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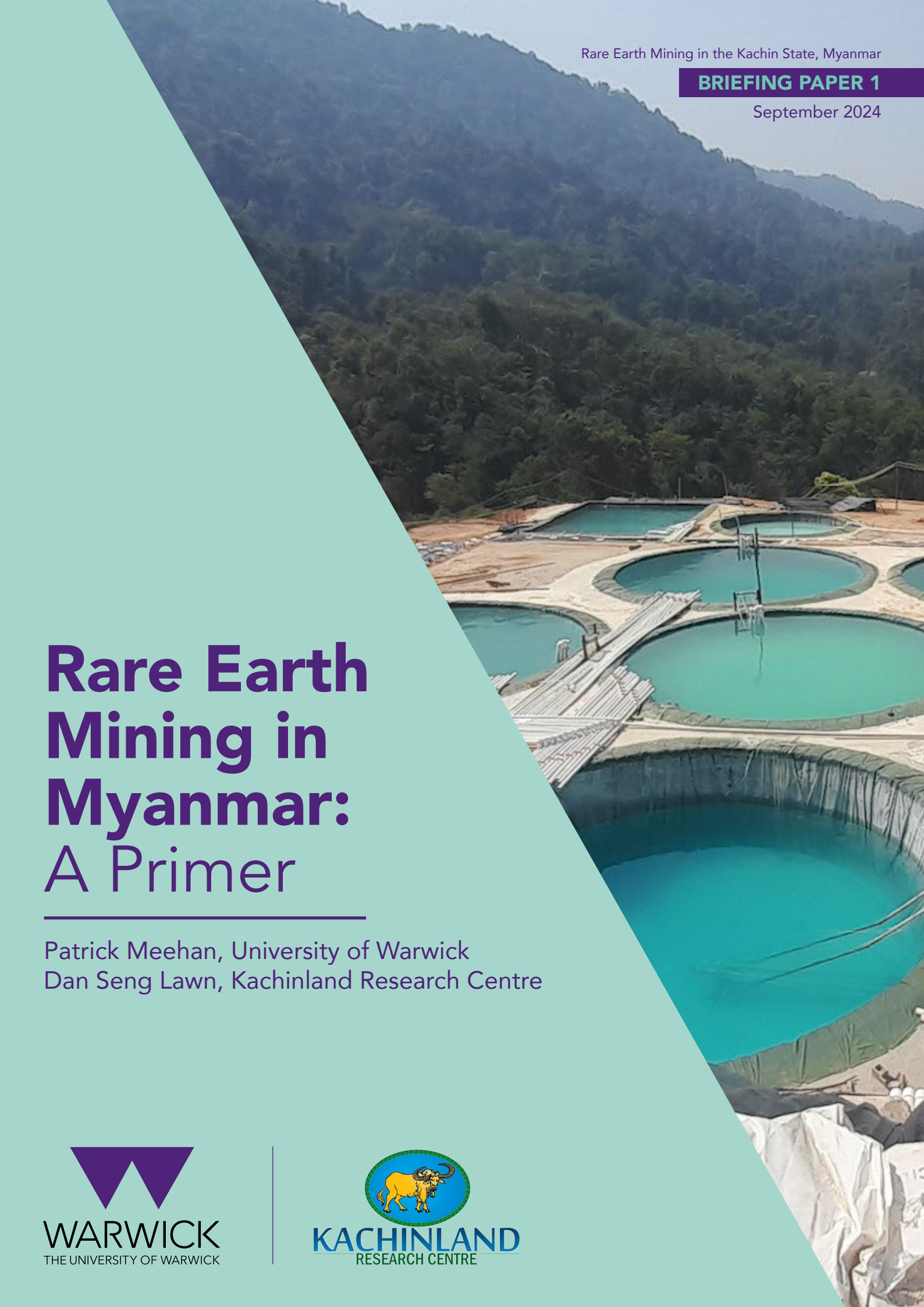

Rare Earth Mining in Myanmar: A Primer

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Myanmar Rare Earths Briefing Paper Series

Research project and research aims

This is the first of a series of Briefing Papers on the impacts of rare earth mining in Kachin State. The research that underpins these briefings is from a two-year research project (2022-2024) jointly led by the University of Warwick and Kachinland Research Centre (KRC) entitled Local Impacts of Rare Earths Elements Extraction in the Myanmar-China borderlands.

