rocky, and not well suited to rice farming. A few families produce cash crops in this area, while others engage in rice farming adjacent to their mining area. *Prey Rumdeng* may be differentiated from other areas in the region, where mining is only pursued as a sporadic livelihood activity including *Pralay Smach, Pralay Trach, Prek Toteung, Phnom Lung, Phnom Dek, Chheu Pleung, OThom, Bos*

Tathong, Bor Thmey, and Nakta Preah Tvea. However, common to all these areas is that mining activities tend to be conducted by four main groups including (i) local villagers, (ii) poor migrant workers, (iii) wealthy migrants, and (iv) concessionaires.

The research activities supporting this study began in 2016 during a visit to promote awareness about the impacts of mercury used in gold mining. As it can be difficult to distinguish between customary ASGM practices and illegal activities, a period of building trust was required for the artisanal miners to share their stories. Based on this experience, the objectives and research questions were established, and since 2017, additional data collection occurred up until the end of 2019 via short surveys about the livelihood strategies of small-scale mining groups. Additional research was conducted in December 2020, however, access to the Delcom Company mining area was not provided due to the sensitive nature of the research (Non-Timber Forest Products Organization, personal communication, March 2016). As a result, information about the size of the companies' mining operations was not able to be compared with the terms of their license and as a result, the research was focused on Type IV and Type V mining activities.

The case study was developed using a mixed-methods approach, with qualitative research being prioritised. Field observations were recorded, along with informal conversations with mine workers, mine owners, and collective mining groups. Key informant interviews were conducted with the Trapaing Toteum village chief, the Head of Prey Rumdeng area, elders, and community leaders about the governance of mining developments in this area, the management and monitoring of mining activities, the history of their

settlement, and the collaboration of ASGM miners with sub-national authorities at the commune and district levels. No attempt was made to assess the representativeness of data collected from these interviews. In addition, focus group discussions were conducted with Type IV & V miners to access information about their wages, expenses, awareness of workplace risks, and how they accessed information about mining techniques. Focus groups were also conducted with local activists on the monitoring of the contamination of local water resource and the environment and their role in raising the public profile of this problem; along with elders who described the history of the ASGM movement in the area environment.

Quantitative methods were used to substantiate qualitative data via a household survey. While the information obtained about levels of income generation were perceived to be accurate, it was difficult to consolidate this information. Thus, a survey of 50 households was conducted at the end of 2019 comprising questions about the contribution of ASGM activities to household incomes, disaggregated based on operations that rented land, owned land, and those that adopted collective mining practices. The survey data are presented using descriptive statistics on the degree to which mining activities contribute to the overall household income.

Result and findings

Contestation and mediation between private investors and ASGM

The research found that the movement to settle residents in the *Prey Rumdeng* area through artisanal mining activities began either during or before the reign of King Norodom Sihanouk (1941). During the Pol Pot Regime, people were evicted from *Trapaing Toteum*, with some relocating to *OTalouk*

and *OPor*. After 1979, a few families returned to resume ASGM activities. As a forested site, the area became a battleground between the Royal Cambodian Armed Forces (RCAF) and ex-Khmer Rouge soldiers, following the demise of the Pol Pot regime until the mid-1990s.

In 1995, a few families relocated to this area to resume this artisanal mining, during activities, even while local authorities could not be re-established due to concerns about ongoing fighting. In 1996, only six families were documented as conducting mining activities in the area, however, from 1998, an in-migration to the area began to increase. In 2000, 40 families were conducting ASGM activities. In 2002, Delcom Cambodia Pty Ltd established operations here supported by armed guards. *Delcom Cambodia Pty Ltd* began to Type I mining activities to the west of *Phnom Lung*, followed by other companies of unknown origin conducting Type II mining activities. These activities are very similar to Type III & IV methods used to extract gold, except that modern equipment is used with the support of wealthy and powerful shareholders.

Figure 2. Typical ‘chhit’ mining (authors)



All three of these types of mining activities are informal, yet common to many cases reported in the media. Regularly national, provincial, and local authorities are involved in their establishment. Despite, this between 2017 and 2019 technical agencies within the government attempted to stop these activities by confiscating mining equipment and securing agreements with local authorities. In January 2019, the District Office, alongside officials from the MME closed down illegal mining activities at ten sites near *Phnom Lung* and other places in Rumtum commune (So, 2019). Since this time, illegal mining activities have also been constrained by the COVID-19 pandemic.

Figure 3. An area used for traditional pan sifting (authors)



The conflicts between Delcom Cambodia Pty Ltd Company and villagers have become common due to the companies' lease covering an area where artisanal miners had previously settled in 1995. Delcom attempted to evict all families from *Phnom Lung*, with villagers mobilising against this, often involving confrontation with armed guards, who had been hired to protect operations of the company. As a result of ongoing advocacy over a period of ten years, the companies lease was limited to only part of *Phnom Lung*. The

compromise saw many families who occupied land within the companies' license area relocated to the other side of Phnom Lung in an area called *Prey Rumdeng*.

