

Final report

Artisanal jade mining in Myanmar

Livelihood
challenges and
opportunities

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List of acronyms

ASM	Artisanal and small-scale mining
IEE	Initial Environmental Examination
CESD	Centre for Economic and Social Development
CSO	Central Statistical Organisation
CPB	Communist Party of Burma
DoM	Department of Mines
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EITI	Extractive Industries Transparency Initiative
HIV	Human Immunodeficiency Virus
KIO	Kachin Independence Organisation
KIA	Kachin Independent Army
MEITI	The Myanmar Extractive Industries Transparency Initiative
MMK	Burmese Kyat (the currency of Myanmar)
MMT	Methadone Maintenance Treatment
MONREC	Ministry of Natural Resources and Environmental Conservation
MEC	Myanmar Economic Cooperation
MGE	Myanmar Gems Enterprise
NLD	National League for Democracy
NGO	Non-governmental Organisation
TB	Tuberculosis
UMEHL	Union of Myanmar Economic Holdings Company Limited
UWSA	United Wa State Army

Acknowledgements

This report is published by the Centre for Economic and Social Development (CESD) in partnership with the International Growth Centre (IGC) to shed light on artisanal miners in the jade sector in Myanmar. Having recognised the limited research and data available on the informal jade industry, this research sought to bridge the gaps that exist to inform policy and decision makers on the state of artisanal miners in the sector.

Based on the sensitive and political nature of this study, we recognise that it would not have been possible without the support we received from various stakeholders. First and foremost, we would like to thank Myanmar's Ministry of Natural Resources and Environmental Conservation (MONREC) and the Myanmar Gems Enterprise (MGE) for their support and contributions to this study.

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Executive summary

Myanmar's informal artisanal jade sector is vast. It is estimated that around 400,000 people work as artisanal jade miners/hand-pickers in Kachin state, in the North of Myanmar. The sector is currently unregulated and highly dangerous. Each year, hundreds of artisanal miners get injured or are killed in accidents and landslides. Despite the size and the many problems of Myanmar's artisanal jade sector, very little is known about how it functions and what are the nature, scale, and causes of its problems.

This report examines the economic and social impacts of artisanal mining in Hpakant Township in Kachin State, and how the informal jade industry in Myanmar is structured. We focus on artisanal miners' mining activities, the socioeconomic characteristics of these miners, and the political economy of the artisanal jade sector. Data in this report is based on 239 surveys with artisanal miners and 29 interviews with key stakeholders from Myanmar's artisanal jade sector.

The report shows that the majority of the artisanal miners are migrants from Central Myanmar, Shan State and Rakhine State, who move to Hpakant/Lone Khin for economic reasons. One quarter of them worked for a jade mining company before becoming artisanal miners. Many miners are not equipped with effective safety gear, making them highly vulnerable to landslides. Almost half of the miners have experienced a landslide. Searching for jade is the backbone of the livelihoods of the majority of the miners. About 43% of miners have their own employer (also known as Law Pan/Boss), who provides food and accommodation, and the rest are independent miners. 65% of miners shared some portion of the jade stone's value with others, mainly with their bosses.

The median monthly income of miners is 363,069 MMK (Burmese Kyat currency, USD 266), compared to Myanmar's average monthly income of approximately 169,000 MMK (USD 124).¹ The miners earned 39% more than what they earned before becoming artisanal miners. Over half of the miners work 7 days a week. Miners regularly find jade stones; the median miner found his last jade stone no more than one week ago. However, miners rarely find very precious stones. On average, the most precious stone was found more than one year ago.

The median miner's last jade find was worth about 100,000 MMK (USD 73), whereas the highest value jade was between 1.1 M and 3 M MMK (between USD 807 and USD 2,202). Almost half of migrants remitted money in the last 12 months and the average amount in the last year was 1,947,041 MMK (USD 1,429).

When tensions occur in the mining areas, migrant artisanal miners usually seek help from each other. Kachin miners, on the other hand, seek help from ethnic armed organisations, local officials, and village heads, reflecting Kachin miners' accessibility to these authorities. In case of injury or illness, most of the miners rely on private clinics or private hospitals rather than public hospitals. It was estimated that over half of the artisanal miners are drug addicted. Consequently, HIV/AIDS and tuberculosis prevalence is high among artisanal miners.

The report concludes that the government and other key stakeholders including non-governmental organisations (NGOs) could make progress towards a sustainable artisanal mining sector by: (1) addressing the safety issues of miners; (2) formalising artisanal miners and jade markets in Hpakant/Lone Khin (2) enhancing coordination between key stakeholders; (3) increasing the role of local governments in managing artisanal mining; (4)

¹ Labour Force Survey, 2017.

adopting a wealth distribution mechanism at mining areas; (6) managing the flow of immigrant artisanal miners; (7) land allocation for artisanal and small scale mining (ASM); and (8) providing miners' welfare and education programmes.

Methodology and outline of the report

Research methods

This report relies on surveys, semi-structured interviews, and field observations. The data was collected by the Centre for Economic and Social Development (CESD) from June 2017 to July 2017. The survey covered 239 artisanal miners² or hand-pickers working in nine of the ten existing mine zones,³ with at least 15 surveys conducted in each zone in the Hpakant/Lone Khin area (see appendix). Respondents were chosen among a random selection of artisanal miners who were searching for jade, as well as those sitting in nearby tea shops or at home in their temporary shelters on the side of the mining sites.

The surveys were conducted by a team of enumerators from Kachin state, led and trained by a well-connected expert in the area of resource extraction in Myanmar. The surveys covered five major themes: (i) Personal details of artisanal miners; (ii) employment and skills; (iii) information on migration; (iv) living and working conditions; (v) and income and expenditure. All of the data was collected and filled out in Burmese, and later translated into English.

The report also draws on 29 interviews with state and non-state actors knowledgeable of or involved in the artisanal jade sector. Interviews were conducted in Myitkyina, Hpakant/Lone Khin, Nay Pyi Taw, and Yangon. The snowball method was used to select interviewees, while seeking to cover the most relevant existing stakeholders in the artisanal jade sector.⁴ In addition, direct observations of the sites were made where artisanal miners work, the areas surrounding them, artisanal miners' work activity, their housing conditions, and the informal jade markets in Hpakant, Myitkyina and Mandalay.

Finally, the report is based on a primary and secondary literature review. Reports by NGOs and scholars (relatively few are available), government reports on major incidents in the jade sector, existing laws and regulations, and news articles on the topic were consulted (see the list of references). The report draws on data made available (through existing contacts) by MONREC, MGE, and the Central Statistical Organisation (CSO).

Reliability and validity

Given the difficulty in obtaining reliable information on the artisanal jade sector, triangulation of data was an important way to increase the validity of the research. As described above, the report relies on a number of both qualitative and quantitative research methods. There were, however, three main challenges in conducting the research, mainly encountered in conducting the surveys. First, due to the rainy season, half of the companies had stopped their operations

² Artisanal or subsistence mining is generally defined as mining that relies on physical work force and simple tools, such as ordinary hand tools or 'light' machinery, according to the Myanmar Centre for Responsible Business (MCRB), the Institute for Human Rights and Business (IHRB), and the Danish Institute for Human Rights (DIHR) (March 2018, version May 2018).

³ One zone was unreachable due to distance, road conditions and bad weather, see also the map in Appendix I.

⁴ These included: Artisanal miners, bosses, government officials (from the Union, township and state level), Members of Parliament (from Union level), (ethnic) political parties (from state and township level), ethnic-based civil society groups, NGOs (including those providing health clinics), community leaders, traditional leaders, religious leaders, private sector associations, company representatives, Kachin-based non-state actors, and actors involved in the peace process.

and around 40% of the artisanal miners had left the study areas. This could have had an impact on the research findings, particularly the data from the surveys.

Second, a slight bias might have been caused by the self-selection of respondents. Given the sensitive nature of the topic, some respondents were not willing to participate in the survey. Though the research team did not press anyone to participate in the survey, the team tried to gain trust among artisanal miners by explaining the independence of the research team (particularly its non-affiliation with companies) and its affiliation with national and foreign academic institutes. Most of the enumerators were from Kachin state, which helped to gain trust among artisanal miners, while adhering to ethical standards. In addition, the team promised complete confidentiality of the respondents, and handed out name cards and letters stating the purpose of the research.

The last challenge in conducting the research was that the reliability of the answers to the survey questions is hard to assess, particularly given the sensitive nature of some of the questions. The survey contained a number of counter questions that enabled cross-checking of the validity of the answers. While most questions were answered without any difficulty, we were cautious to draw conclusions from answers to questions that were highly confidential or that roused suspicion of unreliability.

Outline of the report

The outline of the report is as follows: Chapter 1 provides an introduction to Myanmar's entire jade sector, while chapter 2 looks at Myanmar's artisanal jade sector. Chapter 3 outlines the political economy of the artisanal jade sector. The most common characteristics and backgrounds of artisanal miners are described in chapter 4. The social, labour, and economic conditions of miners are presented in chapter 5, and an analysis of conflict and jade mining is provided in chapter 6. Finally, chapter 7 provides recommendations for formalising, legalising, and regulating the artisanal jade sector in Myanmar going forward.

Chapter 1: Introduction: Myanmar's jade sector

Myanmar is a multi-ethnic society with rich natural resources. After gaining independence from Britain in 1948 it plunged into civil war. In the 1950s, Myanmar had the potential to become one of the most developed countries in Asia. In 1962, the civilian government was replaced by a military regime that followed a socialist ideology; implementing inward looking policies. After two decades of a socialist regime (1962 – 1987), Myanmar had become one of the least developed countries. For the last sixty years there has been an on-going civil war in many ethnic states due to inequitable resource sharing and lack of mutual trust. Ethnic groups have been fighting for greater autonomy and self-determination in their respective areas.⁵

Myanmar generates 70% of the world's best quality jade (jadeit)⁶ with the largest jadeit deposits being located in northern Myanmar, mainly in Hpakant township of Kachin State.⁷ As of April 2018, total jade production in Myanmar covered 11,950.6 acres of land, which was shared by 5,326 private block permits and 190 JV blocks with Myanmar Gems Enterprise

⁵ <https://www.burmalink.org/background/burma/dynamics-of-ethnic-conflict/history-of-armed-opposition/>

⁶ Egretau, R. (2011). *Jade or JADE? Debating international sanctions on Burma's gem industry*. Accessible: <https://scholarspace.manoa.hawaii.edu/bitstream/10125/21489/APB%20no.%20132.pdf>

⁷ Barber, A. J., Zaw, K. and Crow, M. J. (eds) (2017). *Myanmar: Geology, Resource and Tectonics*, Geological Society, London, Memoirs, 48, 295-315. Accessible: <https://doi.org/10.1144/M48.13>

(MGE).⁸ Since 1964, the state-owned MGE has held Gems Emporiums each year. This is an official channel for foreign investors to buy Myanmar's rough gemstones.⁹ MGE's income from selling jade was MMK 707808 million (USD 582 million)¹⁰ for the fiscal year 2015 - 2016.¹¹ In 2014, while the sale of jade in Myanmar's official Gems Emporiums amounted to USD 1.5 billion,¹² UN Comtrade database reported that China imported about 12 billion of gems and jade from Myanmar. This is indicative of the size of the informal and illegal jade sector in Myanmar.

The government of Myanmar amended the Myanmar Gemstone Law in 2016, which allowed for artisanal-scale jade mining activities. In 2019, a new Myanmar Gemstone Law was enacted and allowed States/Regions' government to issue small and artisanal jade extraction permits in consultation with the Union Ministry.

According to the Myanmar Gemstone Law (2019), there are three types of jade extraction and production permits. These include: (i) a medium scale extraction and production permit, which is up to three years for up to five acres; (ii) a small scale extraction and production permit, which is up to three years for up to three acres; (iii) and an artisanal scale extraction (subsistence) permit, which is up to one year.

The Law prohibits foreigners from operating in the upstream and midstream of the jade sector. Despite this, there are many unofficial partnerships with local companies in practice. The beneficial ownership of many jade mines remains obscure, with little transparency on ownership.¹³

Since 1996, Myanmar's jade sector is increasingly composed of large-scale jade production companies, which typically used heavy machinery to extract as much as possible in as little time as possible. This has frequently caused major environmental and social impacts, particularly for surrounding communities, including land grabbing, landslides, increased ethnic conflicts, destruction of water reservoirs, and forest and biodiversity loss.¹⁴

What is often overlooked in political discussions and the (scant) reports on Myanmar's jade sector, is the substantial role that the artisanal jade sector plays. Despite the artisanal jade sector's significant contribution to the economy and local livelihoods, its relation to ethnic conflicts, and its large socioeconomic impacts, there is little substantive information available on this sector.

This report is the first attempt to shed light on Myanmar's artisanal jade sector. Our aim is to increase understanding of the economic structure and socioeconomic conditions of the sector, with a view to providing valuable input for the government and other parties to discuss and, eventually, decide on how to (further) develop and improve regulatory frameworks to govern the sector.

⁸ Based on MGE Data (2018)

⁹ Oak, Y. N. (2019). *Even with New Data, Valuing Myanmar's Jade Industry Remains a Challenge*, pg.6, Natural Resource Governance Institute, Open Jad Data. Accessible: https://openjadedata.org/Stories/how_much_jade_worth.html Last accessed 10 June 2019)

¹⁰ USD is equivalent to 1182 MMK as of March 2016

¹¹ Myanmar EITI report for the period April 2015 – March 2016

¹² Oak, Y. N. (2019).

¹³ Irwin, E. (2016). *Gemstone sector review-in support of Myanmar EITI*, p. 27, Myanmar Extractive Industries Transparency Initiative. Accessible: <https://www.resourcedata.org/dataset/rgi-myanmar-eiti-gemstone-sector-review/resource/9e5c6104-89e2-4160-93c6-425293a5e6a2> and Shortell, P. (2018). *Tip-Toeing Toward Transparency: Jade and Gemstone Sector Disclosures in Myanmar*, Natural Resource Governance Institute. Accessible: <https://resourcegovernance.org/analysis-tools/publications/tip-toeing-toward-transparency-jade-and-gemstone-myanmar>

¹⁴ Global Witness (2015) and Irwin, E. (2016).

The objective of this study is four-fold: The first objective is to better understand the political economy of the artisanal jade sector, including the dynamics between artisanal miners and mining companies (chapter 2 and 3). The second objective is to analyse the socioeconomic characteristics and problems of miners, including labour and housing conditions and health provisions and access (chapter 4-6). The third objective is to discuss options for the reform of artisanal jade mining regulations, for a formalisation of the artisanal jade sector, for the distribution and decentralisation of natural resources, and for social and economic support programmes targeting miners and households in jade mining areas (chapter 7).

While this study is unlikely to be sufficient to directly inform policy in this complex sector, it is hoped that it will represent an important step in setting the foundations for future policies, programmes, research initiatives, and/or intervention evaluations of Myanmar's artisanal jade sector.

Chapter 2: Overview of the artisanal jade sector

Myanmar's artisanal jade sector is vast and rapidly increasing. Though statistics on artisanal jade production are completely absent, it is estimated that about 300,000 - 400,000 people currently work as artisanal miners in Hpakant of Kachin State¹⁵ and about 7,000 artisanal miners work in Hkamti Township of Sagaing Region,¹⁶ contributing about two percent of the total work force in Myanmar.

Before 2016, artisanal miners used to work mostly on the dumping sites that were officially allocated for large-scale companies to dispose of their tailings. After 2016, artisanal miners shifted their operations to company sites. They either work independently or – more commonly – work for bosses who sell the jade and provide their miners with accommodation, food, clothes, health care, transportation, and/or equipment.

While the artisanal jade sector provides a large number of people with an income, it is also prone to many problems. Artisanal jade miners work in highly dangerous circumstances; they typically find jade on steep and very dangerous grounds, mostly without safety or protective equipment. Artisanal miners regularly get injured or are killed by falling boulders, landslides, or by falling off steep slopes or cliffs. Many live in make-shift houses, often close to their working sites on the side of dangerous slopes or in areas that are prone to landslides. The most deadly landslide occurred at dumping site in November 2015 in Hpakant, killing more than 114 people.¹⁷ Many of those killed in the landslide were caught in their homes while asleep. Similar accidents occur every year and many people are killed or injured. A recent landslide in April 2019 killed 54 people.¹⁸

The government of Myanmar is currently unable to regulate the artisanal jade sector. While Myanmar's existing regulatory framework for mining is poorly adapted to govern the artisanal sector, enforcement of existing rules and regulations pertaining to the sector is almost completely absent. Yet, there is an urgent need to understand and eventually regulate the artisanal jade sector in order to address its many problems and tap into the full potential of the most valuable yet finite natural resource in Myanmar.

With evolving democratic control of economic resources and moves towards decentralisation in Myanmar, natural resources are an increasingly important source of much needed

¹⁵ Interview No. 01 (2017), Yangon and Interview No. 12 (2017), Hpakant, Global Witness (2015).

¹⁶ Ibid.

¹⁷ Htwe, C. M. (2015). "Authorities introduce new safety measure in Hpakant", *The Myanmar Times*. Accessible:

<http://www.mmtimes.com/index.php/national-news/17980-authorities-introduce-new-safety-measures-in-hpakant.html>

¹⁸ Joson Thomas (2019). Myanmar's deadly jade mining. The ASEAN Post. <https://theaseanpost.com/article/myanmars-deadly-jade-mining>

government revenue. Issues of natural resource governance and the impact of resource exploitation are also central causes of the ongoing civil conflicts in Myanmar and integral to the peace process, which has recently been reinvigorated by State Counsellor Aung San Suu Kyi. Sanctions by the United States (US) on jade mining were lifted in October 2016, setting the stage for a diversification of export destinations and more international scrutiny of the sector.