The research project has three key aims:

1. To generate a new evidence base on how the rare earth mining sector operates in northern Myanmar and the impacts that it is having on local populations and environments.
2. To engage with communities, civil society organisation and other local stakeholders so that research findings can inform responses to mining activities, especially efforts to mitigate the harms generated by current mining practices.
3. To engage with policymakers and practitioners working in Myanmar about what is happening in rare earth mining areas of Kachin State to inform policy processes seeking to support responsible mining practices and to mitigate social and environmental harms in these areas.

Dataset and methodology

Research is based on more than 120 in-depth interviews with local mine workers, residents, customary leaders and local authorities in mining areas, civil society organisations working on social and environmental issues, and local researchers. The dataset also includes several life stories to better understand how the changes wrought by rare earth mining impact on the everyday lives of those living and working in mining areas. Most research participants were Kachin identifying individuals and all research was undertaken in local languages.

Rare earth mining takes place in two regions of Kachin State. To date, most rare earth mining has been concentrated around Chipwe and Pangwa – a region close to the China border, 125 km north-east of the Kachin State capital, Myitkyina. Analysis of rare earth mining in the Chipwe/Pangwa region presented in this briefing paper series is based on a set of 80 interviews conducted in May 2023. Most of these interviews were conducted across Myitkyina and Waingmaw Townships with mine workers that had returned to their hometowns Myitkyina and Waingmaw from working in rare earth mining areas, as well as with residents, researchers, and civil society organisations from Chipwe and Pangwa during times when they were in Waingmaw and Myitkyina. Armed conflict, the risks associated with travel, and the strict security surrounding mining areas prevented extended fieldwork in the Chipwe/Pangwa area, although the dataset also includes interviews from these areas and direct observations of rare earth mining sites written by the research team.

Rare earth mining is also taking place in parts of Bhamo District, concentrated in Nhkawng Pa, a mountainous along the China border northwest of the border town of Mai Ja Yang. At the time of the research mining companies had also started to set up compounds in several other sites south of Bhamo town centred around the villages of Ding Sing Pa and Nba Pa, although at the time of this research mining had not yet started in these areas. Analysis of rare earth mining in Bhamo District presented in these Briefing Papers is based on a set of more than 40 interviews conducted in April 2023 across active and planned mining sites, as well as direct observations written up by the research team.

How data is presented in the papers

To mitigate the risks associated with publishing this research, the briefing papers do not include specific references to key informant interviews, such as the identities of the interviewees or the locations where the interviews took place. When direct quotations are included in the briefing papers, broad contextual information is provided to clarify the perspective being presented.

Currency rates

The Myanmar currency (Myanmar kyat or MMK) has depreciated significantly since the February 2021 military coup. By June 2024, the currency had seen a decline in value against the US dollar by more than 300% from around 1300MMK to the dollar in February 2021 to around 4000MMK to the dollar. The figures in this paper given in Myanmar Kyat and Chinese yuan are those provided by the people we interviewed for this research in 2023. The conversions into US dollar are to provide readers with an estimated value and are calculated using the exchange rate of the time of the research (April-May 2023). This paper uses the following conversion rates