The Royal Government of Cambodia recognised this as village land in 2012 but did not issue a hard title for individuals. Around this time, villagers submitted an application requesting that *Prey Rumdeng* be gazetted as a separate village to *Trapaing Toteum* after reaching a population of over 200 families. Village leaders have been selected and a map of the village clearly outlining the area of land that the company had encroached upon had already been submitted to the Rovieng District Office. The plan has had been in development since 2017 but had faced numerous barriers to being resolved as some of the forested land requested for the village has previously been designated as state land. The application had faced ongoing delays as a result of needing to be processed at the national level.

In October 2020, the Prey Rumdeng community reported about land clearing and fencing activities linked to new exploration activities on 300 hectares of land outside of the scope of Delcom's exploration license. Then in January 2021, Delcom again expanded its operations by clearing and fencing a 4 km² area at the base of Phnom Lung in a place called *Trapaing Prey Tuol*, impacting the rice and cash cropping activities of over a hundred families. The villagers filed a complaint against Delcom and sought for national and provincial authorities to intervene (Sorn, 2021).

Local governance structures

Centralised political and administrative structures in Cambodia comprise National Ministries while a sub-national level comprises Provincial, District and

Commune authorities. Commune councils supervise villages as the lowest administrative unit. Since 2002, de-concentration and decentralization reforms have been applied to improve democracy and alleviate poverty. They require that subnational administration adopt principles of open democratic participation to drive more effective service delivery that responds to local needs (Niazi, 2011).

A commune council (CoC) is a local elected body that plays an important role in local development projects. The Law on Administrative Management of Communes outlines the role of CoC in supporting good governance via the sustainable management of local resources to fulfil basic needs in the community for the common benefit of all while respecting State policies (MoI, 2001, Art. 41). Commune administrations have the right to collect income in the form of taxes on land, renting state land, and providing other services as outlined in Cambodian law (MoI, 2001, Art. 74). Mining activities require scrutiny by the sub-national authorities, including the commune council before they are approved.

A timeline was developed using focus group discussion with elders and the leaders of communal ASGM operations and key informant interviews with the village chief, the head of Prey Rumdeng area, key community leaders, and mining activists. It outlines how before mining activities commenced in the area, it was an area of conflict involving the military and Khmer Rouge soldiers until at least the mid-1990s. In 1995, a few families relocated to the area to resume artisanal mining activities in the absence of local authorities due to this conflict. The families have accessed less than one hectare of land under the supervision of the head of the area. Other local mining areas in *Rumtum*

and *Rumany* commune were accessible for customary mining practices at this time. Local authorities had informed villagers to use the land as common property, as it could not be privately owned.

Between 2002 and 2003, there were changes to the leadership of both Trapaing Toteum village and Rumtum commune. Following this, migrants began to arrive in greater numbers, among them rich families, and high-ranking officials. In collaboration with local elites, they began to encroach on these common land areas via privately owned projects. Use of the land by small-scale miners was now forbidden. This coincided with the establishment of Delcom in *Prey Rumdeng*. Villagers were told by local officials that the company had been granted State private land and they may be evicted from the area in the future. Since this time, conflicts have frequently emerged between villagers and armed guards employed by Delcom as a result of overlapping claims to mineral deposits. Local authorities have not been able to effectively represent local interests in these cases.

An increasing number of mine workers began to arrive in the area, along with their children. In 2004, villagers petitioned to have a primary school constructed, which was not supported by the local authority. In 2005, the school was built through the pooling of local resources despite the rejection of a school building permit. At the same time, Delcom informed villagers of their intention to bulldoze the school building when the need arose. The military also played a role in threatening villagers with eviction and demanding payments from artisanal miners (DPA, 2011). Local villagers with no evidence of land ownership were vulnerable to eviction from mining areas due to enabling conditions in the licenses of mining companies (DPA, 2012).