Chapter 3: The political economy of the artisanal jade sector

3.1 The regulatory framework

There is a range of legislation governing the jade sector in Myanmar: (i) the 1995 Gemstone Law; (ii) the 2019 Gemstone Law (2016); (iii) Myanmar Gemstone Rules (1996); (iv) the State-Owned Economic Enterprise Law (1989); (v) the Myanmar Investment Law (2016); (vi) the Myanmar Investment Rules (2017); (vii) Myanmar Company Law (2017); (viii) the Environmental Conservation Law (2012); and (ix) the Environmental Impact Assessment (EIA) Procedures (2015).

Myanmar's regulatory framework for artisanal jade miners is poorly developed. The original 1995 Gemstone Law did not mention artisanal (or subsistence) mining. The amendments that followed (in 1996 and 2016) contained rules for the licensing of subsistence production but did not lay out many details (Myanmar Gemstone Law 1995; Amendment to Myanmar Gemstone Law 2016). The 2019 Myanmar Gemstone Law only covers medium, small and artisanal-scale mining and excludes large-scale mining due to its negative environmental impacts.¹⁹

Even if regulations on artisanal jade mining were to exist, however, experiences with subsistence licenses under the Mines Law show that such permits are not often used. The process of applying for artisanal licenses remains highly complicated, despite recent amendments in the Mines Law to decentralise the application process.²⁰ The recently enacted 2019 Gemstone Law allows artisanal miners to register at a State/Region level designated body. However, the procedure is still not clear.

The MGE piloted a project to formalise the informal artisanal jade miners in the Hkamti mining area of Sagaing Region. However, only about a hundred artisanal jade miners in Hkamti applied for permits despite the provision of some incentives for miners (e.g. housing and water supply).²¹

The earlier mentioned 2015 EIA Procedures stipulate that any project proponent undertaking activity in an area under 50 acres must carry out an Initial Environmental Examination (IEE). This implies that those who hold a subsistence mining license would also need to undertake an IEE.²² Given the great difficulties that larger-scale companies already have in developing and submitting their EIA, Environmental Management Plans (EMP) and IEEs, it is highly unrealistic to expect artisanal miners to be able to submit an IEE for approval.²³

¹⁹ Myanmar Gemstone Law (2019). *Pyidaungsu Hluttaw Law No. 4/2019 – Myanmar Gemstone Law*.

²⁰ Myanmar Centre for Responsible Business (MCRB) (2018). *Legal and Policy Framework*. Accessible: <https://www.myanmar-responsiblebusiness.org/pdf/SWIA/Mining/05-Legal-and-Policy-Framework.pdf>

²¹ Meeting with MOREC (2019), Nay Pyi Taw.

²² Under 2018 Mines Rules (82 f) Small Scale Production.

²³ Myanmar Centre for Responsible Business (MCRB) (2018).

At the local level, the policies that govern the gemstone sector for Hpakant and the role of the state government in it are not clear.²⁴ The government has formed a working group to discuss how to deal with the situation in Hpakant, however, its progress has so far been unclear.²⁵

The ongoing reform process of the Gemstone Law and Rule and Regulations is an unprecedented opportunity to reassess the current framework for natural resource governance. Another important part of the ongoing reform process of Myanmar's natural resource governance framework is the country's commitment to implement the Extractive Industries Transparency Initiative (EITI), an international standard to promote transparency in the extractive industries sector.

While the first EITI report, published in early 2016, was a major achievement that shed some light on the historically opaque extractive industries sector in Myanmar, important gaps remain, especially in the jade sector. The EITI report does not cover any of the artisanal or illegal mining that is taking place in Myanmar. The EITI international secretariat emphasised that gaining a clear picture of the jade sector as a whole is likely to be impossible without an understanding of the artisanal jade sector, and without connecting these activities with existing governance mechanisms in the sector.

3.2 Artisanal miners

There is no commonly agreed definition of *artisanal mining* and different definitions are based on the country's context or commodity type. Commonly, there are two methods of searching for jade which can be found in Hpakant mining areas: scavenging techniques using a simple tool (a small hammer mounted on a stick); and digging using low-tech methods and working either on an individual basis or as part of an organized operation. These artisanal miners are called 'Yay Ma Say' or 'hand-pickers'. The term 'Yay Ma Say' was first introduced around 1990 and referred to those who find the 'unwashed/unclean jade'. Rather than having their own site on which they work, these artisanal miners either scavenge the remains of large-scale mining companies in search of jade remnants, or dig the ground in company mining sites, sometimes with the use of water.

Artisanal miners normally search for raw jade stones in officially designated dumping sites on the periphery of each mining zone²⁶ and dumping sites in the company compound. There are 12 designated officially allocated dumping sites for companies to dispose of their tailings. Sometimes, companies have disposed of their tailings at the company's compound to avoid transportation costs and other reasons of inconvenience, though it is unclear whether this practice is legal.

Many migrant miners leave Hpakant/Lone Khin mining areas before the monsoon season as the companies suspend their operations during the rainy season (July – September/October). However, thousands of artisanal miners remain and continue to search for jade using different techniques such as digging at the cliff edge and pumping water up to the wall of the open pit mine.

The number of artisanal miners in Hpakant and Lone Khin rapidly increased from 100,000 in 2010 - 2012 to over 300,000 since 2016.²⁷ Most artisanal miners are poor migrants from outside of Hpakant and Lone Khin who migrated mainly for economic survival, whereas some fled from criminal charges or deserted the military or police. Apart from native Kachin, many

²⁴ Interview No. 19 and No.22 (2017), Myikyina.

²⁵ Interview No. 22 (2017), Myikyina.

²⁶ There are ten demarcated jade mining zones in Hpakant/Lone Khin

²⁷ Estimated by various interviewees including MGE representative

of migrant miners are from Rakhine State and Central Myanmar (especially from Sagaing Region). There have been problems among migrant miners and the local miners. The Kachin political party and political groups in Hpakant area have been politically concerned about an increasing number of migrant artisanal miners.²⁸

3.3. Local bosses

Migrant artisanal miners come to Hpakant/Lone Khin through connections with friends/relatives but some do not have these connections. Again, many people come to Hpakant/ Lone Khin with the hope to find valuable jade. But it is hard to get a jadestone within a short period of time for inexperienced miners. The living costs in Hpakant/ Lone Khin are relatively higher than Myintkyina City. Thus, an employer is needed for some artisanal miners to support them while they are in Hpakant/ Lone Khin. These employers are called ‘Law Pan’ (a wealthy person/boss in Jinphaw (Kachin) language).

As shown in figure (1), about 43% of artisanal miner have their own boss, also known as Law Pan. Most local bosses provide their miners with food and accommodation (Figure 2). In addition, they also provide support in the form of mining equipment, other necessities and personal security (e.g., help in settling disputes among miners). Upon their return from mining, the miners have to share some value of the jade that they found.²⁹ The sharing arrangements between miners and bosses are different depending on the methods of searching for jade and the support provided by bosses. The sharing ratio is 50:50 for an individual miner/hand-picker if accommodation and food is provided by the boss. Otherwise, the miner gets 67 percent while the boss receives 33 percent.³⁰ If the operation is carried out by a group, the boss receives 25% of the total jade value.

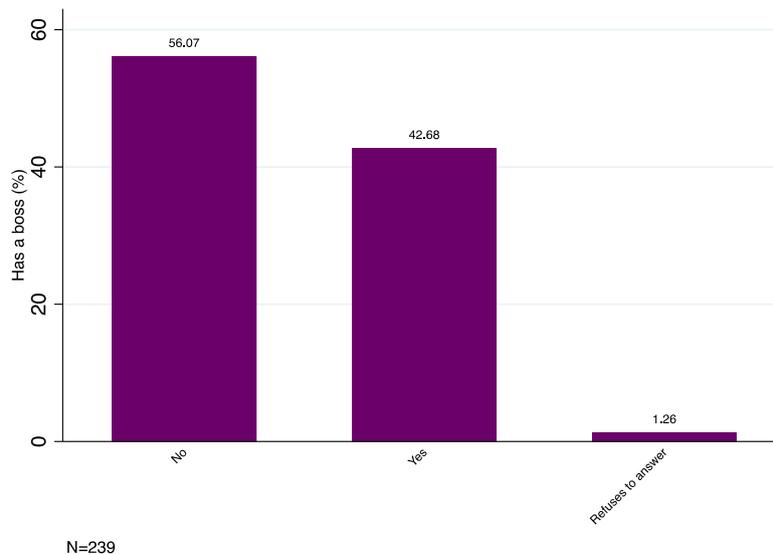


Figure 1: Percentage of miners who have a boss

²⁸ Interview No. 08 (2017), Nay Pyi Taw and Interview No.27 (2017), Hpakant.

²⁹ Interview No.7, No.11 and No.23 , Hpakant

³⁰ Interview No. 7 and No. 23, Hpakant)

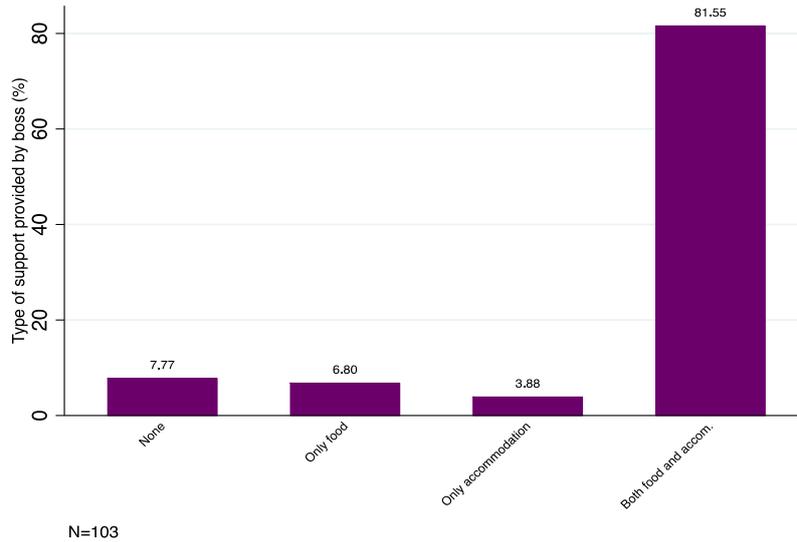


Figure 2: Type of support received by bosses

Most artisanal miners see their bosses as some form of safety net. Surprisingly, sixty-two percent of miners with bosses believe that their bosses will continue providing accommodation and other benefits even if they cannot find jade in the next six months, while 15% do not believe this would be the case (Figure 3).

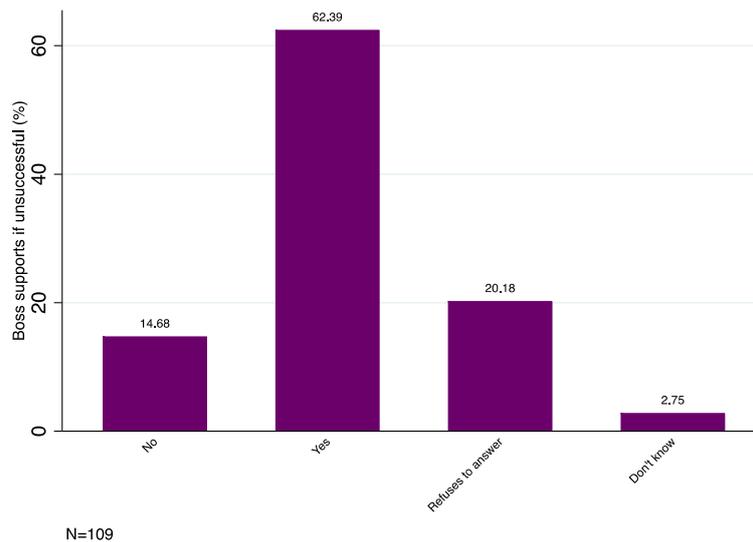


Figure 3: Percentage of miners who claim to be supported by boss even if unsuccessful

The background and status of bosses varies. There are four main categories of bosses: big bosses, medium bosses, small bosses, and micro bosses, depending on the number of hand-pickers they hire and on the value of jade they buy (see figure 4).

Big bosses have resources to sell and buy higher value jade, even above MMK 1 billion (USD 670,000). Some big/medium bosses hold a private block (one acre) mining license, which is issued by MONREC. Medium bosses have approximately 30 artisanal miners and buy jade up to MMK 500 - 600 million, which is equivalent to USD 400,000 (known as *Yar Kyauk*), while

small bosses recruit between five and 30 artisanal miners and buy jade up to MMK 90 Million (USD 60,000).³¹ The last category is micro bosses (known as *Kauk Yoe Law Pan*). Micro bosses employ less than five artisanal miners and/or can afford to buy less than MMK 2 million (USD 1,350) (known as *Sel Kyauk*).

Many of the bosses are local people while most of the big/medium bosses are Chinese from the Mandalay region. Some of them became bosses after accumulating wealth from working as miners for several years. After 2014, the number of Rakhine bosses has increased, followed by Kachin bosses and Chinese bosses. It is hard to know the number and composition of bosses in Hpakant/Lone Khin area as they are not officially registered.

Locals estimate that 10 to 15% are big/medium bosses and around 80-90 percent are small/micro bosses, in Hpakant and Lone Khin. ³² In terms of ethnic composition of bosses, approximately 50% are Kachin, 10 percent are Rakhine and about 40% are Chinese and mixed with Chinese such as Chinese-Shan, Chinese-Burmese etc.

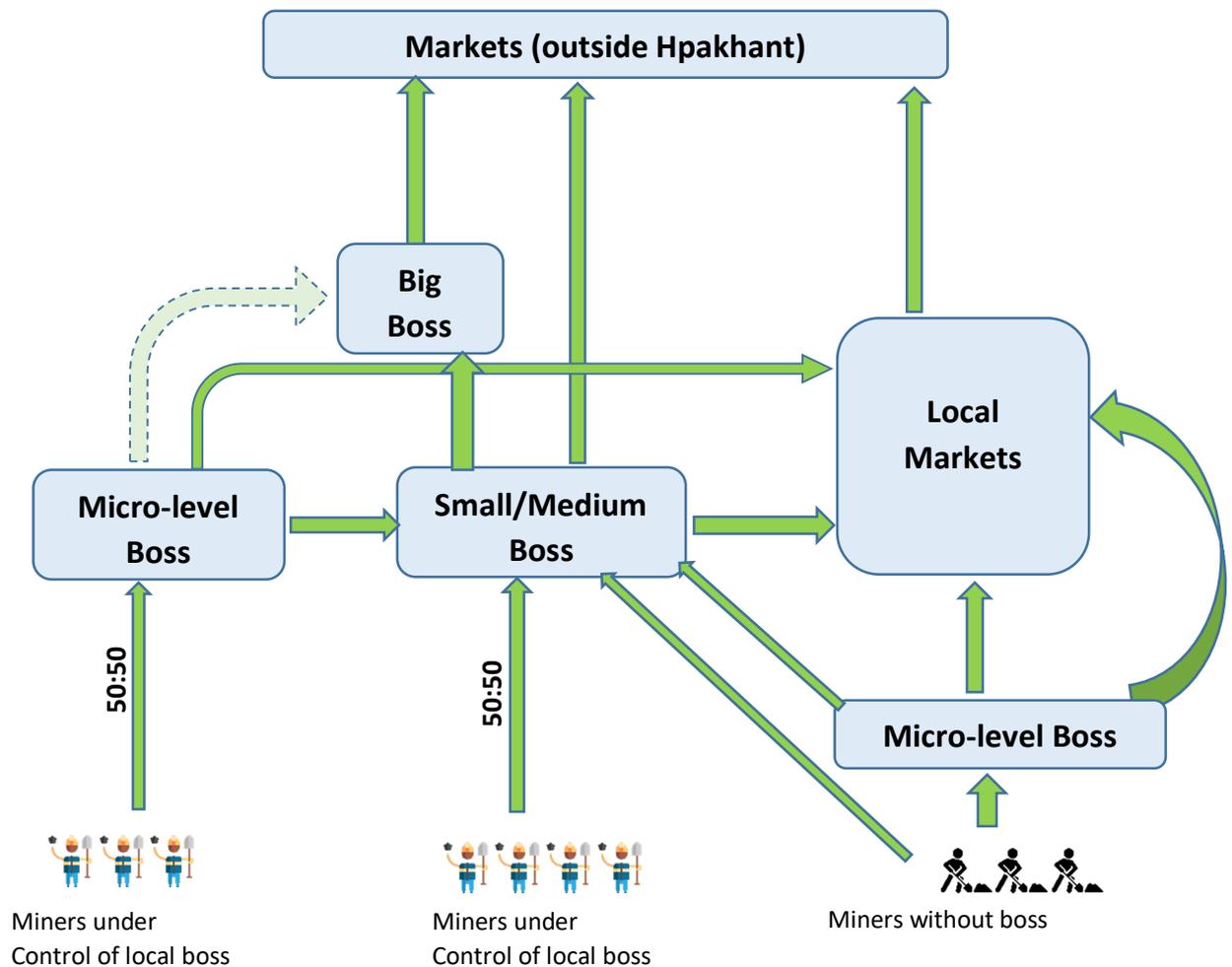


Figure 4: Relationship between artisanal miners and bosses

³¹ Interview No. 13 and No. 23(2017), Hpakant.