RMB	MMK	USD
1	303	0.144
6.92	2095	1

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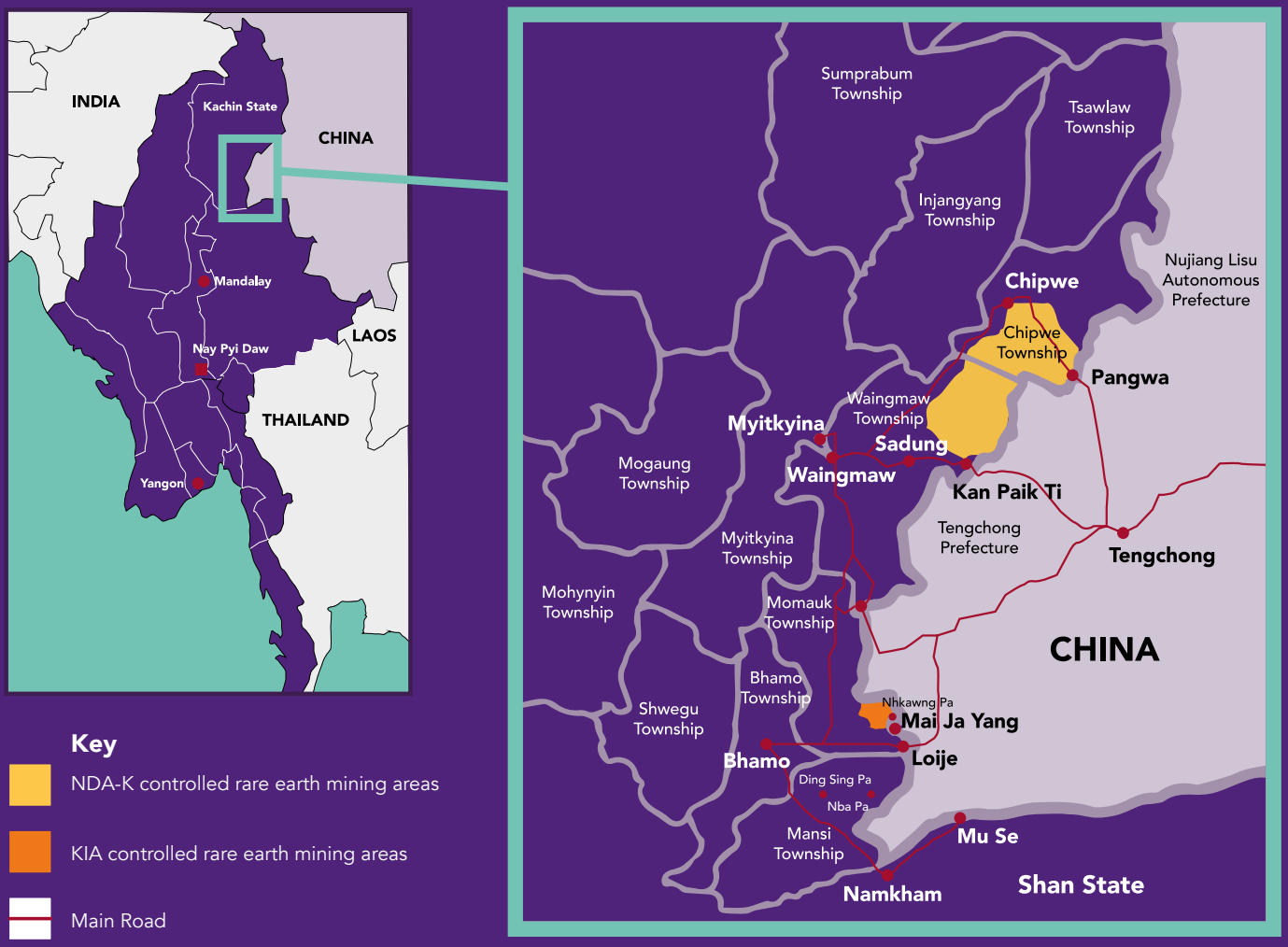
Rare Earth Mining in Myanmar: A Primer

This briefing paper provides an initial broad overview and introduction to the topic of rare earth mining in Myanmar for a general reader without detailed knowledge of the local context. It covers where mining is taking place, the scale of mining, variations between areas controlled by different armed actors, working conditions, and local impacts. It is complemented by a series of more detailed briefs on specific aspects of mining practices and their impacts.

China has been the world's major source of rare earth elements for many decades. These metals are essential materials in many technologies, from mobile phones to electric cars, wind turbines and defence systems, and are central to the technology-led transition to a low carbon economy and net-zero carbon emissions. However, since around 2010, the Chinese government started to impose stronger regulations over the REE sector to clamp down on unregulated, illegal mining sites and to improve environmental standards.[i] At the same time, China has sought to maintain its strategic dominance over REE supply chains and production. Expanding the importation of raw REEs and feeding these into China's existing production of refined rare earth products has provided China with a way to simultaneously maintain its dominance over global supply chains while mitigating the environmental and health costs associated with domestic production.

It is in this context that Myanmar has risen to become one of the world's largest suppliers of heavy rare earth elements. The issue of rare earth extraction in Myanmar has started to garner more attention in recent years. This primer provides a concise overview of rare earth mining in Myanmar. It is the first of a series of briefing papers that will be published in 2024 to document key issues and challenges in Myanmar's rare earth mining sector based on in-depth local research.

Figure 1: *Location of rare earth mining areas in Kachin State (Myanmar) relative to border with China*



Where is rare earth mining taking place in Myanmar?

Rare earth mining in Myanmar is concentrated in regions of Kachin State close to the border with China (see Map 1). Most rare earth mining is concentrated in a region of northeast Kachin State centred on Chipwe and the border town of Pangwa. This region is approximately 125 km north-east of the Kachin State capital, Myitkyina. This area is under the control of a militia, known as the New Democratic Army-Kachin (NDA-K), which is closely aligned with the Myanmar Army. All rare earths mined in this area are exported to China via two important China border crossings at Pangwa and Kan Paik Ti that are jointly controlled by the Myanmar Army and the NDA-K.