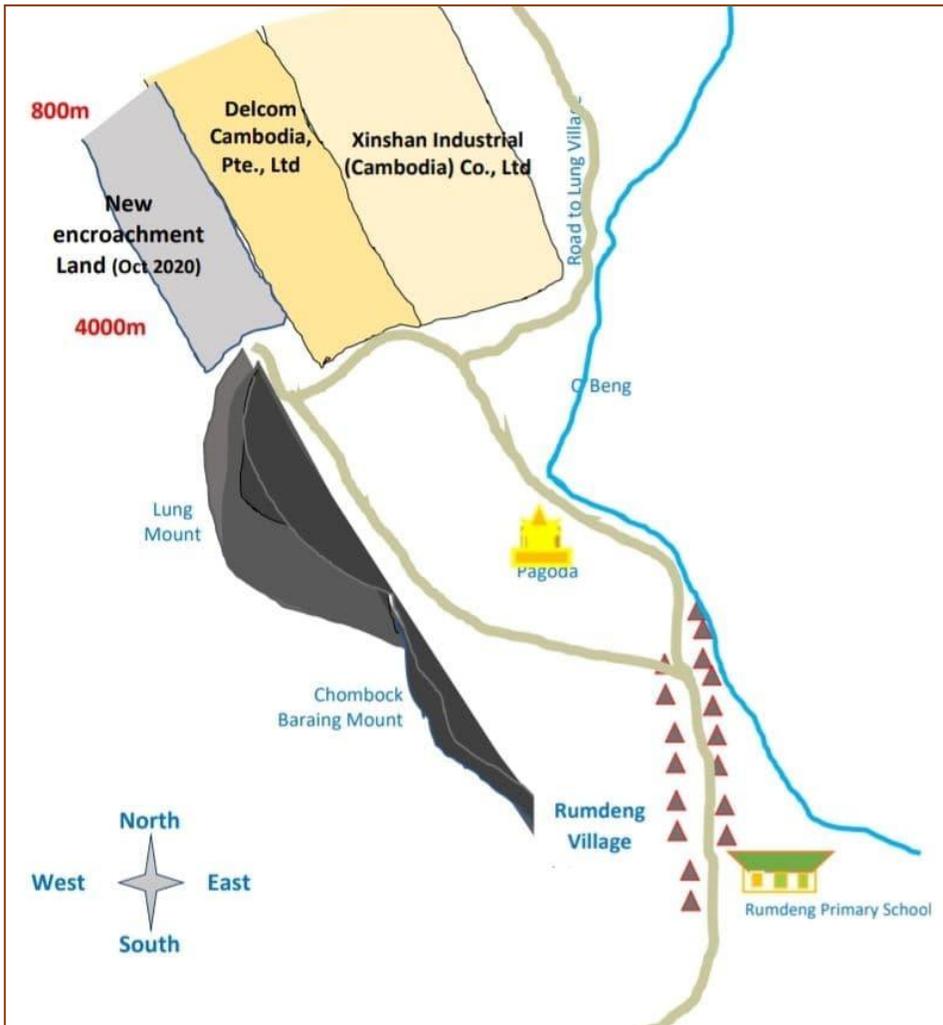
Despite this, one key informant described how the primary school was officially recognized by the Ministry of Education, Youth, and Sport in 2007, even facing threats from Delcom. This event provided villagers with a feeling of increased security from eviction. A pagoda was constructed in 2019 although commune and district officials declaring the construction illegal as the village had not yet been officially designated as a separate village to (Elder focus group, October 2019). A complaint against Delcom and the relevant local authorities citing human rights abuses was filed with the Provincial Governor, the Ministry of Interior, the cabinet of the Prime Minister, and other lawmakers by villagers, led by village elders.

In 2012, a land registration campaign titled *Directive 01* was implemented to strengthen and enhance the effectiveness of management on economic land concessions, ensuring their equity (RGC, 2012). In line with this directive, the Ministry of Land Management, Urban Planning and Construction (MLMUPC) issued a guideline to strengthen the effectiveness of previous policies. The purpose of this guideline was to measure and register land where conflicts existed between villagers and companies holding economic land concessions (MLMUPC, 2012). Villagers advocated strongly to be able to register their land in response to fears they would be evicted from State land. Village elders played a vital role in negotiating with land registration groups leading to the District Council intervening in support of the villagers.

After some time, *Prey Rumdeng* was recognized as a settlement area and measured as Khlum (leopard skin in an attempt to be detached from the forest land for potentially establishing a village in the future). While a land title was not provided to individual households, as each plot has previously been

secured, villagers could still access, except sell or transfer their land to others; or use the land as collateral for loans from micro-finance institutions if they possessed certification from the village chief. Since this time, Commune and District officials have demonstrated support for the villagers to help secured land title and reside legally on the land.

Figure 4. The new area of land encroachment



Note: This picture is a copy of a hand-drawn map provided by the Prey Rumdeng elder group in May 2021.

The villagers and Delcom have continued to mine the same area of land surrounding Phnom Lung but now had clearly demarcated boundaries between them. At times, disputes between the company and villagers arise, with villagers accused of mining illegally with a license, while Delcom is accused of not contributing to local development objectives for physical infrastructure such as roads, health centres, schools, and water reservoirs, despite actively in the areas for around a decade. For instance, no contribution to the annual commune investment plan beyond clothing and monetary support to Commune-led people's protection network had been provided.

There was new land clearance and fencing activities about 300 hectares outside of the scope of Delcom's exploration license. Elders in the village became suspicious of high-profile people, including Commune and District officials and the head of the security company hired by Delcom working together to gain profit from the circumstance. The local authority officials also own land, and they tend to have a larger land size and more workers, and they keep expanding their land where they can. (Community Mining Activist, Personal Communication, October 2020).

Existing policy framework and its enforcement in Cambodia

The existing legal framework governing mining in Cambodia required further development if the country is going to establish an industrial mining sector. The Constitution of the Kingdom of Cambodia states that all-natural resources are the property of the state and that the *"control, use and management of state properties shall be determined by law."* The Law on Mineral Resource Management and Exploitation, otherwise known as *'the*

mining law confirms state ownership of mineral resources. Companies may obtain one of six types of mining licenses to engage in legal mining activities including (i) artisanal mining; (ii) pits and quarries; (iii) gemstones; (iv) mineral processing (iv) exploration, and (vi) industrial mining (MME, 2001).