³² Interview No.23 and 28 (2017), Hpakant

3.4 The role of armed groups

The Myanmar military

The Myanmar military (generally called the *Tatmadaw*) has longstanding interests in jade mining and plays a significant role in jade extraction.³³ Before 1988, the Myanmar military were not directly involved in jade extraction and had limited control over the Hpakant area, which was mostly controlled by the Kachin Independence Army/Organisation (KIA/KIO). After the 1988 coup, the military swiftly moved into Hpakant area.

After the 1994 ceasefires with the KIO, a military conglomerate has been heavily involved in jade mining under its jade branch, the Myanmar Imperial Jade Company, as well as through its affiliated companies.³⁴ The military companies enjoy special privileges, including the right to extract the best quality jade on the most productive areas for jade mining.³⁵ For instance, Myanmar Imperial Jade Company held 330 jade mining blocks (1 acre block) in Hpakant/Lone Khin in 2018.³⁶

In the past, the Tatmadaw used to intervene in cases of conflicts between companies and artisanal miners who entered the companies' compounds without permission.³⁷ The military sometimes imposed curfews and has even been accused of shooting at the crowd.³⁸ In 2015, the Tatmadaw has reduced its involvement in providing security for companies.³⁹ Since then, the police force has taken over the security of company operations and the police have mostly been responsible for settling conflicts between companies and artisanal miners.⁴⁰ The police sometimes force artisanal miners, when they find valuable raw jade stones in the companies' worksites, to sell it back to the company for lower prices than their net value.⁴¹

Ethnic armed organisations

Ethnic armed organisations and people's militias are also active in the jade mining areas. In 2015, 624 jade mining blocks were assigned to 39 ceasefire groups/people's militias, under 64 different companies name.⁴² After the 1963 failed peace talks between the military government and the KIO, the fighting became serious, fueled by wishes to gain control over jade mining areas around Hpakant.⁴³ While the government administered Hpakant village (promoted to township in 1980), jade companies mostly operated in the surrounding mountains, controlled mostly by the KIO. Until 1988, most jade extraction activities were carried out by local Kachin and the KIO's representatives. At that time, the KIO also gave out permits that allotted a certain area of land where artisanal miners could mine exclusively.⁴⁴ Jade extraction has been one of the main financial resources to sustain the KIO's resistance against successive Myanmar governments.⁴⁵

³³ Global Witness (2015).

³⁴ Ibid and Interview No. 1 (2017), Yangon.

³⁵ Ibid and Interview No. 9 (2017), Nay Pyi Taw.

³⁶ Myanmar EITI report for the period April 2015 – March 2016.

³⁷ Interview No. 9 (2017), Nay Pyi Taw.

³⁸ Ibid.

³⁹ Ibid., Interview No. 11 (2017), Hpakant and Interview No. 12 (2017), Hpakant.

⁴⁰ Interview No.9 (2017), Nay Pyi Taw.

⁴¹ Interview No. 08 (2017), Nay Pyi Taw and Interview No. 01 (2017), Yangon.

⁴² Unpublished document.

⁴³ Interview No. 1 (2017), Yangon

⁴⁴ Ibid.

⁴⁵ Global Witness (2015).

After the KIO signed a ceasefire agreement with the government in 1994, the KIO was restricted from controlling some of their areas near Hpakant and taxing jade mining.⁴⁶ Instead, it was allowed to operate formal businesses inside the country.⁴⁷ However, after the ceasefire broke down again in 2011, the KIO started taxing companies again in Hpakant.⁴⁸ The KIO also taxes artisanal miners depending on the value of jade they find - 10% for over 5 million Kyat (USD 3671) worth of jade.⁴⁹

The United Wa State Army (UWSA) has vested interests in jade mining and significant influence in Hpakant. Shortly after breaking away from the Communist Party of Burma (CPB) that collapsed in the late 1980s, the Wa army signed a ceasefire agreement with the Myanmar military government and subsequently gained jade mining concessions in Hpakant.

Interviewees indicated that some jade mining companies have direct or indirect linkages with UWSA.⁵⁰ Some interviewees stated that several businessmen from China operated through Wa proxies in joint-venturing, as foreign investments are not allowed in Myanmar's gemstone sector.⁵¹ Artisanal miners seldom enter the worksite of companies associated with the Wa.⁵²

3.5 The government

The Ministry of Natural Resources and Environmental Conservation (MONREC)

MONREC is responsible for implementing the Government of Myanmar's Gemstone policy and enforcing the Myanmar Gemstone Law and regulations. By law, the Ministry evaluates and processes all jade production licenses, demarcation of jade mining areas/zone, permitting emporium exhibitions and the establishment of necessary committees/taskforces. Under MONREC, the MGE and Department of Mines (DoM) are the implementing agencies.

Myanmar Gems Enterprise (MGE)

MGE, which operates under MONREC, is responsible for all functions relating to gemstones, including permitting, licensing, the regulatory framework, production/joint venture production partnerships with private companies, collection of royalties, production monitoring, oversight, and marketing of jade and gemstones in Myanmar. MGE is also in charge of the Gems Emporiums. MGE's main roles are:

- Enforce the regulatory framework
- Participate in joint ventures on behalf of the State;
- With the permission of the Ministry, demarcate the jade mining blocks at the tract areas;
- With the permission of the Ministry, issue production permits to individuals, companies and cooperatives;
- Evaluate and value jade and collect non-taxes for sale of rough jade and finished products or sale split at Emporium sales in accordance with the Gemstone Law
- Impose taxes under the Mines Law and Gemstone Law for Gems and Jade production or for the sale of rough and finished products; and

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Interview No. 01 (2017), Yangon and interview No. 23 and No.24, Hpakant (Car and Law Pan).

⁵⁰ Interview No.9 (2017), Nay Pyi Taw

⁵¹ Interview No. 01 (2017), Yangon.

⁵² Interview No.7 (2017), Hpakant.

- Organise the Gems Emporium with the permission of the Ministry.⁵³

The total number of government officers at MGE is only 611.⁵⁴ At Hpakant and Lone Khin areas, which have 4,185 jade production blocks, there are only 80 government officers. This severely limits the government’s capacity to monitor jade mines.

3.6 The private sector

Jade mining companies

Under the 1995 Myanmar Gemstone Law, private companies could extract and sell jade. Starting from 1993, these companies could engage in joint ventures with MGE. A couple of companies operate both private and joint ventures. Among the 18,006 production permits in the 2015 - 2016 fiscal year, 98% of the companies were private and 2% were joint ventures with MGE.⁵⁵ However, the area operated by the joint ventures is almost the same as that of private companies: 14,688 acre and 14,555 acre respectively.⁵⁶ Starting from Mid-2016, the Government of Myanmar has suspended extension of jade extraction permits for existing blocks as well as approval of new permits. Because of this the number of jade extraction blocks in Hpakant/Lone Khin has decreased. As shown in figure (5 and 6), the operation areas of joint venture companies declined almost 50% from 2017 to 2018. However, some interviewees shared that the operation areas have not been significantly reduced on the ground⁵⁷ and some affiliated members of armed groups, and some companies are still mining illegally in the expired blocks.⁵⁸

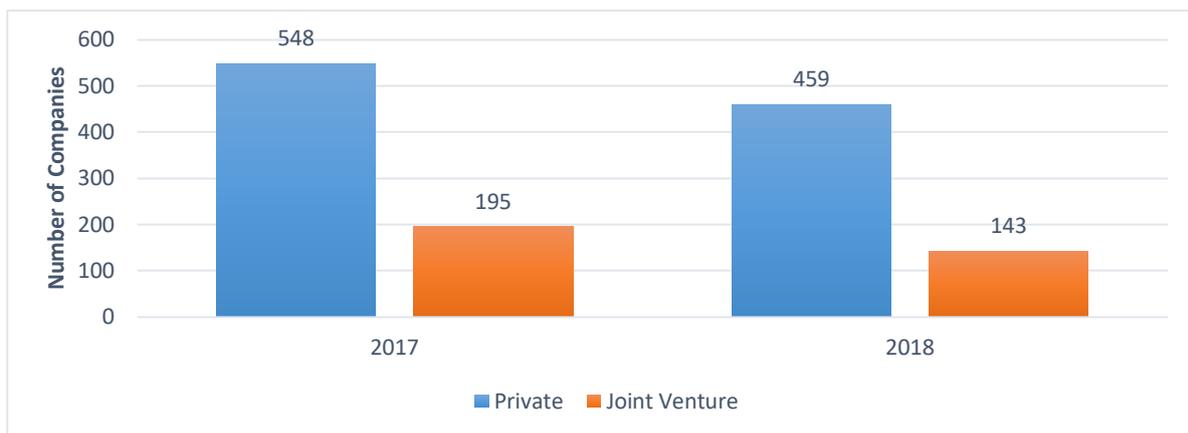


Figure 5: Number of companies that obtained private permits and joint venture permits in Hpakant in 2017 and 2018

⁵³ The Myanmar Extractive Industries Transparency Initiative (MEITI) (2018). *MEITI Report for Period April 2015 - March 2016*, Oil, Gas and Mining Sectors p.67. Accessible: https://eiti.org/sites/default/files/documents/meiti_report_2015-2016_final.pdf

⁵⁴ Based on MGE data (2017).

⁵⁵ MGE Interview (2017), Nay Pyi Taw.

⁵⁶ Ibid.

⁵⁷ Interview No. 26 (2017), Hpakant

⁵⁸ The Jade Mining Crisis (2019). Frontier Myanmar. <https://frontiermyanmar.net/en/the-jade-mining-crisis>

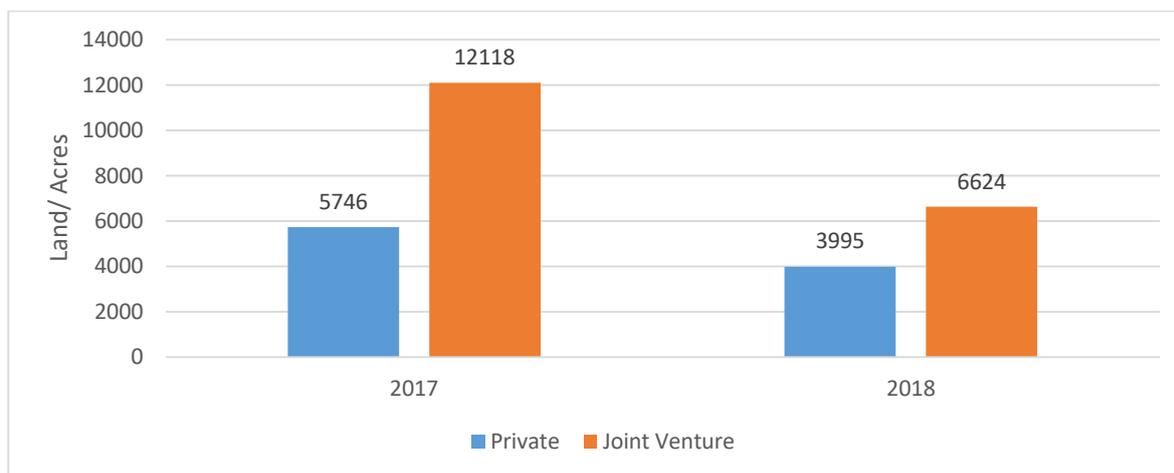


Figure 6: Permitted land of operation for private companies and joint venture companies in Hpakant

Local people stated that some jade companies exploited their resource rich areas, which has led to serious environmental damages occurring (for instance, mountains disappearing, floods, and landslides) while their areas continue to be poor.⁵⁹ Before 2014, companies did not dump their wasted soil at designated areas in Hpakant and Lone Khin. Instead, they dumped it at mountain ditches in the forest. After artisanal miners vandalised companies' properties, some companies were then compelled to allow artisanal miners to enter their compounds to search for raw jade stones.

Companies have major difficulties with encroaching artisanal miners on their compounds. Some companies are wary of reporting artisanal miners to police or government officers, as they tend to engage in illegal activities, such as continued mining with expired licenses, or unregistered heavy machineries.⁶⁰ When artisanal miners are injured or killed in accidents involving companies' vehicles, companies pay compensation in order to prevent vehicles from being destroyed by the large number of artisanal miners. Some companies also support local development projects by building hospitals, clinics, and schools in the villages near their worksites and support MGE's CSR programmes.

Traders and sellers

According to the 2016 amended Gemstone law, the license holder has the right to transport jade within the country and is free to sell in Myanmar or in foreign currency once the stone has been registered. MGE has set up gems trading centers/one stop shops in different commercial cities such as Mandalay, Myintkyina, Yangon and Nay Pyi Taw, where trade in rough gemstones is officially allowed.⁶¹ However, up to late 2017, high-quality rough jade (grade A and B) had to be sold in the designated Gems Emporium in Nay Pyi Taw and could not be sold in other trading centers. In late 2017, MGE allowed grade B jade to be sold in Myintkyina officially.

It is required to have permits from MGE, Kachin State government and Northern Military Command for a jade company, to carry out jade extraction outside the Hpakant mining area.⁶²

⁵⁹ Interview No 08 (2017), Nay Pyi Taw and Interview No. 09 and No.10(2017), Hpakant.

⁶⁰ Interview 07 (2017), Hpakant.

⁶¹ Myanmar EITI report for the period April 2014 – March 2015.

⁶² Interview No.13, Hpakant (2017)

However, some traders without proper licenses bribe authorities and ethnic armed organisations at checkpoints to transport jade.⁶³ In Hpakant, there are several courier agents that work in the trade area, especially to China, Mandalay, and Myitkyina. Some agents hold 1-acre block extraction permits although they are not engaging in extractive activities, for the purpose of declaring jade stone at regional MGE offices.⁶⁴

In recent years, many Chinese traders go to informal jade markets in Hpakant and Lone Khin, rather than to the Mandalay and Myitkyina gem market. Hpakant, Lone Khin and Sai Taung evening jade markets are the most popular informal markets. But MGE does not have official data on the number of sellers and the sales value of each market.⁶⁵ It is estimated that there are between 500 and 1,000 sellers at each market with the total sale value at each market being at least MMK 400 million per day (USD 270,000).⁶⁶ Most buyers come from China or are proxies for buyers from China.⁶⁷

Chapter 4: Characteristics of hand-pickers

4.1 Who Are hand-pickers?

The survey findings indicate that the age of artisanal miners ranges from 16 to 61, with an average age of 30. The majority (almost 60%) of the respondents were under 30 years old (figure 7). Only five survey participants (2%) were under 18, which makes it illegal for them to work in the hazardous conditions of a jade mining site. About 12% of the artisanal miners were over 45. The vast majority of artisanal miners were male. The level of education among artisanal miners is slightly lower than the average level of education in Myanmar. Two thirds of the survey participants had a middle school or lower (figure 7). The remaining third attained a high school or above levels. In terms of their marital status, most of the miners are single, while 33% are married. Out of the married artisanal miners, 70% were currently living with their spouses in Hpakant.

Most spouses who resided in Hpakant worked as small shopkeepers or took care of the home and children, suggesting limited employment options for women in the mining area. 28% of participants reported having at least one child and 17% had at least one child who was dependent or still in school. In terms of assets, half of the respondents possess both a mobile phone and a motorcycle, whereas 14% owns neither of the two (figure 8).

⁶³ Checkpoints are at Myitkyina and Kampaiti highway and Whay Khar highway.

⁶⁴ MGE interview (2017), Hpakant

⁶⁵ Interview No. 25, Hpakant (2017).

⁶⁶ Interview (2017), Hpakant.

⁶⁷ Interview (2017), Hpakant.

Age Group	Marital Status			Education Attainment						
	Single	Married	Separated	No education	Religious/ Monastic Education	Primary School	Middle School	High School	Undergraduate	Graduated
	66%	33%	1%	2%	4%	16%	43%	26%	7%	1%
<20	8%						5%	3%	0%	
20-24	22%	3%		0%	1%	2%	11%	9%	2%	
25-29	18%	8%		1%	1%	4%	11%	6%	2%	1%
30-34	9%	5%				2%	7%	3%	1%	0%
35-40	3%	6%	0%		1%	2%	3%	3%	1%	
40+	5%	10%	1%	0%	1%	7%	5%	3%		

Figure 7: Marital Status and Educational Attainment by Age group

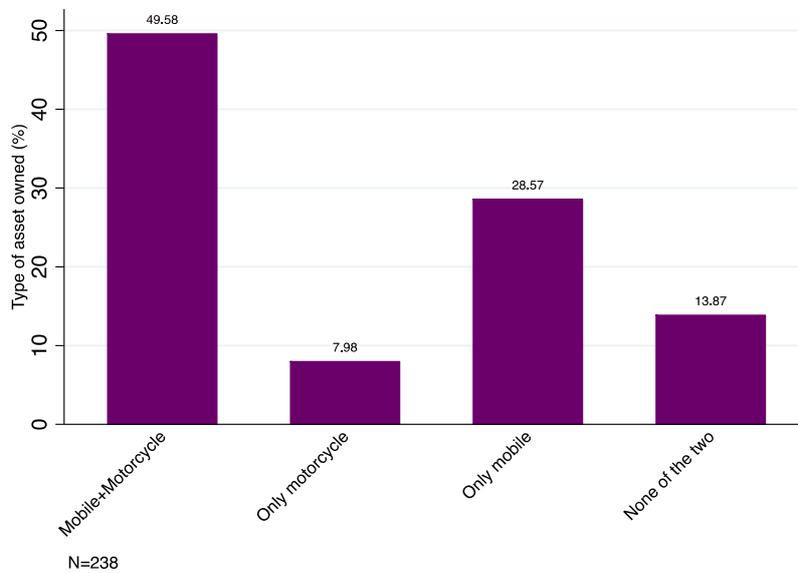


Figure 8: Type of asset owned

An overwhelming majority of artisanal miners are not native to Hpakant Township and come from across the country (figure 9). 43% of the respondents are from Rakhine state and Sagaing region.