A smaller amount of rare earth mining has also taken place in Nhkawng Pa, a mountainous region of Bhamo District along the China border northwest of the border town of Mai Ja Yang. These mining sites are under the control of the Kachin Independence Organisation (KIO), which has fought a long-running war against the Myanmar Army since the early 1960s (although a ceasefire was in place from 1994 to 2011). All rare earths from this region are exported to China via border crossings controlled by the KIO at Mai Ja Yang.

What is the scale of rare earth mining?

There are challenges in accurately assessing the volume of rare earth mining extraction in Myanmar. There is no official registration of rare earth mining activities or data on mining volumes within Myanmar, and it is unclear what proportion of rare earths exported to China pass through official channels (and are recorded in Chinese trade data) and how much is smuggled across the border. Prior to the coup, there had been efforts to improve transparency in Myanmar's extractive industries. This was primarily through the Extractive Industries Transparency Initiative (EITI), by which governments and companies disclose information on revenues, among other topics. However, the EITI's reconciliation report for Myanmar (2017-18) did not include rare earth mining activity within its scope.[ii] Myanmar EITI records for 2016-17 show that all the licences granted by the Myanmar government in regions where rare earth mining is known to be taking place were for other metals such as iron, tungsten, lead and zinc.[iii]

Media reporting from mining areas highlights that some small-scale mining in KachinState dates back to the late 1990s, but the scale of mining increased in the late 2000s, with a rapid expansion after 2015.[iv] Time series satellite imagery corroborates this trend with analysis produced by Global Witness documenting more than 300 rare earth mining sites in the Chipwe/ Pangwa region across 700-800 km² by 2022.[v]

By analysing Chinese official trade data, some reports have estimated that by 2020 China's annual imports of rare earths from Myanmar had risen to 35,500 tonnes, accounting for 94% of all rare earths officially imported by China and representing a one-hundred-fold increase since 2014.[vi] According to China's Ministry of Industry and Information Technology, mine production quotas within China for 2021 stood at 19,150 for heavy rare earths from ion-adsorption clays. This implies that the imports from clay deposits in Myanmar were nearly double what was produced from clays in China itself.[vii] How accurately such trade figures represent the actual amount of rare earths mined in Myanmar is hard to fathom considering it is unclear what proportion of rare earths being imported into China are recorded in official statistics, and how much of the trade is smuggled across the border.

Data compiled by Resource Trade at the UK's Chatham House estimates that in 2021 rare earth exports from Myanmar to China totalled $812 million, up from a mere $1.5 million in 2014.[viii] Chinese customs data records the value of rare earths imported from Myanmar between May 2017 and August 2021 as totalling $1.1 billion.[ix]

Following a drop in trade volumes in 2022 – related to worsening armed conflict in Kachin State and border closures – the scale of rare earths imported by China from Myanmar has continued to grow in recent years. In the first six months of 2023 alone, Chinese customs data reveals that China imported 34,241 metric tons of rare earth ores and compounds from Myanmar, valued at almost US$773million.[x] Worsening fighting in northern Myanmar appeared to slow the flow of rare earths exported to China in the second half of 2023, with the total volume of imports for the whole of 2023 recorded at 41,700 metric tons, with an estimated value of US$1.4billion.[xi] [xii]