The MME receives applications for all types of mining licenses and has a mandate to manage and inspect all mining operations to ensure compliance with the mining law. Licenses can only be issued for companies registered in the Kingdom of Cambodia with the required technical and financial capacity to conduct mining operations (Development and Partnership in Action, 2011). The interviews with Type IV miners revealed that they tend to conduct activities without a licence, as this enables greater flexibility in terms of where they collect residue from than other types of operations. Type IV revealed that their operations are quite fixed and limited to a plot of rented land use for communal mining. Both groups stated that Type III miners also tend to operate without a license, while was not clear whether Type II mining operations were legal. Type I mining operations were known to be officially approved.

Article 11 of the *Mining Law* on Article 11 provides stipulations regarding the six types of mining licenses that may be granted in the Kingdom of Cambodia. For instance, an artisanal mining license may only be issued to persons with Khmer nationality and engage in mining operations using commonly available local tools and individual or family labour (up to 7 people). These operations may only access mineral resources found in loose silt, gravel, sand and rock, within a demarcated area no larger than 1 ha and to a maximum depth of 5 m (MME, 2001). Both Type IV & V miners fall into this

category, however, some artisanal miners own their plots, while others rent land.

Article 18 of the *Land Law* states that the legal transfer of State land to private ownership may not be obtained except by formal legal processes and that claims to land based on transforming it without formal ownership regardless of when the transformation occurred will be considered null and void and cannot be made. *Article 19* of the *Land Law* states that illegal occupants and those in illegal possession of State lands are not entitled to compensation for maintenance expenses if the land was not obtained legally (MLMUPC, 2001). Interviews with Type IV & V miners revealed that some of them had been evicted from land they had used since the mid-1990s by these laws and replaced by powerful companies without receiving compensation.

Royal Government of Cambodia has a role in preparing policies to promote investment in mineral resources in Cambodia and the authorization and monitoring of mining operations is managed by different Ministries including: (i) the Ministry of Industry, Mining and Energy (MIME); (ii) the Ministry of Agriculture, Forestry and Fisheries (MAFF), who is responsible for the management of State forests; (iii) the Ministry of Environment (MoE), who is responsible for reviewing environmental impact assessments of new development projects, including mines as prepared by the company, monitoring of compliance with environmental regulations, and overseeing the management of Protected Areas; (iv) Provincial line departments of national ministries who are the liaison point for a company seeking ongoing approval for a mining operation; (v) Private security companies and the Royal Cambodian Armed Forces (RCAF), who are employed to protect private land

concession; and (vi) Foreign governments, who may be contacted via an embassy if there is a complaint about a foreign company or foreign investors (BAB & DPA, 2012).

In practice, the *Mining Law* in Cambodia is sometimes applied inconsistently. For instance, initial exploration licenses have been used to validate the unregulated and illegal exploitation of valuable mineral deposits, despite the license not extending permission to conduct these activities. A significant issue with granting exploration licenses is enforcing the conditions that they will be used for mineral exploration purposes only. For instance, there have been cases where concessionaires evict people to exploit timber resources on the land. In addition, while artisanal mining licenses exist in theory, most artisanal mining operations are unlicensed, which places local people at a disadvantage when attempting to address environmental degradation caused by large licensed operators; and land conflicts with industrial-scale land concessions managed by foreign investors.

Artisanal miners also face constraints in meeting the conditions required for them to access legal approval for mining operations. Increased access to modern equipment and tools such as pumping, soil and rock grinding, grilling machines; new technologies such as the use of rectangular copper trays and mercury to excavate and process ores; and rising gold prices have tended to disadvantage artisanal mining practices in Cambodia. Substantial reform of the *Mining Law* and other legal requirements are necessary if the environmental impacts of larger mining operations are to be effectively managed (DPA, 2011).

Contribution to Household Economy

Traditionally, artisanal gold miners were restricted to the use of traditional pans to mine gold for three to four months each dry season. In the rainy season, the mine sites flooded and were not accessible. Today, miners can operate year-round due to the use of new techniques learned from workers and pump owners, who have developed a relationship with the community over time. Villagers occupy land in which they once lived Phnom Lung, however, there are also new tracts of demarcated land belonging to a large-scale mining company. The number of workers, mining experts, soldiers, and security guards, Vietnamese, and Chinese origin migrating to the area has increased as a result, along with the emergence of markets, restaurants, and entertainment venues. While they tend to live independently and focus almost solely on commercial mining activities within the area licensed to the company; over time new mining methods have been introduced to local people via relationships with these workers.

Most villagers in Prey Rumdeng are former migrants who now own plots of land that are recognized by the Government. Other villagers engage in ASGM activities privately on their own land, often without licenses or the payment of government fees. These villagers tend to respect stipulations about the depth of mining activities. ASGM groups often engage in collective activities with relatives, friends, and neighbors through the shared rental of land, sharing any profit generated. As landowners, many have co-operated with outsiders, who often contribute technical knowledge about mining, capital, labour or equipment. and a general principle that they receive a 50% share is normal, but this is subject to negotiation with other collaborators.