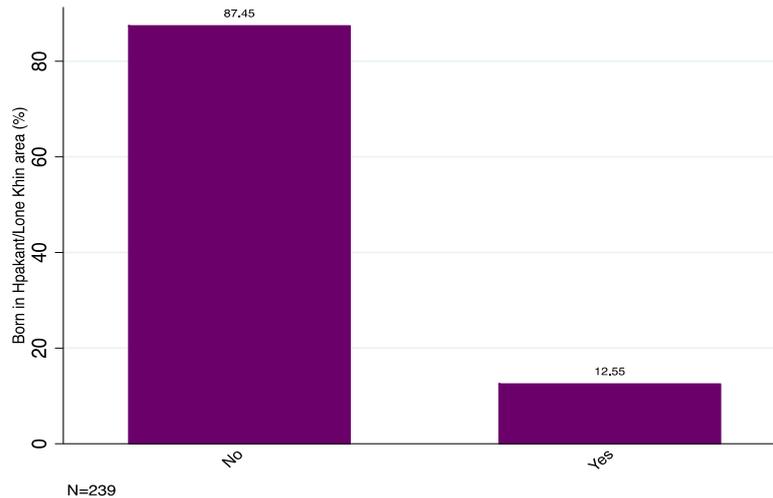


Figure 9: Natives versus migrants

Many of migrant artisanal miners have connections before arriving in the Hpakant area. However, 27% of migrant miners arrived in Hpakant with no previous contacts in the mining area. 50% relied on a family member and 19% contacted a friend before coming to Hpakant (figure 10). This shows that some people have taken risks to reach to Hpakant. Coming to the Hpakant mining area is not easy and requires passing at least three security check points, controlled by the military and people’s militia.

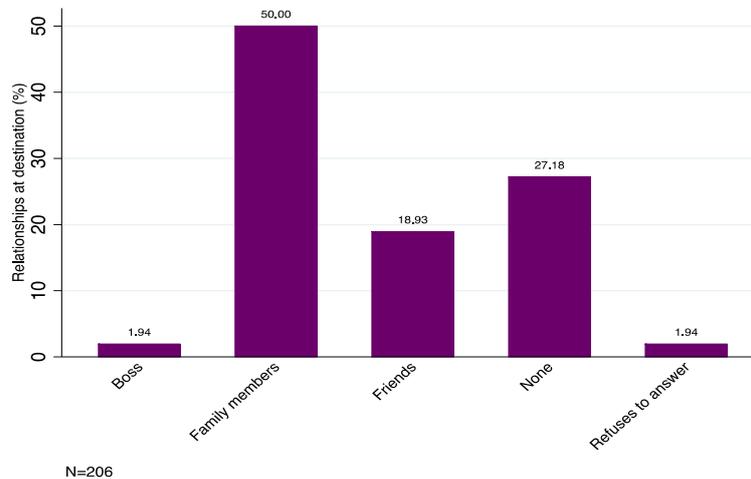


Figure 10: Social network at destination

4.2 Becoming an artisanal miner

After the 1994 ceasefire, large numbers of people started moving to Hpakant to become artisanal miners in search of better opportunities in the recently opened jade sector (Myitkyina News Journal, 2017). Our findings show that the main reasons for migrants moving to Hpakant are economic (94%). People migrate in the hope to generate better incomes (73%) or to find more job opportunities (21%) (figure 11).

Important in this is also the expectation to find opportunities that would allow them to support their families. By sending remittances, artisanal miners are often responsible for taking care of their families back home. Almost half of the migrants (48%) stated they had

remitted money in the last 12 months and the average amount in the last year was almost 2 million Kyats (USD 1,429) (table 1).

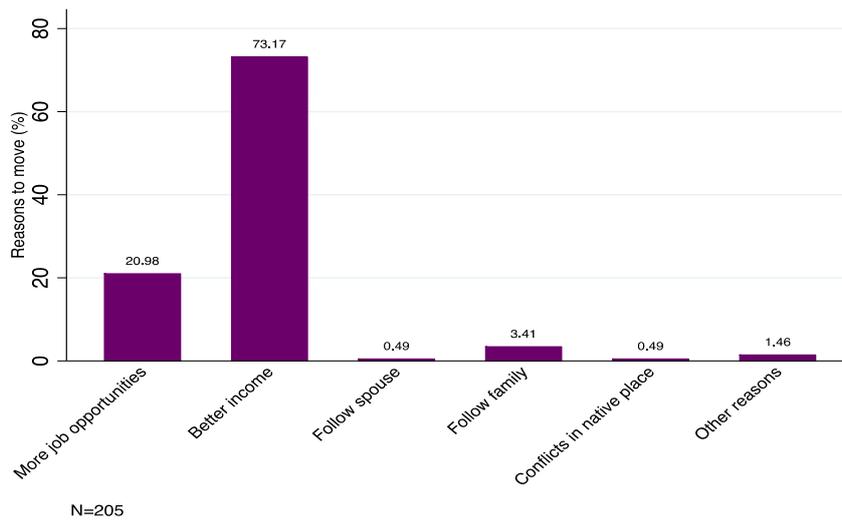


Figure 11: Reasons to move to Hpakant

The majority of the respondents (almost 70%) had jobs before they became artisanal miners, but about 33% of respondents had never experienced a paid job. Conditionally on having worked before, they most commonly worked in the agricultural sector, followed by working in the private sector or owning their own business (figure 12). Some were mining for gold before entering the jade sector, while others had jobs as drivers, shop keepers, carpenters, or as (motor) bike repairers. Interestingly, miners from Kayah State had mostly worked in the transport and private sector prior to becoming hand-pickers. Approximately 14% of artisanal miners had worked abroad, most commonly in China and Thailand.

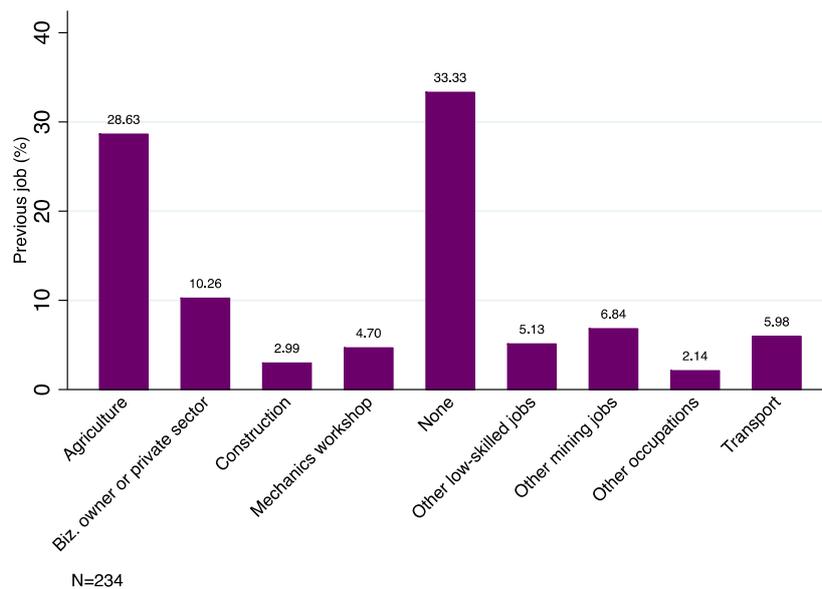


Figure 12: Previous occupations

Despite the reasons for becoming artisanal miners being mostly economic, artisanal miners did not, in general, earn a bad living with their previous jobs. They earned on average nearly 220,000 Kyat (USD 161) per month with their previous jobs, ranging from MMK 10,000 (USD 7) to as high as MMK 2 million or USD 1,468 (of 114 answers).

Judging by the miner’s own estimates, entering the artisanal jade sector did bring them some of the expected economic benefits. The monthly incomes of those who chose to become artisanal jade miners nearly doubled compared to what they earned before. The artisanal jade sector does, however, carry significant economic risks. While 39 miners saw their income increase at an average of MMK 380,000/USD 279 per month, 28 experienced a drop in their income at an average of over 240,000 /USD 176 per month. Others (ten miners) did not see any change in their income compared to their previous jobs.

Interestingly, 23% of the artisanal miners have at some point in their lives worked for a jade mining company (figure 13). Though most of them worked there for a year or less, some worked in a jade mining company for a decade or more before becoming an artisanal miner.

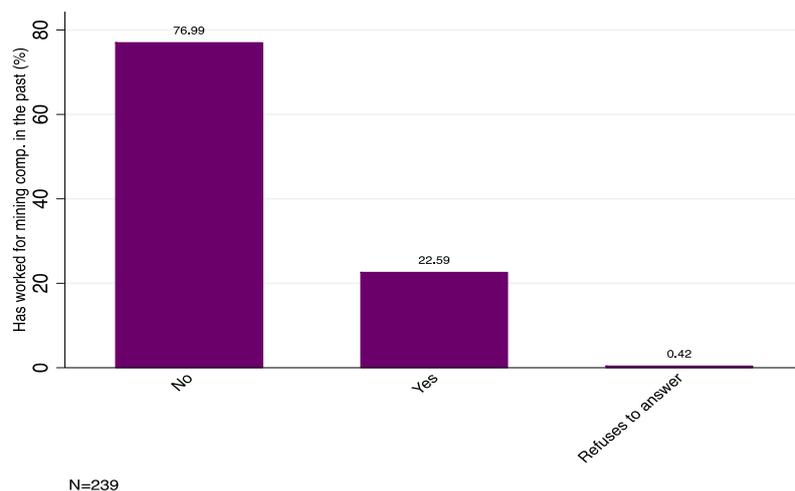


Figure 13: Percentage of workers that have worked for a mining company in the past

In the decision to become an artisanal miner, economic reasons are again important: Of the ones that stated why they left the company, the most common answer was low income levels. Others answered that the company had stopped its operations or closed, or that they had a poor relationship with the company, felt uncomfortable, or that there was a ‘communication problem’ (figure 14). In addition to having worked in jade mining companies, 42% of artisanal miners also have connections with companies’ current employees, especially with drivers and miners/hand-pickers. Some companies’ representatives claim that some bosses bribe their employees to get the operation information such as where is the quality jade.⁶⁸

⁶⁸ Interview No.12 and 13 (2017), Hpakant.

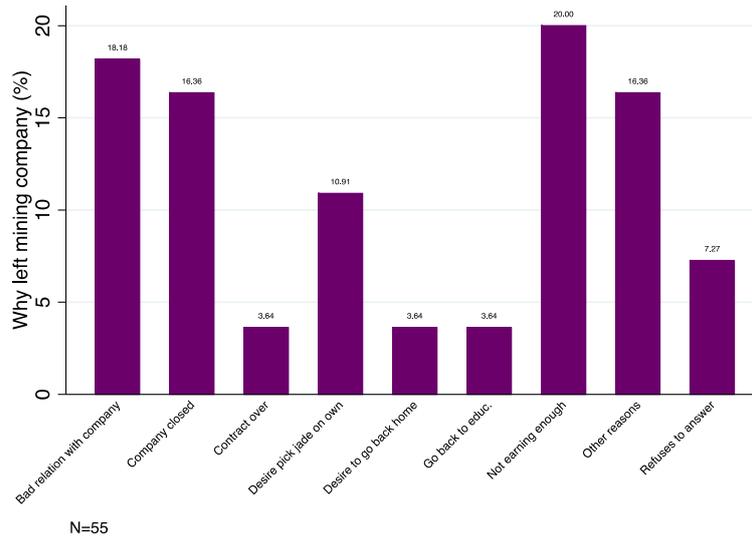


Figure 14: Reasons why miners left previous mining company

Though 23% of respondents had worked for jade mining companies, only a very small number of the artisanal miners learned their jade mining skills in a jade mining company. Artisanal miners most commonly acquire their skills with the help of friends (43%) (figure 15). This even applies to those who did not have contacts in Hpakant before they arrived. Others have acquired their skills via family and relatives (17%). Interestingly, only 8% learned their skills from their boss. Some artisanal miners (5%) claimed to acquire their skills by themselves.

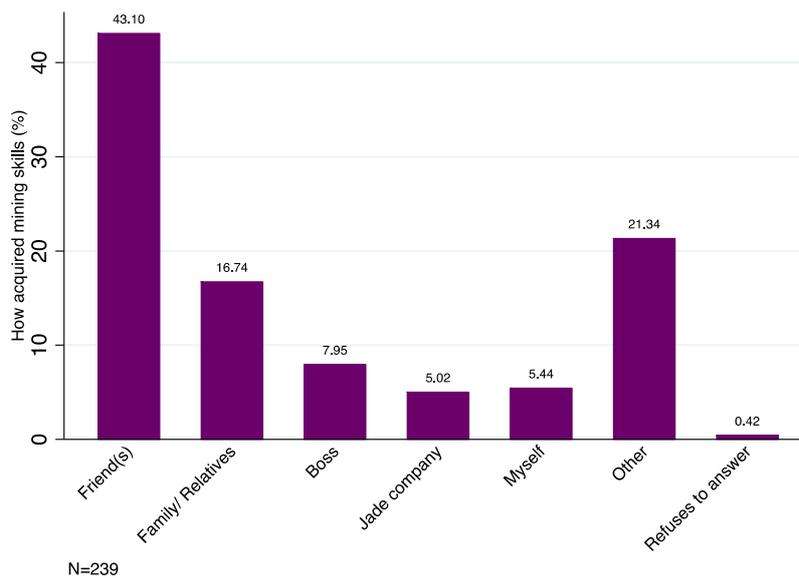


Figure 15: How hand-pickers acquire mining skills

Notwithstanding the economic risks, the majority of the artisanal miners (75% of 234) said they expected to continue to work as artisanal miners in Hpakant in the coming two years. In addition, 6% of miners intend to run their own business while others 6% have no plan for the next two years. Less than 1% showed a desire to continue for further study.

Chapter 5: Social, labour, and economic conditions of miners

5.1 Economic well-being of miners

How much do artisanal miners usually make out of their activity? When asked about their monthly income coming from their hand-picking activity, the median miner reported MMK 200,000 (corresponding to approximately 147 USD), with an average monthly income of MMK 360,069 (USD 266). The Labour Force Survey (2017) reported that the average monthly income in Myanmar is 169,000MMK (124 USD). Comparing native miners and non-native miners, the average monthly income of native miners is 20% higher than non-native miners. In their previous jobs, artisanal miners, on average, earned 220,000 Kyat (USD 161) per month. Thus, this finding indicates that miners earned 39% more than what they earned before becoming an artisanal miner.

Almost all the respondents reported that their average monthly income had changed since 2016, a signal of how volatile income from hand-picking is. About 60% of artisanal miners declared that their income had decreased by an average of -44% since 2016. Interestingly, the remaining 40% reported an increase by an average of 43% (figure 16). This shows how very uncertain is the life of artisanal miners, given that only 23% of our respondents reported about their engagement in other income-generating activities in the last 12 months, apart from searching for jade.

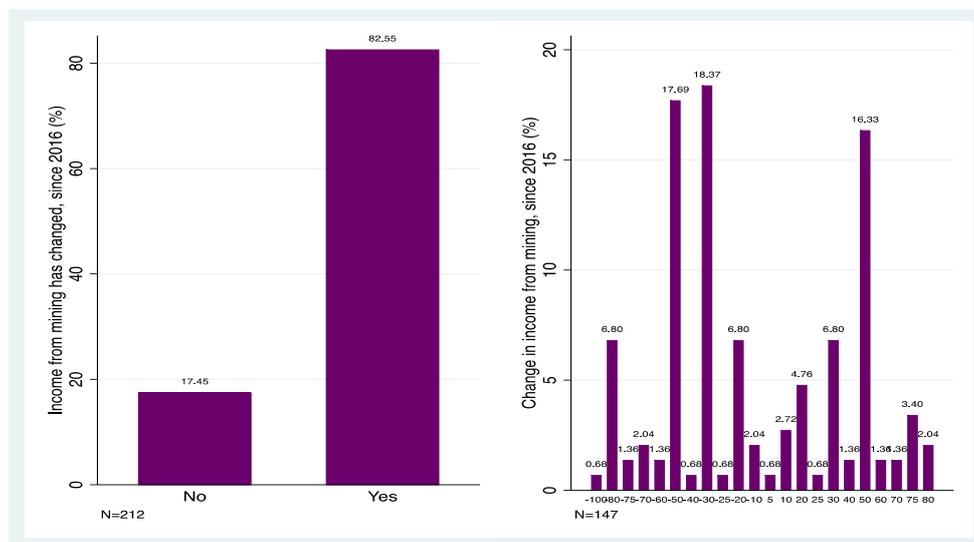


Figure 16: Change in income from mining, since 2016

Our data also shows a high volatility in terms of when miners find jade stones, and when they find stones of high value. The median miner found his last jade stone in the last week. However, the median miner said that the most precious stone was found more than 1 year ago. The median miner's most recent jade stone found was worth between 100,000 MMK and 500,000 MMK (between 73 USD and USD 367), while the highest value jade stone was between 3.1M and 6M MMK (between USD 2,202 and USD 4,405) (see figure 17). Distinguishing between states/regions, the miners from Kachin state reported having collected the highest value jade stones, followed by miners from Sagaing region and Rakhine state. Also, 63% of miners who had worked at the jade companies reported that the most recent jade found was in the last week.

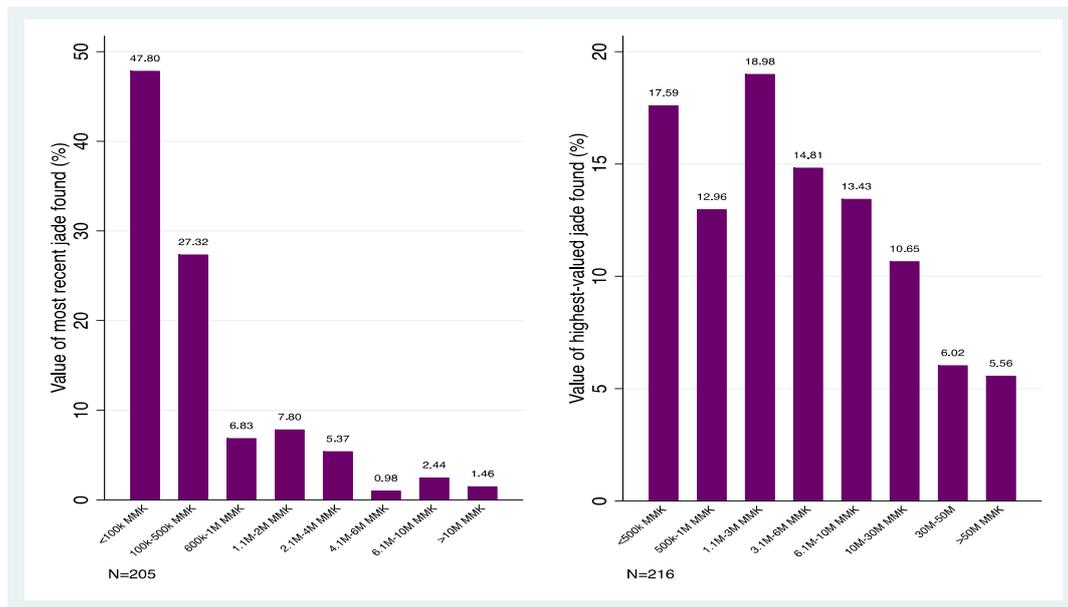


Figure 17: Value of most recent and most valuable jade found

As explained above, the artisanal miners do not receive all the revenue of the jade they found because there is a sharing arrangement between artisanal miners and others. The survey finds that 68% of miners shared some portion of the stone value with others. Among them, 76 percent shared some ratio of most precious stone they found with Bosses, followed by other artisanal miners (20.3 percent), ethnic armed groups (2.8 percent) and local authorities (1 percent) (figure 18).

The survey result shows selling jade was not a challenge for the majority of artisanal miners. But, twenty-six percent of the respondents reported having difficulties selling their jade. The most common difficulty is having to negotiate about the price, with almost 40% of the respondents complaining that bosses are imposing a price that is lower than what they would expect. Another 30% claims that the market value has gone down and they could not get their

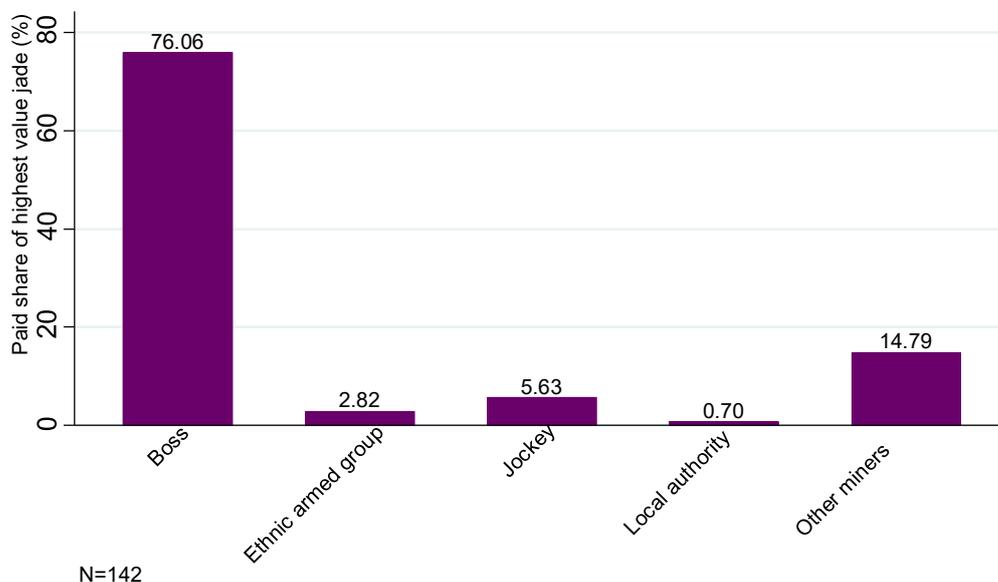


Figure 18: Sharing ratio between artisanal miners and bosses

expected price (figure 19). Some miners stated that their bosses allow them to inquire about the value of jade stones in the market before agreeing the stone's value, but others argued that their boss did not let them know for how much the stone was sold.⁶⁹ Interestingly, as figure 20 shows, most of the miners sold the jade stone they found to bosses rather than in the market, no matter whether they have their own boss or not. This is especially the case with artisanal miners with high incomes who find high value jade. Only 2% of miners said they sold the jade in the market in Hpakant/Lone Khine.

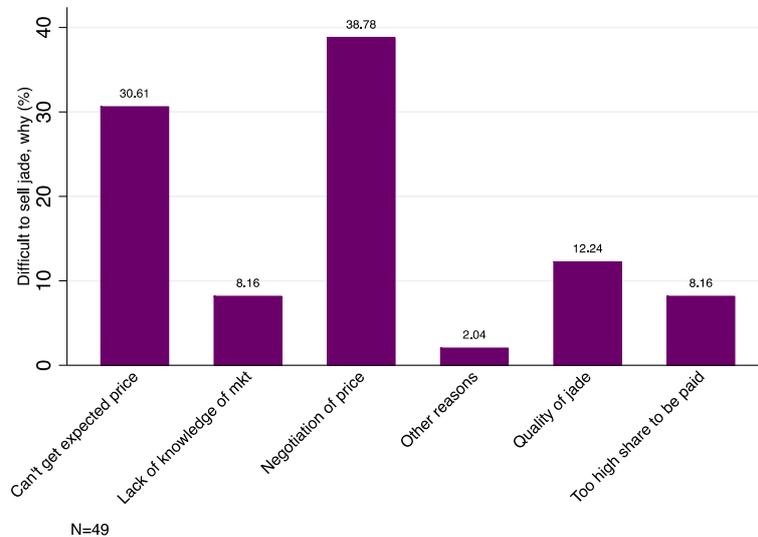


Figure 19: Difficulty in selling stones

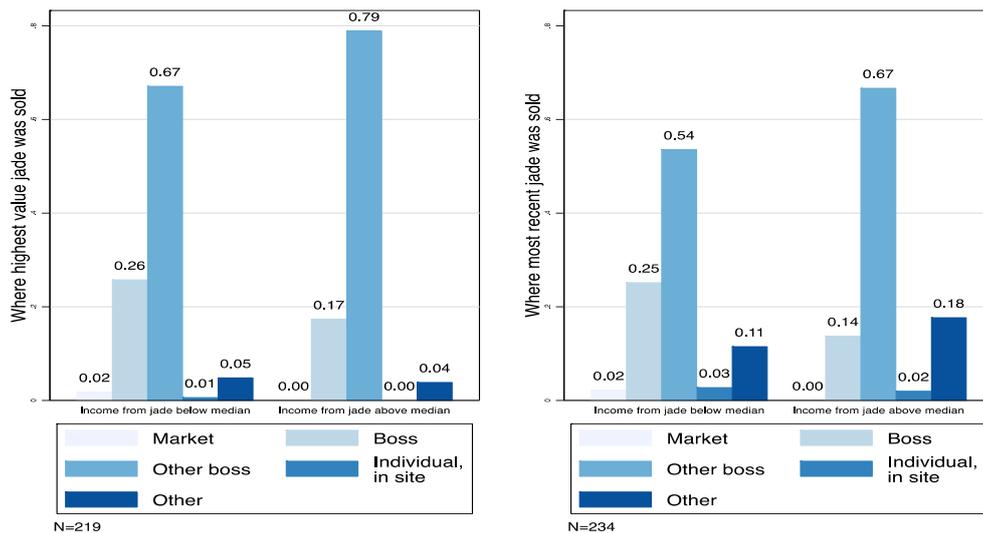


Figure 20: Where/who miners sell their jade to, by above/below median income

Jade mining is generally the most important but not the only economic activity conducted by miners. The median miner reports that finding and selling jade contributes between 50 to 75% of their total income (figure 21). This share of total income varies significantly across ethnic

⁶⁹ Interview No.23 and 24 (2017), Hpakant

groups, with Shan and Chin people reporting the highest share of income represented by jade. Interestingly, the distribution of respondents who report having engaged in other income-generating activities during the last 12 months does not seem to vary a lot across age groups, as shown by figure 22.

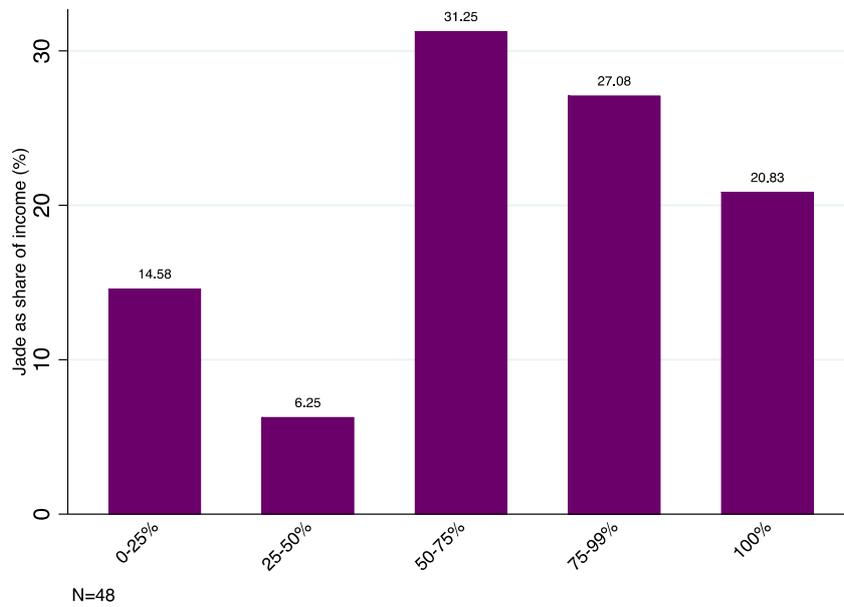


Figure 21: Jade as share of miners' income

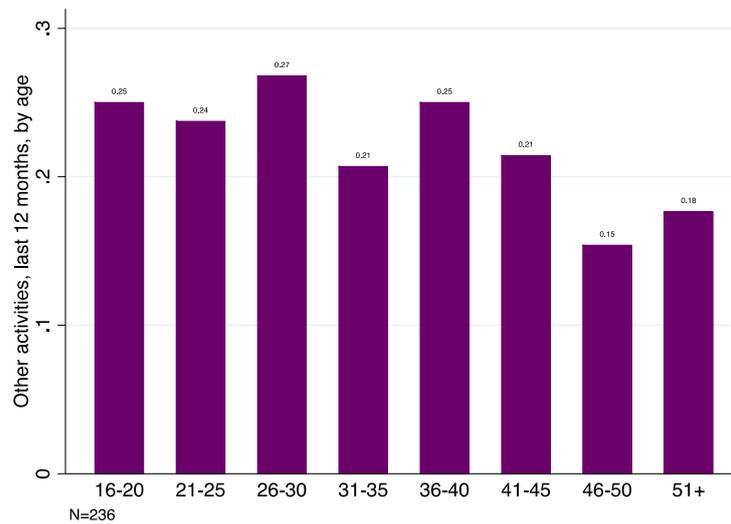


Figure 22: Percentage of miners that are involved in other income activities, by age group

Table 1 presents some statistics in terms of expenditures by the miners as well as remittances (with the caveat that not all respondents have replied to these questions). With an average monthly income of MMK 363,069/ USD 242, the artisanal miners spend about one-third of this (MMK 137,972/ USD 84) on food. Among migrant miners, 48% of miners engaged in remitting money to their family and sent a substantial portion of earning, with about 1,947,000 on average (approximately 1429 USD) worth of remittances in the last 12 months.

While the median miner reports no yearly savings for the past 12 months, 25% report having incurred debts. The median debt is between MMK 50,000/USD 33 and MMK 100,000/USD 66 (figure 23). The distribution of those who report having debts by age is bimodal, with a peak in the 26 - 30 age category and another one for those who are between 41 and 45 years old (figure 24). Among respondents, miners from Kachin State and Shan State report the highest debt (more than 1M Kyat) (figure 25).

Table 1: Economic report of the miners

	Mean	Median	SD	Minimum	Maximum	Obs.
Average monthly expenses in accommodation	15,650	0	26,660	0	120,000	80
Average monthly expenses in food	137,972	100,000	100096	5,000	600,000	211
Average monthly income	363,069	200,000	478,163	0	3,000,000	131
Past year savings	679,897	0	1,662,171	0	10,000,000	195
Average Remittances to town of origin in 1000 MMK, past 12 months	1,947	1,000	3,727	30	30,000	98
Engaged in other income activities	0.23	0	0.42	0	1	236
Income from jade has changed since 2016	0.83	1	0.38	0	1	212
Income from jade has decreased since 2016	0.60	1	0.49	0	1	168
Income from jade has increased since 2016	0.40	0	0.49	0	1	168
Currently has debt	0.25	0	0.44	0	1	214