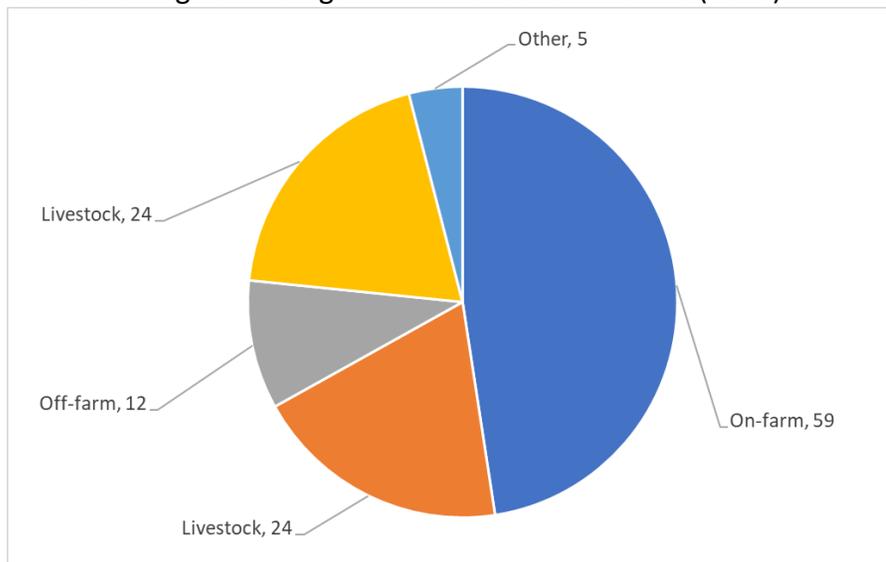
This has enabled these villagers to hire migrant workers in search of alternative livelihoods. Some in-migrants work in these types of arrangements, while others work for them worked for mining companies. Those who work in small-scale mining operations, tend to work in groups of between five to seven workers to enable the water pump to be operated. This enables these workers to access year-round employment at a salary of 30,000 riels (7.50 USD) per day (7.50 USD), which may be compared with seasonal employment at 20,000 riels (5.00 USD) per day in the nearby *Prolay Smach* mining area, just 15 km away.

This has attracted young people, who had previously worked in Thailand to return to the village and encouraged new markets and entertainment activities such as Karaoke businesses. It has also encouraged temporary migrants engaged in rice farming from within Cambodia when the harvest season is over. Meanwhile, older villagers in Prey Rumdeng, not engaged in rice farming, continue customary artisanal gold mining practices using a traditional pan, adjacent to their rice farms, even during the rainy season.

Estimate the income of land and water pump owners in these partnerships is more difficult as this is dependent on the volume of ore processed. These arrangements are agreed to by landowners as they wish to reduce the risk associated with investments in fuel, wages, and the maintenance of pumps. Partnering with water pump owners, who have expertise and capital, enables this risk to be shared to make profits more certain. Often landowners chose between a daily rate of 40,000 riels (10.00 USD) per day; or receiving 20% of the gross income minus expenses. Previously, aside from rice farming, the livelihoods of landowners in the area were dependent on logging and non-

timber forest products, such as bamboo, resin, and vines. As the availability of these products has declined, some landholders now find that small-scale mining comprises the second-largest component of their income.

Figure 5. Percentage of average annual household income (2019)



A household survey was used to access data about the contribution of mining activities to total household income. It was found that the average annual household income in 2018/2019 was 2,187 USD. On average, 59% of the financial income accessed by households was from on-farm activities (cassava, wetland rice and soybean production); followed by raising livestock (cows, pigs, or chickens) (24%), off-farm activities (trading, civil servant wages, land rental, non-mining waged labour, and remittances) (12%), and non-timber forest products (6%). Income from mining (wage labour, self-mining, and collective mining) was found on average to represent only 5% of household income. However, villagers still engaged in the activities for non-

financial benefits, while some villagers who did not own land tended to focus solely on artisanal mining.

Discussion

Effect of governance on the poor and marginalized artisanal miners

Even after land classification and the clear demarcation of land in Prey Rumdeng, conflicts between villagers, migrants, local authorities and the mining company persisted. Villagers continued to mine private land official land title, recognizing each other's boundaries as witnessed by the local authorities. The most significant challenge in securing a license was where the area overlapped with forests on State land. To access a license, this land would need to be legally converted from State land to private state land, and then classified as residential or agricultural land. This involved several ministries including the MoE, MME, MLMUPC, and MAFF. As the area under conflict is forested, it needed to be assessed by the MAFF (MME, 2001). The MLMUPC may then issue the land title with approval from the other relevant ministries. Despite this, no applications had progressed through the procedure, adding to the complexity of the situation by artisanal miners in Prey Rumdeng aspiring to legally establish a new village, detached from Trapaing Toteum village.

Land governance principles of accountability, transparency, and fairness had not been adhered to in practice in this case. Although the land was considered to be State land, it had been classified for use as an economic land concession on private state land, without informing the local community people, who have previously occupied the land. This facilitated control of the land to be assumed by the mining company, powerful elites and local

authorities. Law enforcement was sporadic and unevenly applied, as the complaints of villagers and miners who become victims of encroachment has not been heard. Despite, reports being released between 2017 and 2019 outlining a need for national and sub-national authorities, as well as technical agencies to crack down on illegal larger-scale mining activities.