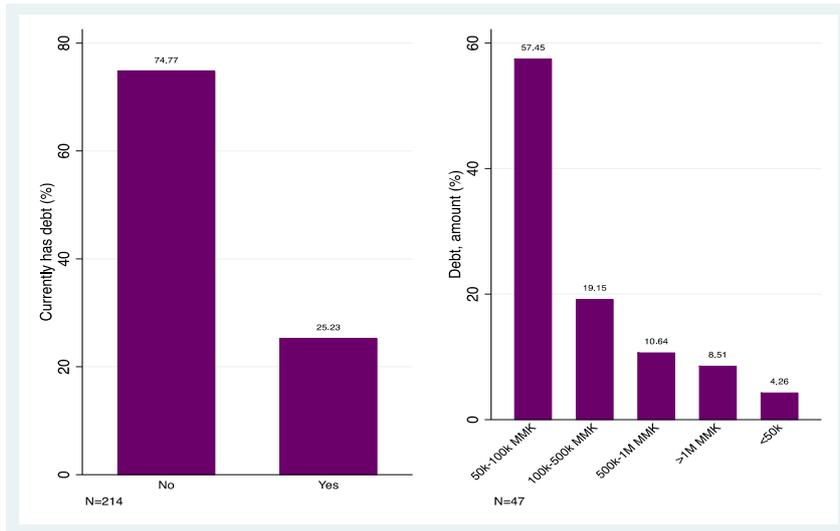


Figure 23: Current debt status of miners

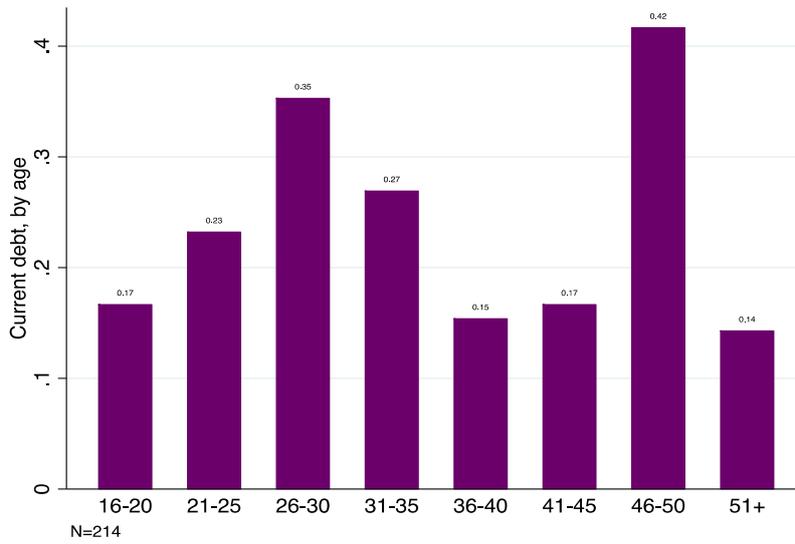


Figure 24: Current debt status, by age group

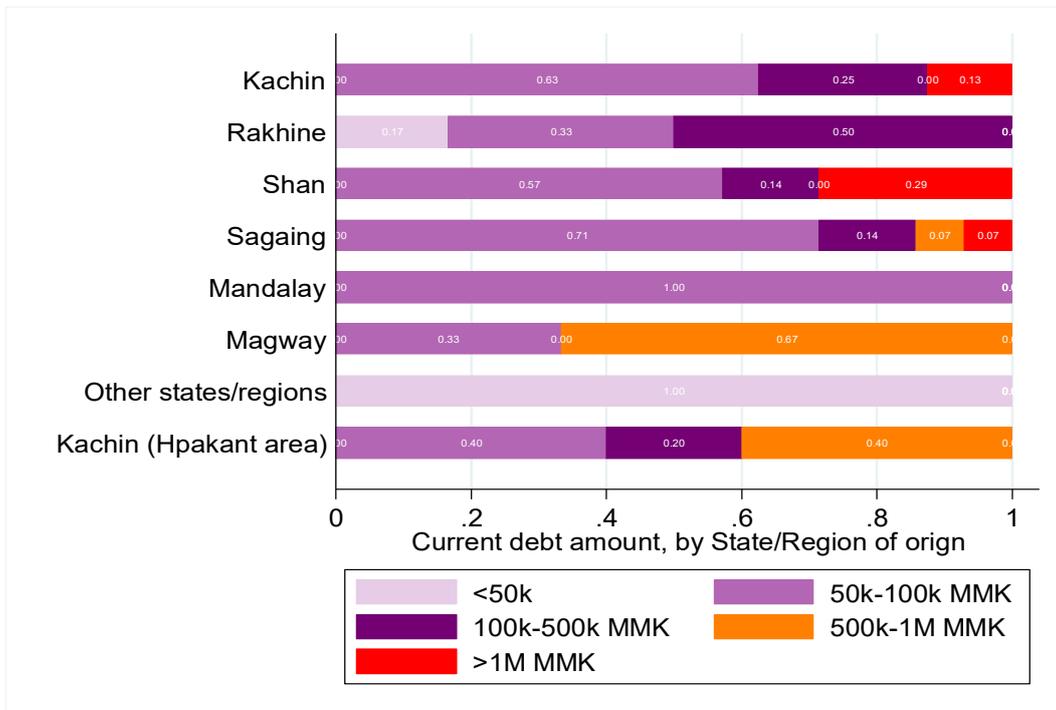


Figure 25: Current debt status, by State/Region of origin

As already noted, bosses play an important role in arranging some of the most basic social provisions of the artisanal miners. Of those with a boss (43% of 236), 85% make use of accommodation that is provided by their bosses. This means that in total, almost 37% of the artisanal miners (of 236) have accommodation arranged by their boss. The provision of food by the miners' bosses is even more common, representing 88% of those who have a boss (or 39% of 236). Artisanal miners whose bosses provide accommodation do not generally have to pay for this. Bosses are also known to provide equipment (e.g. boots) and health care for artisanal miners in return for some of the value of the jade that miners find.⁷⁰

5.2 Labour conditions

Most artisanal miners (63%) prefer to work on company sites, either to hand-pick (42%) or dig (22%) for jade (figure 26). While 15% of the miners prefer to work on dumping sites, very few artisanal miners exclusively work on dumping sites. Artisanal miners are quite mobile; 73% of the miners work on multiple sites. This mobility also extends beyond the borders of Hpakant. If they cannot find enough jade in Hpakant, artisanal miners easily shift to other areas of work, e.g. to gold mining in regions outside of Hpakant.⁷¹

Important reasons for artisanal miners to choose one site or the other for jade mining are the possibilities, freedom, and ease of finding (high quality) jade. These are used as arguments for preferring both company sites and dumping sites. Those who prefer dumping sites also indicate that they feel more comfortable and are allowed more time to search for jade.

⁷⁰ Interview No.7 (2017), Hpakant.

⁷¹ Interview No.17 (2017), Myitkyina.

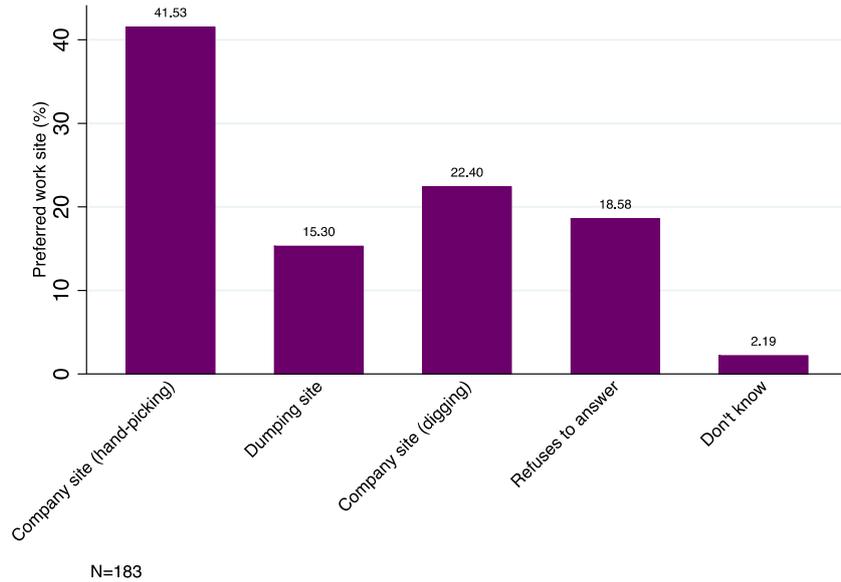


Figure 26: Preferred work sites of miners

Artisanal miners work long hours a week to find jade. They most commonly work seven days a week (57%) (figure 27), with 87% working more than five days a week. Only a very few artisanal miners work part-time; less than 4% work less than five days a week. Most of the miners from Kachin state, however, work less than seven days a week (80% of 49), most likely taking Sundays off to go to church.

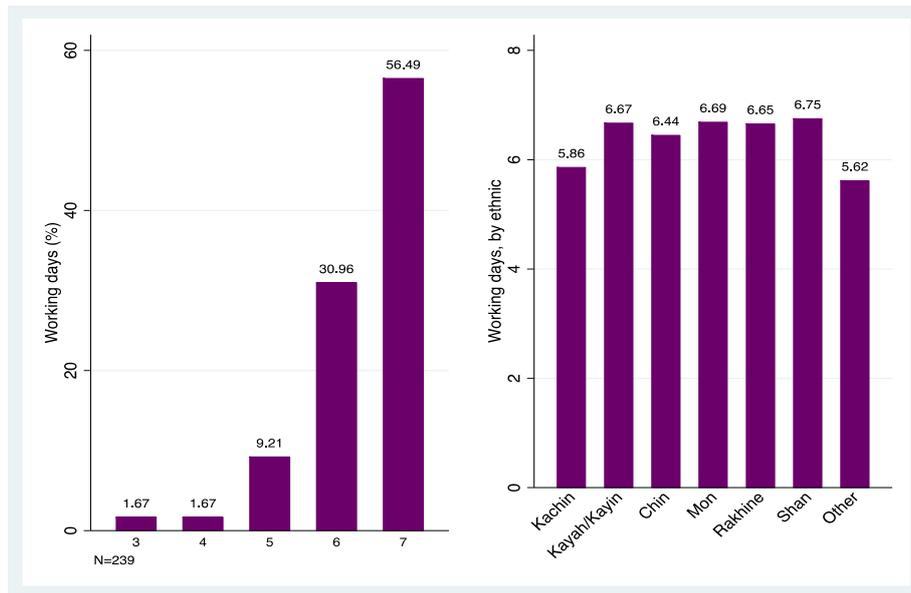


Figure 27: Working days, average and by ethnic group

Miners generally start their work day early. The vast majority (84%) starts the work day at 8 am or earlier and 67% start at 7 am or earlier. Most of them stop around 11 am or 12 pm and continue with a second work shift from the afternoon until the evening. Morning shifts (average 4.7 hours) tend to be slightly longer than afternoon or evening shifts (average 4.3 hours). Most artisanal miners work between seven and ten hours in total per day, with an average of slightly over 7.5 hours. Almost a quarter of the miners, however, work more than ten hours a day.

Overall, an average work week of an artisanal miner is nearly 50 hours. In reality, the number of work hours is more due to the fact that over 10% of the artisanal miners wash (clean) the jade stone found and sell it in their spare time. However, many artisanal miners do not work the whole year round. Only little more than half of the miners (51%) work 12 months per year. Forty-five percent of the miners take two months or more off per year. Two-third of the migrant miners return to their home region during the rainy season,⁷² but even many Kachin do not work all year round. Many mining companies stop their operations in June/July for the rainy season, though some continue till the end of September/October.

5.3 Labour safety

Artisanal miners are exposed to a number of major risks. Media very frequently report about large landslides killing many people, though what is reported is likely to be a mere fraction of all incidents. Artisanal miners find that the most significant risk at their workplace is landslides or cliff slides. In total, 93% of the miners mentioned one or both of these risks.

The second most significant risk identified by artisanal miners is falling stones. Violence among artisanal miners is also identified as a significant risk. Other risks include injuries due to carrying heavy loads of jade and violence with local people from Hpakant. Interestingly, artisanal miners from Kachin state perceive more “violence with local people” (10%) than artisanal miners from other states (almost 0%) (Figure 28).

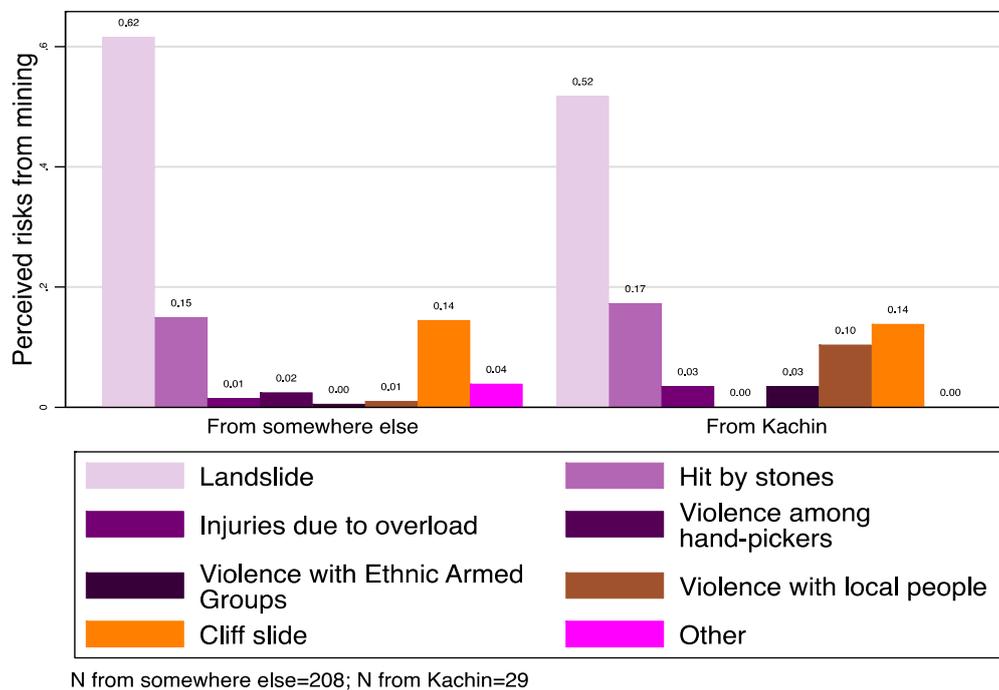


Figure 28: Major risks, by ethnic group

Artisanal miners estimate that the number of people being killed by landslides or cliff slides range from one to as high as 500, with on average nearly 50 people in the last 12 months. At least 75% of the miners know of an incident where at least one person was killed. Forty-three percent of the respondents reported an incident that killed more than ten people. All of the incidents where more than 20 people were killed concerned landslides, cliff slides, or falling stones, except for one water flood that was said to have taken the lives of 50 people.

⁷² Interview No. 7 (2017), Hpakant.

Risks of landslides are not only severe but also frequent. Almost half of the artisanal miners have experienced a landslide on a jade dumping site or company site. Twenty-two percent of those experienced a landslide in the last month, while 45% did so in the last six months.

An important question is who should be held responsible for the landslides. The vast majority (75%) of artisanal miners believe that companies could take measures to prevent landslides. Almost a quarter of the miners think that artisanal miners themselves could (also) prevent landslides, for example, by being careful while searching for jade.

Finally, some miners (11%) think that the government or the ‘authorities’ also have a role to play in preventing landslides, but these are most often mentioned in combination with the jade mining companies. This may point to a call for increased collaboration between the government and companies in dealing with the greatest and most dangerous risk that artisanal miners are currently facing.

While a substantial number of artisanal miners believe they could play a role in preventing landslides, they can also mitigate physical harm in case of accidents by wearing safety equipment. While the vast majority (89%) uses some basic safety equipment, nearly half of the miners use maximum one item to protect themselves against harm (figure 29). Thirty-seven percent use nothing or only boots or shoes. Considering the extremely high risks and frequency of accidents, this poses a great risk to the safety of the artisanal miners.

There is no difference in the use of equipment between experienced and less experienced artisanal miners. Of those miners who do not use any safety equipment, the most common reasons are that they seek to avoid danger or dangerous sites (11 individuals), they find the equipment uncomfortable or hot (6), or they don’t think it is required (2).

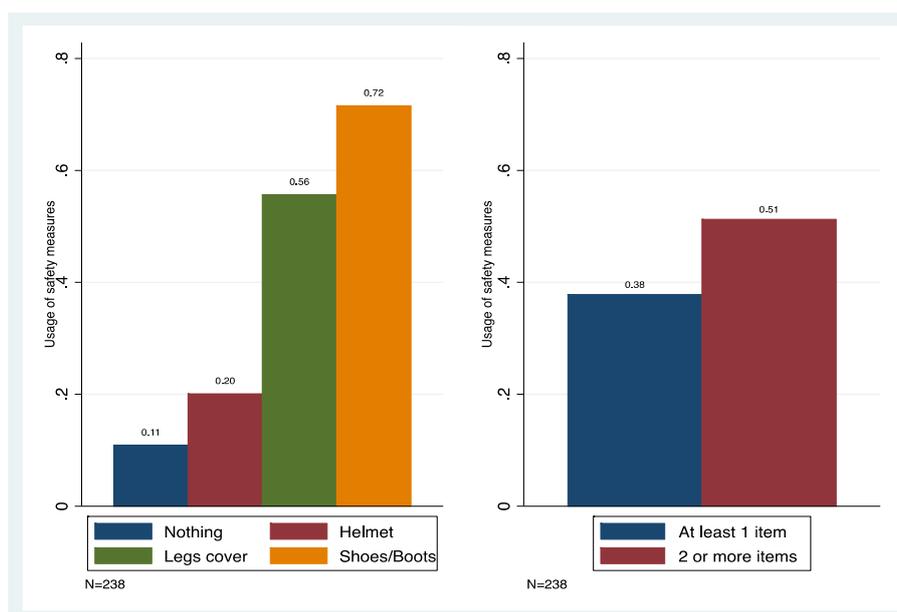


Figure 29: Usage of safety equipment

In terms of the changes in labour safety over time, more than half of the artisanal miners reported that risks at mining sites have become more severe after 2016 (figure 30). Over 80% of the artisanal miners said that the risks they experienced at their workplace are increasing (54%) or are the same as before (28%).



Figure 30: Change in perceived tensions, freedom of finding jade, risks in workplace

5.4 Housing conditions

Artisanal miners generally live close to the mining sites: On average two miles, with 60% living less than a mile away. Miners need to travel on average around 20 minutes to get to their workplace. Most miners (61%) commute by motorcycle, the rest walk. There has been a reported increase in the number of squatters, mostly near jade mining areas.⁷³ The proximity of artisanal miners' houses to the mining areas can be very dangerous. A major landslide that killed around 100 people at the end of 2015 in Hpakant, for example, caught many artisanal miners at night, when they were asleep in their huts.

Most miners have their own house (46%). Some live in a hostel (19%), in a temporary shelter (11%), in their family's house (8%), or in their boss' house (7%) (figure 31). Those who live in a temporary shelter mostly own it, while a small number hire a shelter. The average initial costs for a shelter are over MMK 330,000/USD 242, ranging from MMK 20,000/USD 14.6 to MMK 1.6 million/USD 1,174.

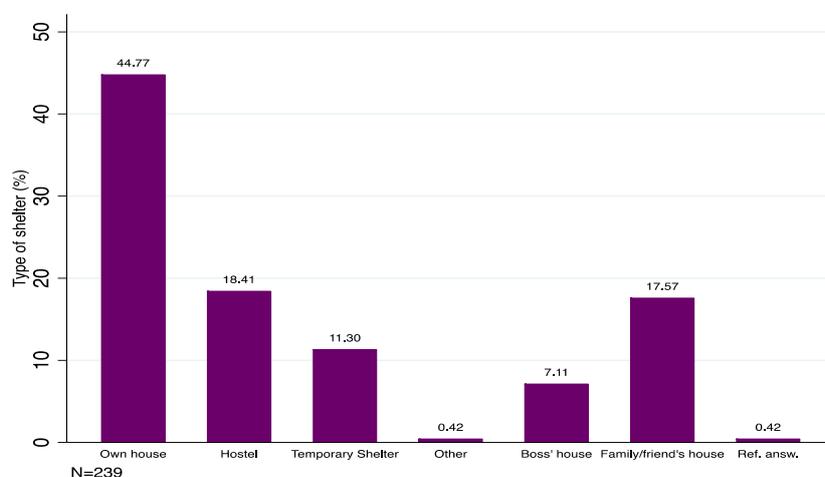


Figure 31: Type of shelter

⁷³ Interview No. 7 (2017), Hpakant.

Miners' houses are generally not very sophisticated. Their roofs are commonly made of tin (78%) and their walls of bamboo, logs, or wood (54%). Plastic sheets for both roof and walls are not uncommon (around 20%). Contrary to what one would expect, plastic sheets are even used among those who have been living and working in Hpakant as artisanal miners for years, sometimes even over a decade (Figure 32). Even the wealthier (those with monthly incomes higher than MMK 500,000 or USD 367) use bamboo and logs for their roof, and not infrequently plastic sheets or thatches/leaves for the walls.

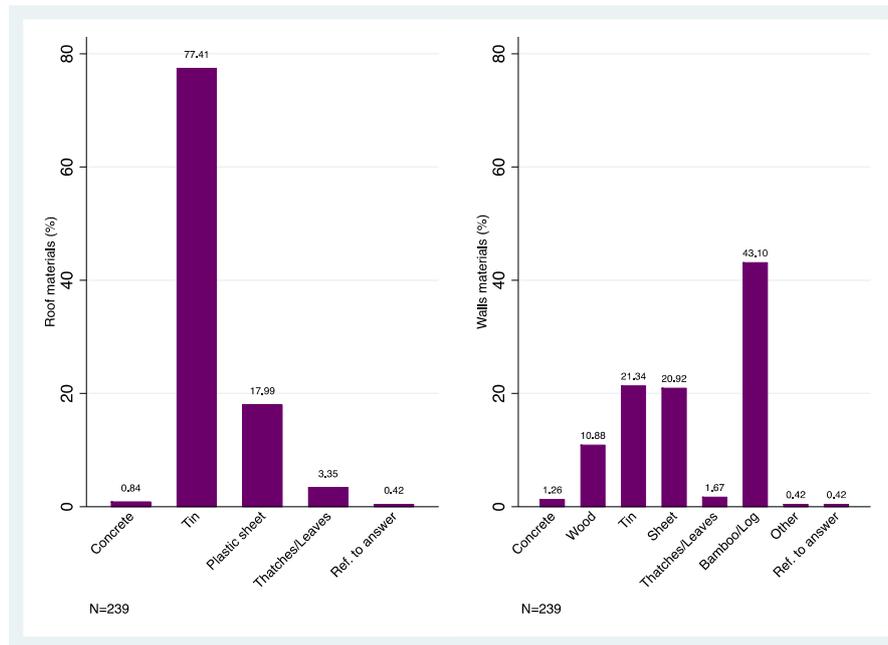


Figure 32: Materials of roofs and walls of miners' shelters

Artisanal miners do not often live alone (11%). They most commonly live with family members/relatives (60%), with their boss (19%), or with friends (11%). Most of those who are married live with family members, presumably their spouse. Nearly half of those living with family, however, are single (48%). For the majority of the artisanal miners who have a boss (102 of 239), accommodation is provided by their bosses.⁷⁴ These miners rarely live alone. They most commonly live with their bosses (47%) or with their family members/relatives (38%) (Figure 33). Artisanal miners whose boss does not provide accommodation hardly ever live with their boss.

⁷⁴ Interview No. 7 (2017), Hpakant.

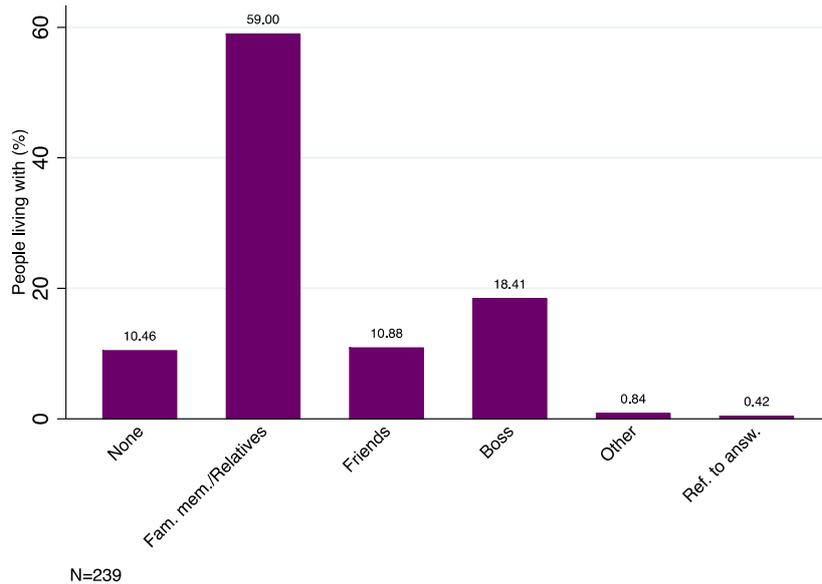


Figure 33: People miners live with

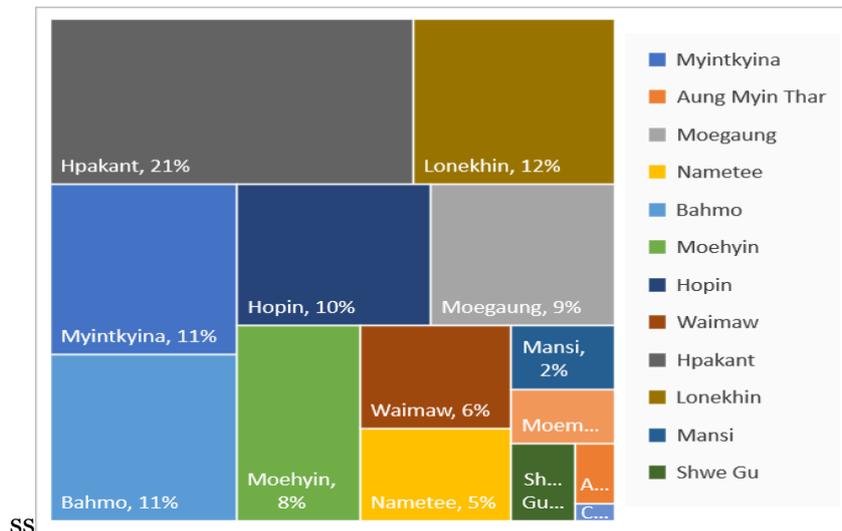
5.5 Societal challenges

Drug addiction among miners and health access

Kachin State is the second largest opium producer in Myanmar after Shan State. According to the United Nations Office on Drugs and Crime (2014), the use of heroin and amphetamines tripled in northern Myanmar from 2012 to 2014.⁷⁵ There are two public hospitals in Kachin State – Myintkyina and Bamaw, offering detoxification services. Apart from that, as of August, 2017, the government runs 15 Methadone Maintenance Treatment (MMT) centres in Kachin State and provides MMT for drug users for free. MMT centres in Hpakant and Lonekhin contribute the highest number of drug users registered (see figure 34). However, these hospitals and centres are understaffed and have limited resources, to cover the population of drug users effectively.⁷⁶

⁷⁵ <https://frontiermyanmar.net/en/photo-essay/reducing-the-harm>

⁷⁶ Interview No.15(2017), Myintkyina and Interview No. 5 (2017), Hpakant



Source: Drug Treatment Hospital, Kachin State (2017)

Figure 34: Registered drug-addicted patients at MMT centres in Kachin State

Drugs are accessible and affordable in the Hpakant mining area. People can even purchase opium close to police stations.⁷⁷ The use of drugs, particularly heroine and methamphetamine tablets (also known as WY or yaba), are highly prevalent among artisanal miners in Hpakant. The price of a tablet is 3,000 MMK (USD 2.2) to 5,000 MMK (USD 3.6) and one injection of heroin cost from 5,000 MMK (USD 3.6) to 10,000 MMK (USD 7.3).⁷⁸

Since artisanal jade mining is a dangerous job and requires concentration, miners resort to taking drugs to numb their senses and/or energise themselves as they tirelessly search for jade. Other reasons to use drugs are low levels of education, lack of awareness of the consequences of drug abuse, loneliness, and peer pressure.⁷⁹ Local medical officers estimated that about 70-75% of artisanal miners are drug addicted.⁸⁰

Drug addiction increases the incidence of crime. Furthermore, drug use makes artisanal miners vulnerable and highly prone to committing or being a victim of crime.⁸¹ When artisanal miners are jobless, desperate, or conflicts break out, they often resort to crime.⁸² Due to a lack of security measures, there has been a dramatic rise in theft, quarrels, and robbery in Hpakant after 2015.⁸³ A government official indicated that two thirds of the prisoners are in prison for being involved in the drug trade or for drug abuse.⁸⁴

The death rate from drug abuse in public hospitals is estimated to be three people per month.⁸⁵ This figure could be significantly higher if the number from drug camps and private clinics were included. This indicates the magnitude of the problem, which has also been classified as a drug epidemic. The HIV/AIDS prevalence rate in Hpakant has gradually increased due to the use of needles and lack of safety precautions taken by drug users. The Hpakant General Hospital has treated over 1,600 patients infected with either HIV/AIDS or

⁷⁷ Interview No. 10 (2017), Hpakant.

⁷⁸ Interview No.15 (2017, Myintkyina

⁷⁹ Interview No. 5 (2017), Hpakant.

⁸⁰ Interview No.5 and 6 (2017), Hpakant

⁸¹ Interview No. 17 (2017), Myitkyina.

⁸² Interview No. 17 (2017), Myitkyina.

⁸³ Interview No. 5 (2017), Hpakant.

⁸⁴ Interview No. 10 (2017), Lone Khin.

⁸⁵ Interview No. 5 (2017), Hpakant.

TB who were also drug addicts.⁸⁶ Apart from public hospitals, some NGOs such as AHRN, AZG and MSF also run health clinics, to treat people addicted to drugs or affected by HIV/AIDS.⁸⁷ However, current efforts are not sufficient to control the drugs and HIV/AIDS epidemic. Hospitals in Hpakant and Myikyina stated that they face budget constraints, particularly given the high prevalence of diseases in the area (such as the Human Immunodeficiency Virus (HIV), Tuberculosis (TB), drug addiction, and Malaria).⁸⁸ Public hospitals are severely understaffed, under resourced, and sometimes even lack basic resources such as water. Some private companies provide some financial support to hospitals in their respective areas.⁸⁹

Survey data shows that most artisanal miners (67%) rely on private clinics or private hospitals when they get ill or injured (figure 35). Only 8% of hand-pickers use public hospitals. Around 9% rely exclusively on themselves or on friends to attain necessary medical treatment, while 8% has no experience with healthcare provision in Hpakant. Traditional medical practitioners are hardly ever used.

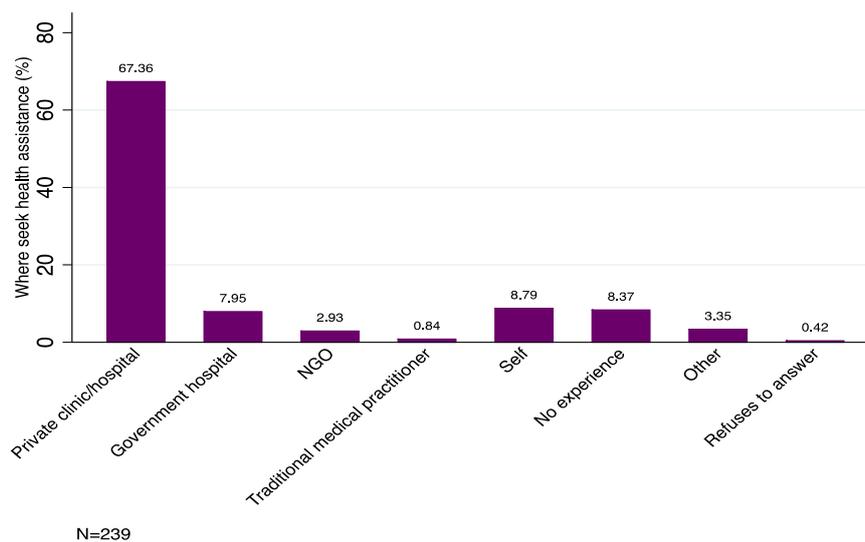


Figure 35: Where miners seek health assistance

Chapter 6: Conflict and jade mining

Conflicts between artisanal miners and companies frequently occur and are often severe. While in former days, artisanal miners were able to find jade by digging manually, artisanal miners now need jade mining companies to find jade, which is buried deep under the ground.⁹⁰ Before 2016, when jade mining companies still dumped their tailings on government-allocated dumping sites, artisanal miners mostly searched for jade on those sites.

In 2016, the government decided not to renew the jade mining companies' licenses. As a result, jade mining companies were pressed to find as much jade as possible in the limited time that remained. They discontinued using dumping sites and instead dumped their tailings within their own sites, thereby saving time and resources to transport the tailings. As a result, most artisanal jade miners moved to company sites to search for jade.⁹¹

⁸⁶ Interview No. 5 (2017), Hpakant.

⁸⁷ Interview No. 6 (2017), Hpakant.

⁸⁸ Interview No. 7 (2017), Hpakant.

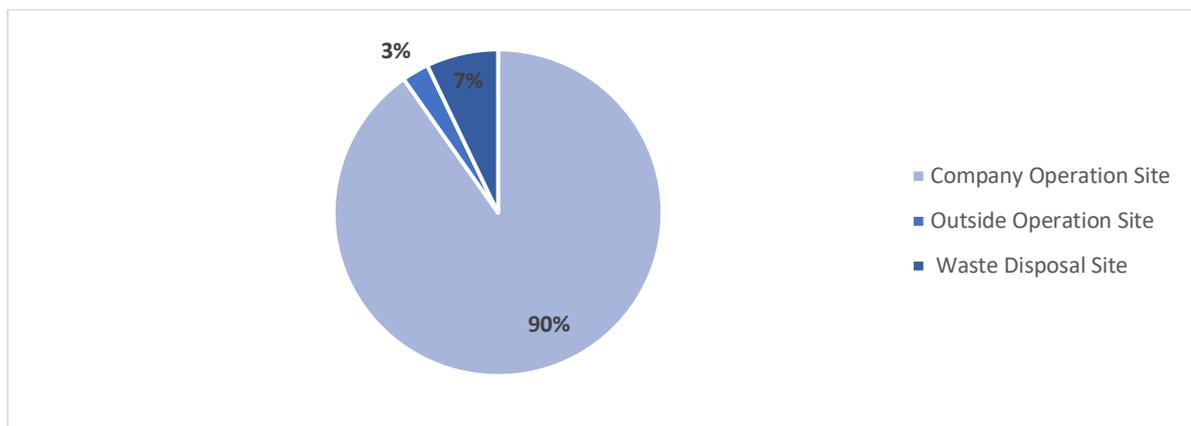
⁸⁹ Interview No. 5 (2017), Hpakant.

⁹⁰ Interview No. 10 (2017), Hpakant.

⁹¹ Interview No. 11 (2017), Hpakant.

A total of 38 incidents were recorded in 2015, which took place mostly in January and December at company operation sites (MONREC data, 2017). The reasons behind the incidents included that a vast number of artisanal miners were scavenging for more pieces of raw material on operation sites rather than disposal sites. Another reason included informal settlement and illegal digging/excavating on operation sites and the eviction of jade scavengers from their makeshift slums.

The number of incidents were recorded in 2016, with a total of 57 incidents. Like the incidents in 2015, they generally occurred within companies' operation sites. Furthermore, the most common reasons behind the incidents included informal settlement and illegal digging/excavating on the operation sites and the eviction of jade scavengers from their makeshift slums. From these recorded incidents, they mostly took place on company operation sites. Most recorded incidents involved avalanches or landslides by the dumping sites and artisanal miners involved in accidents with heavy machinery, such as backhoe excavators and road rollers. Therefore, this data sheds light on the extent of the incidents that take place in the mining areas of Hpakant.



Source: Myanmar Gems Enterprise (2017)

Figure 36: Location of the incidences that occurred (2015-2017)

As illustrated in Figure 36, the number of incidents that took place between 2015 - 2017 on operation sites (90%) were greater than the incidents that took place at waste disposal sites (7%) and outside operation sites (3%). This indicates that more efforts need to be made towards mitigating conflicts that arise on company operation sites.

Findings also demonstrated the re-occurring pattern of artisanal miners constructing informal settlements and then being evicted at a later stage. Table 2 supports this pattern as it shows the proportion of the officially registered villages in comparison to unofficial villages in Hpakant Township. It illustrates how in some village tracts, such as Lone Khin and Waryazut, there are more unregistered villages. Furthermore, these unregistered villages are at times more concentrated within the gemstone area. This could mean that people are more prone to constructing makeshift homes by areas where they easily have access to mining gemstones.

Township	Name of Registered Village Tract	Registered Villages Under the Ministry of Home Affairs	Unregistered Villages	Types of land of unregistered village	
				Gemstone Area	Forest Area
Hpa-kant	Lone Khin	3	27	21	6
	Nantmaphyit	7	2	1	1
	Seintmu	11	7	2	5
	Haungpar	11	9	7	2
	Domboneka	3	0	-	
	Lawah	6	2	-	2
	Donban	3	1	-	1
	Naungmyi	1	1	-	1
	Waryazut	2	6	-	6

Source: Myanmar Gems Enterprise, 2017.