The licensed mining company continued to expand their operations beyond their license into 3 km² of State land that villagers had previously accessed productively. This encroachment resulted in ongoing conflicts as reported in the media. Meanwhile, District and Commune officials continued to direct support these activities at the same time as using the mechanisms applied by local villagers to secured individual plots of land for individual artisanal mining. This conflict is likely to continue without transparent land classification practices.

The importance of securing customary land tenure for mining

ASGM groups tend to be caught between customary practices and illegal activities as they do not have the legal documentation required to be granted a mining license. Villagers tended to be evicted from areas they have traditionally mined as a result of procedures they consider to be unacceptable. As they had been applying customary mining practices to the land, they considered that it was not necessary to have legal title. While many artisanal miners conducted their activities seasonally, others had settled permanently on their plots for both residential and mining purposes.

The conflict between the company and the villagers had resulted in the eviction of many poor people, who responded by partnering with pump owners and in-migrants to help establish markets, entertainment facilities, a

pagoda, and a school that were recognized by local authorities. These factors contributed to the success of the intervention of provincial authorities in supporting Type III & IV artisanal mining families, in-migrants and high-profile groups who have already occupied the large plots of land. The entire area of *Prey Rumdeng* had been laid out like a *Khlum* (leopard skin) by the *Directive 01* campaign, however, no title deeds had been granted to individuals or households. However, the villagers continued to recognize the validity of these occupied plots in practice.

The lack of land classification in Prey Rumdeng poses ongoing challenges for securing areas in which artisanal mining activities may take place due to the aggravation of the relationship between two opposing forces. On one hand, there is an NGO-facilitated process, focused on the needs of villagers to access collective mining licenses. For several years, the Non-Timber Forest Products Organization has facilitated meetings between community leaders, the Rovieng District office and the Preah Vihear Provincial office to progress the agenda of obtaining collective mining licenses in *Phnom Dek* and *Pralay Smach* areas in *Rumany* and *Rumtum* communes, respectively. This process has been delayed as the decision was beyond the jurisdiction of the Provincial authorities and needed to be referred to a higher level of government.

Consequently, in 2018, the community leaders decided not to proceed further when they were informed of the requirement for paying various taxes and deposits, while no support would be offered from the responsible agencies for meeting stringent technical requirements. Instead, they opted to return to customary ways of mining without a license (Non-Timber Forest Products Organization, Personal Communication, August 2018). In 2019 the

emerging Mining Community movement promoted by Commune and District authorities began operating without existing miners being aware of this program. They were surprised to find their names and photos on a list attached to the initiative. While on the surface, their stake in this community presented an opportunity to protect artisanal miners against the potential threat of future evictions, it was not registered at the Provincial or Ministerial level and thus, did not represent the interests of the community. Rather, it was perceived as a method of extracting regular financial contributions from miners.

While the villagers still have not accessed land titles, their artisanal mining activities continue. This approach resonates with the concept of customary land tenure based on an extended history of occupation, social institutions, cultural norms, recognition, and conflict resolution (MRLG, 2017). The experience of ASGM on common land throughout Rumtum and Rumany communes in areas such as *Pralay Smach, Pralay Trach, Prek TorTeung, Phnom Lung, Prey Rumdeng, Phnom Dek, Chheu Pleung, OThom, Bos Tathong, Bor Thmey, Nakta Preah Tvea* and others supports this strategy. Since the establishment of Delcom in Prey Rumdeng, many of these areas have had their land classification gradually transformed to private occupied land by different stakeholders.

This has negatively impacted people already living in these areas, along with other Type V miners who had been mobilized but had not been able to successfully settle and were left with no specific land to conduct mining activities. Ultimately, they have relied on the residual deposits of Type III & IV miners. Thus, any equitable attempt to provide legal land tenure for

customary mining activities in an equitable will need to strike a balance between the needs of these miners and Type V miners, even if this means multiple types of collective land rights being defined, whereby artisanal miners can continue to access the benefits of customary mining practices.

The significance of ASGM as a source of household income

ASGM has been found to provide only supplemental income with other activities such as growing rice and other cash crops producing a higher amount of income. ASGM activities were found to be the source of only 5% of average annual income, which is reflective of the nature of their work. Many Types IV and V ASGM groups engage in collective activities with relatives, friends, and neighbors through the shared rental of land, sharing any profit generated. Landowners often contribute technical knowledge about mining and a general principle that they receive a 50% share is normal, but this is subject to negotiation with other collaborators, who may provide capital, labour or equipment. Other villagers engage in ASGM activities privately on their own land, often without licenses or the payment of government fees. These villagers tend to respected stipulations about the depth of mining activities. Each of these families operates on less than one hectare of land under the supervision of the head of a designated group.