Table 2: Registered and unregistered villages in Hpakant/Lone Khin mining area

Most of the conflicts currently arise around whether and when artisanal miners are allowed to search for jade in company sites.⁹² Jade mining companies generally allow artisanal miners to search for jade during set hours. Artisanal miners have power over companies due to their sheer number. Artisanal miners not only confiscate jade, but also destroy machinery if they are not content with how much jade they are allowed to find on the company sites.⁹³ Companies have even been known to compensate artisanal miners for accidents and deaths that happen among miners on their company sites. Such payments are dependent on the pressure exerted by artisanal miners and power groups and vary according to the ethnicity of the miners – for example, the compensation rate for death in early 2017 was about 60- 70 million for Kachin miners, 40-60 million for Rakhine miners and less than 40 million for other ethnic miners.⁹⁴

Companies' position vis-à-vis artisanal miners is weakened by the fact that they often do not operate (entirely) legally, for example, by operating after the expiration of their license, or by encroaching on areas that are not within their license.⁹⁵ This makes it impossible for them to report artisanal jade miners. However, only 10% of the survey respondents experienced tensions with a jade mining company. Important other forms of tension and conflict that arise are between different ethnic groups (especially between local Kachin and migrant miners).⁹⁶

According to almost 60% of the miners, tensions and conflicts between jade mining companies and artisanal miners have increased after 2015, though 22% of the miners believed these conflicts have decreased. While, overall, tensions and risks at the workplace have become more severe, most artisanal miners (64%) believe that their freedom to search for jade has increased.

When there are tensions in mining areas, half of the miners tend to seek help from each other, followed by local authorities such as ward administrator or village head (24%) (figure 37). 5% of miners (especially Kachin miners) tend to seek more help from ethnic armed organisations, while another 6% prefer to ask help from their bosses (figure 38). Unsurprisingly, only less than 2% of respondents feel comfortable to approach the military and police when they have conflict with jade company.

⁹² Interview No.4, No.7, No. 9 and No. 10 (2017), Hpakant

⁹³ Interview No. 10 (2017), Hpakant.

⁹⁴ Interview No. 10 and 13(2017), Hpakant.

⁹⁵ Interview No. 10 (2017), Hpakant.

⁹⁶ Interview No. 10 and No. 11(2017), Hpakant.

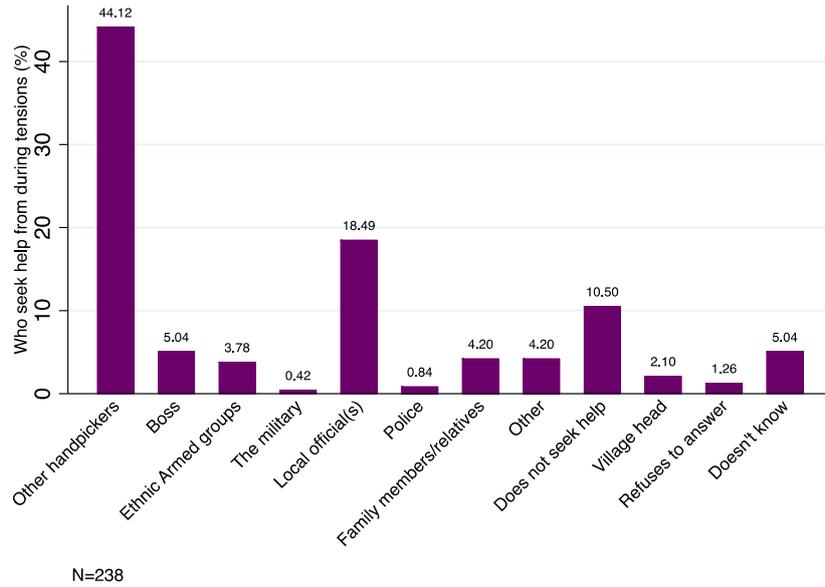


Figure 37: Who miners seek help from in case of tensions

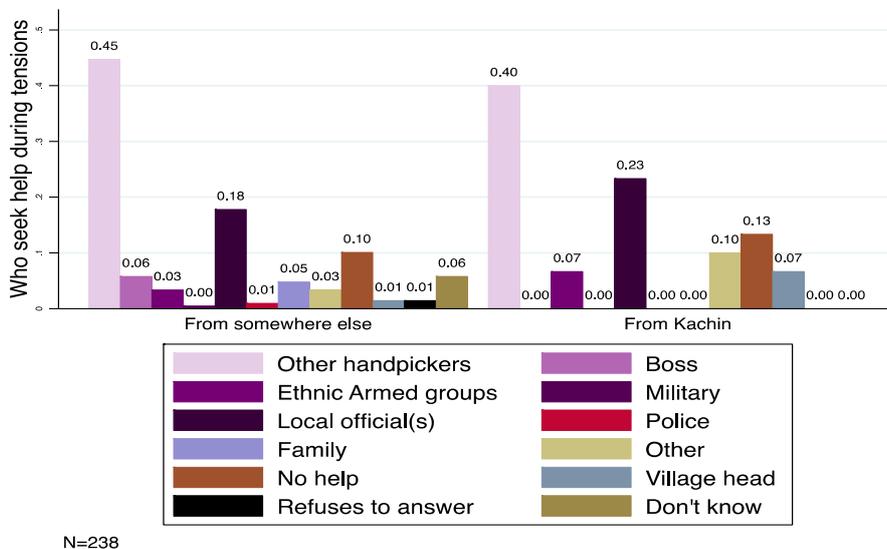


Figure 38: Who miners seek help from in case of tensions: Miners from Kachin vs miners from outside

As discussed, miners seem that they have more freedom to search jade compared to before 2016. Miners admit that peace would support their activity, as shown by figure 39, with almost 70% of miners mentioning that peace would make it easier to find jade, while around 10% view that their freedom might lose out. Having no legal recognition, the majority of miners (85%) in our survey stated that they are willing to register as artisanal miners, but 15% of miners did not show interest in the registration process as they feel that registration is an unnecessary step to find jade (figure 40).

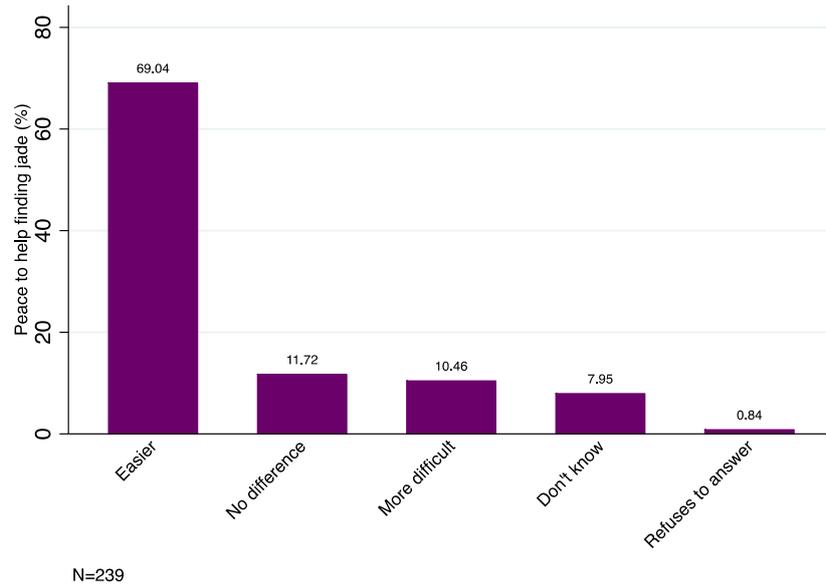


Figure 39: Would peace make it easier to find jade?

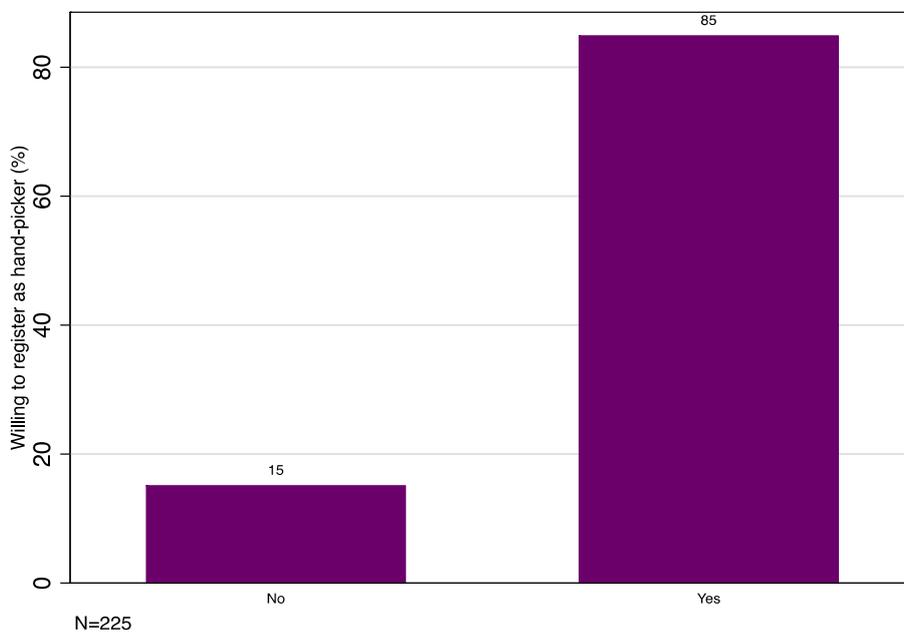


Figure 40: Percentage of miners willing to register

Chapter 7: The way forward

Artisanal jade mining activities are important livelihood activities for miners and have the potential to help reduce poverty in Myanmar. However, the development of such activities needs to be addressed carefully, in part because they occur in conflict-affected areas, which are controlled by both the government and ethnic armed organizations. In this context and

drawing on the results of the survey, we would like to provide some suggestions on the way forward to address issues arising with respect to artisanal jade mining activities in Hpakant/Lone Khin.

Addressing the safety conditions at mining areas: Artisanal miners should be made more aware of safety procedures as a way of reducing the risks associated with their occupation. It is crucial to review the safety arrangements at dumping sites and enforce companies' compliance with the government's regulations on dumping procedures. The government could introduce a rotation system that enables companies to dispose their waste soil and allow artisanal miners to search for jade at different times.

Formalisation of artisanal mining: Even though the 2019 Gemstone Law recognises artisanal mining activities, evidence from the pilot project in Sagaing indicates that it's difficult to attract artisanal miners to register and be a part of the formal system. It would be useful to review the outcome of the artisanal mining formalisation process in Sagaing Region and adopt a feasible registration system in Hpakant, based on the political economy context of the Hpakant mining area. The government could also consider providing economic incentives for artisanal miners and needs to address locals and political groups' concerns about migrant artisanal miners. There is also a need to encourage the formation of artisanal miners' association, so that they can participate in designing and implementing mechanisms for formalising the sector.

Formalisation of informal jade markets: The union government could consider formalizing the informal existing markets in Hpakant/Lone Khin so that the jade trade is made legal as an official market transaction. Establishing a data recording system of jade sales at the existing markets could be a first step.

Enhancing the role of local governments in artisanal and small-scale mining (ASM) affairs: The 2016 second amendment Gemstone Law and the 2019 Gemstone Law allowed State/Region governments to manage ASM activities. But the role of the Kachin government is still minimal. The Minister responsible for natural resources at State/Region level should have a designated team to carry out the assigned responsibilities with support from the Union level. They should also receive training on mining laws and regulations.

Land allocation for ASM: The Union government should define/allocate areas where artisanal miners can work in order to protect private companies' properties and to avoid conflicts between artisanal miners and companies.

Adopting a wealth distribution mechanism: Since locals in Hpakant/Lone Khin feel that they do not benefit directly from the extraction of jade, there is a need to adopt a wealth distribution mechanism for the communities where the resources are extracted. In this regard it is recommended that the private companies' contributions for Corporate Social Responsibility (i.e., 2% profit) should go directly to Hpakant Township as a development fund, instead of to the Union Government. The Kathin State government could then work with the affected communities to manage this contribution from private companies.

Managing the flow of immigrant artisanal miners: As a consequence of a massive immigrant flow from outside Hpakant/ Lone Khin without proper documentation, some local people have concerns for their security. Since the administrative resources available are only for the formally recorded population⁹⁷, local administration bodies face challenges in managing their functions and delivering public services. Immigration policy within the

⁹⁷ According to 2014 Myanmar Population and Household Census, only 312,278 are recorded in Hpakant Township

Hpakant/Lone Khin mining area should be reviewed by the Kachin State Government in consultation with the Union Government. In addition, establishment of a monitoring mechanism to cover bosses in Hpakant/ Lone Khin is a necessary step for state/local authorities to take, for accountability purpose – e.g. bosses should be required to register the migrant miners they have recruited.

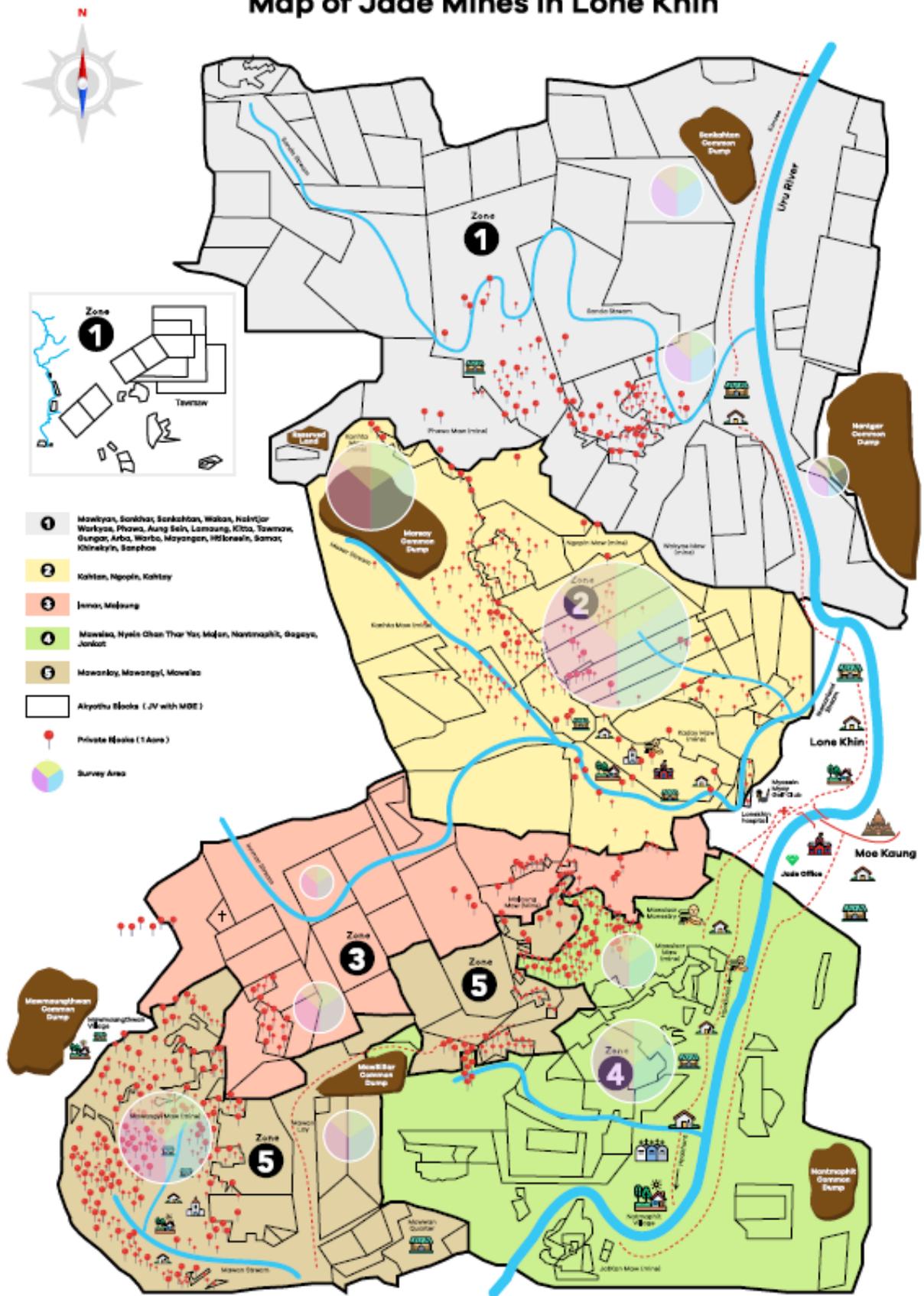
Enhancing coordination between key stakeholders: The State government and responsible administrative officials should be allowed to collaborate freely with key stakeholders, including ethnic armed organisations, to address issues associated with the ASM sector, including grievances and the safety of artisanal miners. The role played by the military, the ethnic armed organisations, and security forces needs to be recognized and reviewed to ensure they are part of the solution.

Providing education programmes for miners: The government should work with NGOs to provide training that focuses on practical mining-related topics, health and work safety issues, financial literacy, and the reduction of adverse environmental and social impacts. The training programmes should also promote miners' knowledge of the valuation of their jade and market information.

Improving miners' welfare: artisanal miners should have access to adequate health services. The government and NGOs should collaborate in raising awareness regarding the prevention of drug abuse, measures to avoid contracting HIV and how to combat crime.

Appendix: Maps of mining areas in Hpakant

Map of Jade Mines in Lone Khin



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