While the contribution of ASGM to household income has low significance, it remains an important cultural and traditional practice. It may be likened to a bank, where people pool finances and can access credit when income from rice farming or other cash crops, such as cassava, cashews and soybeans is not available. Income from gold mining tends to be saved for use in establishing each subsequent rice crop, with credit withdrawn for consumption repaid

during the harvest season. The continuation of these traditions requires a space to be available for ASGM activities. In the short term, this may depend on the willingness of Type III or IV mining operations to share their resources. However, in the long term, having a dedicated space for traditional mining practices is viewed as the most workable outcome.

Conclusion

Gold and other mineral resources have long been surveyed in Cambodia but have not been mined industrially due to internal conflicts and a lack of financial capital. Meanwhile, ASGM has been applied as a popular livelihood activity that has enabled local residents and in-migrants from other provinces, who may have previously migrated to Thailand for work, to source or supplement a livelihood. Despite the small sample size of the survey used in this study, it reveals that artisanal miners only access a small income from their activities. Nevertheless, this does not diminish the benefits of continuous access to villagers and poor migrants to mining operations, whether they be self-directed, collective, or as waged work within mining companies in terms of local livelihoods. Artisanal miners described the seasonal connection between mining and agricultural activities and the role this played in managing household incomes. Local interaction between peers who engage in other mining activities, as well as the staff of mining companies, were also described as being of value to ASGM miners.

However, over time, local miners have faced ongoing threats to these benefits as a result of land conflicts. These pressures have affected the income that the range of stakeholders engaged in mining activities, including the mining company, in-migrants, villagers, and others; may access. Artisanal

miners who are evicted from the area are strongly disadvantaged. Some contest the encroachment of large mining companies on State land, where they have been actively mining. These conflicts are viewed as a product of an absence of effective land classification and demarcation practices by relevant Government agencies.

Beyond the issue of encroachment, an ongoing movement aimed at establishing a mining community has recently been promoted by Commune and District authorities. This is of concern to Type IV & V miners, who fear being exploited via the imposition of mandatory fees and other requirements. A range of ASGM practices from Type II to Type V remain unlicensed and illegal and there is yet to be effective processes established for these operations to access a license. There is limited awareness of relevant laws and the licensing process is complicated. From a public policy perspective, formalizing both individual and collective ASGM via simpler procedures and costs that may be afforded by local people; as well as closer monitoring of licensed exploration activities would enable the development of mineral resources in a manner that is more conducive to local development objectives. This necessarily involves greater engagement of local authorities in the planning and enforcement of mining regulation in the long term.

This research has identified several policy implications: (i) secure areas that provide access to Type V miners who wish to continue adopting customary artisanal practices provides significant supplementary benefits to local citizens; (ii) Licensing procedures that permits legal access for Type IV miners is an important mechanism for supporting Type V miners to continue their mining-based livelihood activities; (iii) Adapting licensing procedures to

make them easier to access by villagers should be prioritized, especially for those conducting collective mining activities; (iv) Multi-stakeholder mechanisms for companies, the community, civil society organizations, and sub-national authorities to exchange information and resolve conflicts would improve the governance of mining activities in Prey Rumdeng; and (v) Licensing procedures should be reviewed to ensure inclusive access to land and mining resources and to facilitate the equitable distribution of the benefits of infrastructure development by licensed companies and local authorities operating in the area.

Acknowledgements

The authors would like to express thanks to Ban Toxics Organization, the Non-Timber Forest Products Organization (NTFP), Development and Partnership in Action (DPA) and the local EISEI Network for their support in sharing documents and collecting data. We would like to thank the Analyzing Development Issues Centre (ADIC) for providing technical support and mobilizing the voluntary research participants. We wish to acknowledge all the research participants in the Phnom Lung area for sharing their knowledge. Finally, we are grateful to Dr Sok Serey and Dr Seak Sophat for their invaluable suggestions in reviewing this paper.

Author biographies

KEO Bora is currently a freelance consultant to the Ministry Education, Youth, and Sports on the Upper Secondary Education Sector Development Project, and until recently was a researcher at the Analyzing Development Issue Centre. He holds a Master in Rural Development and Project

Management and is currently pursuing a PhD in Social Science at the Royal University of Phnom Penh.

OEUR II is the Executive Director of the Analyzing Development Issues Centre, which conducts policy research with local communities on land and natural resource governance issues in Cambodia. He has published several book chapters and journal articles on natural resource management; Indigenous peoples, and migration in Cambodia.

References

- ADI. (2010). *The Expansion of Mining Activities and Indigenous Peoples' Rights in Mondulkiri Province: Case Studies of Gati Village, Keo Seima District and Pou Rapeth Village, Pechreada District*. Analyzing Development Issues Project, Cooperation Committee for Cambodia.
- Angela, J. (2016, August). *Gem mountains and gold forests: Artisanal and small-scale mining in Cambodia*. Retrieved. <http://www.asm-pace.org/blog/item/8-gems-gold-artisanal-mining-cambodia.html>
- BTO. (2010). *The Price of Gold: Mercury Use and Current Issues Surrounding Artisanal and Small-scale Gold Mining in the Philippines*. Ban Toxics Organization. The Philippines
- BAB., and DPA . (2012). *A Community Guide to Mining: Impacts, Rights and Action, Participants' Manual*. Bridges Across Borders Cambodia and Development and Partnership in Action.
- DPA. (2012). *Artisanal Small-scale Gold Mining (ASGM) in Battambang and Preah Vihear Provinces Investigation Report*. Development and Partnership in Action. Cambodia

- DPA. (2011). *Current trends for mining-related Social and environmental impacts in Cambodia, Extractive Industry Social and Environmental Impact (EISEI) Network*. Development and Partnership in Action.
- Hinton, J. (2006). *Communities and small-scale mining: An integrated review for development Planning*. Report to the World Bank.
- Hilson, G. (2010). Once a miner, always a miner: Poverty and livelihood diversification in Akwatia Ghana. *Journal of Rural Studies* 26, pp. 296-407
- Hufstader, C. (2018). *How a remote village is claiming its rights to its sacred forests. In Hear Our Stories: Indigenous People and Extractive Industry*. Oxfam, Phnom Penh, Cambodia.
- MRLG. (2017). *Documenting Customary Tenure in Myanmar. A Guidebook*. First Edition. Mekong Regional Land Governance
- MoE. (2011). *Strategic Plan on Management of Mercury in Artisanal and Small Scale Gold Mining in Cambodia 2012-2016, the Artisanal and Small Scale Gold Mining (ASGM) Project*. Ministry of Environment. <http://www.asm-space.org/blog/item/8-gems-gold-artisanal-mining-cambodia.html>
- MME. (2001). *Law on Mineral Resource Management And Exploitation*. Ministry of Mining and Energy. Preah Reach Krom. Kingdom of Cambodia
- MLMUPC. (2001). *Land Law*. Ministry of Land Management, Urban Planning, and Construction. Preah Reach Krom. Kingdom of Cambodia
- MLMUPC. (2012). *Guideline 019: Strengthening the Effectiveness Operation of Old Policy with New Action Implementation of Royal Government of Cambodia*. inistry of Land Management, Urban Planning, and Construction. Supreme Council of State Reform. Kingdom of Cambodia

- Mol. (2001). *Law on Administrative Management of Communes/Sangkats*. Ministry of Interior. Preah Reach Krom. Kingdom of Cambodia
- MME. (2018). *National Policy on Mineral Resource, 2018-2028*. Ministry of Mines and Energy. Royal Government of Cambodia
- NIS. (2020). *Final Report, General Population Census, 2019, Cambodia*, National Institute of Statistics, Ministry of Planning, Royal Government of Cambodia
- Niazi, T. (2011). *De-concentration and Decentralization Reforms in Cambodia: Recommendations for an Institutional Framework*. Asian Development Bank.
- Oeur I., and Cham, S. (2021). *A Scoping Study on the Impact of Mining Operations on Women in Four Selected Areas in Cambodia*. EISEI Network in Cambodia.
- RDIC. (2019). *Baseline Water Quality Testing Mondulkiri, Ratanakiri and Preah Vihear Province*. Completion Report, Version: 2.1. Resource Development International-Cambodia
- RGC. (2012). *Directive N.01, Strengthening Measurement and enhance the effectiveness of management on economic land concession*. Royal Government of Cambodia
- RGC. (2006). *Sub-decree on procedure and measurement on the conversion of public state property and the legal entity*. Royal Affair. Royal Government of Cambodia
- So, Chivy. (2019, January 18). *The Law Enforcement on Gold Mining Activity in Preah Vihear Province was criticized for not being transparent*. Radio Free

Asia. <https://www.rfa.org/khmer/news/environment/illegal-mining-20-01-18-444-5-2-2-19.html>

Sorn, Chanratha. (2021, January 12). *146 families in Preah Vihear province filed a complaint against the mining Company for land violation, not solve the problem*. Radio Free Asia. <https://www.rfa.org/khmer/news/land/146-families-of-land-disputed-villagers-in-preah-vihear-province-call-on-authorities-to-settle-their-dispute-with-gold-mining-company01122021170301.html>

Sovann, O. (2018). *Informed and Empowered: Indigenous women in northeast Cambodia Campaign to defend their lands and resources*. In *Hear Our Stories: Indigenous People and Extractive Industry*. Oxfam, Phnom Penh, Cambodia.

Spiegel, S.J. (2013). Managing Small-Scale Gold Mining and Diverse Rural Development Dynamics: Insights from Cambodia. *Edinburgh Working Papers in Sociology*, No. 40.

Spiegel, S.J. (2009). Resource policies and small-scale gold mining in Zimbabwe. *Resources Policy* 34(1-2), pp. 39-44.

Telmer, K., & Veiga, M. (2008). World emissions of mercury from small-scale and artisanal gold mining. In N. Pirrone and R. Mason, eds., *Mercury fate and transport in the global atmosphere: Emissions, measurements and models*. Springer, Germany.

Veiga, M., Baker, R., Metcalf, S., Davis, G., Bamber, A., and Singo, P. (2006). *Manual for training artisanal and small-scale gold miners*. Global Mercury Project. UNIDO, Vienna, Austria.