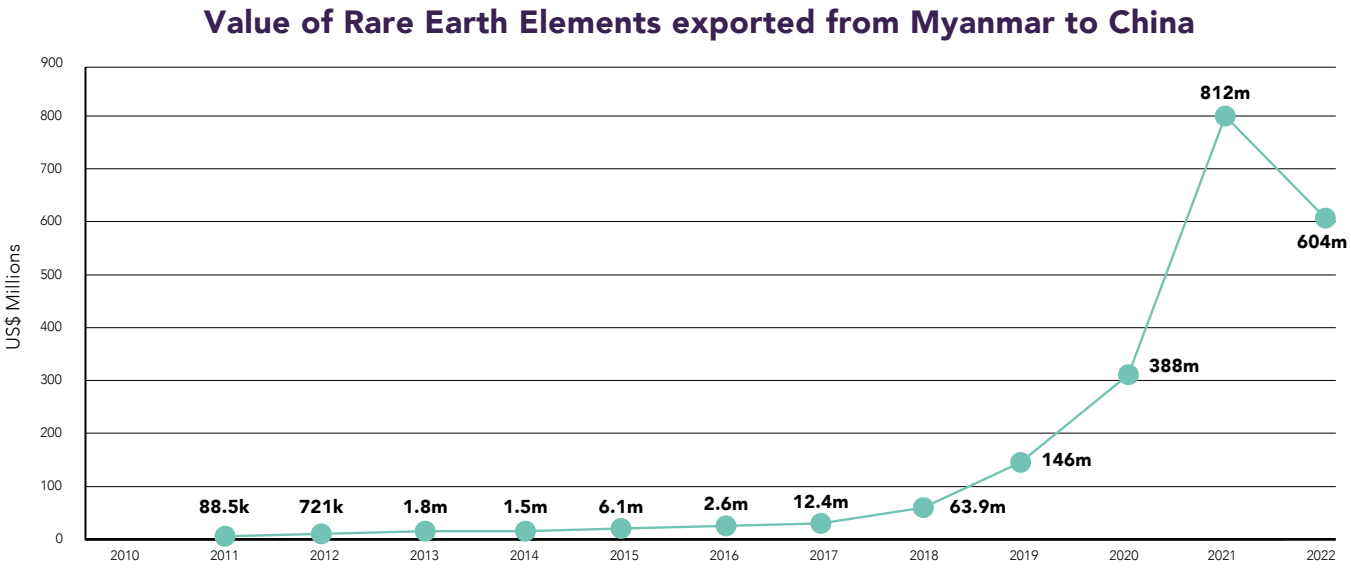


Figure 2: *Value of rare earth elements exported from Myanmar to China, 2011-2022*

Figure 2a: *Rare earth mining site, Kachin State*

Who controls rare earth mining areas?

Rare earth mining is taking place in contested and conflict-affected regions of Kachin State where sovereignty remains fragmented. Kachin State has experienced decades of armed conflict dating back to the early 1960s. Up until the late 1980s, this was a triangular conflict between the Myanmar Army, the KIO, and the Communist Party of Burma (CPB).[xiv] In 1989 the CPB collapsed and in 1994 the KIO and the Myanmar government agreed a ceasefire, which lasted for 17 years. However, in 2011 this ceasefire collapsed, marking the start of another cycle of large-scale fighting between the Myanmar Army and the KIO. Prior to the February 2021 military coup, the scale of armed conflict had receded although the situation remained tense and volatile.

Since the coup, there has been a significant increase in armed conflict amidst resistance to the military regime's State Administration Council (SAC). The February 2021 military coup removed the democratically elected National League for Democracy (NLD) government which had won the 2020 General Election. Throughout Kachin State, there are also several powerful militia organisations that are aligned with the Myanmar Army, but which exert autonomy over pockets of territory that they control. Some of these militias were once part of the CPB, others have broken off from the KIO following factional disputes, and others have been established by local strongmen seeking autonomy from both the KIO and the Myanmar Army.

The rapid expansion of rare earth extraction in Myanmar has taken place during a period of significant armed conflict and is located in areas where the central Myanmar government has historically exerted limited control and in which powerful non-state armed actors hold sway.

Rare earth mining in NDA-K controlled areas: Chipwe and Pangwa

Most rare earth mining in Myanmar takes place in territory controlled by the New Democratic Army – Kachin (NDA-K), a powerful militia allied with the Myanmar Army that has extensive business interests. The NDA-K is led by the veteran strongman U Zakhung Ting Ying and his long-time colleague U Layauk Ze Lum. Both men were originally members of the KIO but left in 1968 to join the CPB. After the CPB collapsed in 1989, Zakhung Ting Ying formed the NDA-K and reached a ceasefire with the Myanmar Army. The ceasefire granted the NDA-K de facto control over a significant swathe of territory in the Chipwe/Pangwa region, which became known as Kachin Special Region 1. The NDA-K was subsequently well-placed to capitalise on the new economic opportunities that emerged through the 1990s following market liberalisation in China and Myanmar and the expansion of cross-border trade. The NDA-K controlled strategic border routes, retained good relations with both Myanmar's military rulers and the Chinese Communist Party, and had longstanding cross-border ties into Yunnan (through its CPB history and the fact that some of its members could speak Chinese).

Through the 1990s and 2000s, the NDA-K established firm control over the local economy, especially logging, opium cultivation and border trade. Zakhung Ting Ying and his family and associates operate a network of companies and have come to be the largest landowner in the region.[xv] In 2009, the NDA-K became the first armed group to accept the Myanmar military government's proposal to convert into a 'Border-Guard Force' (BGF). The BGF scheme was designed by the Myanmar military to bring armed groups – including militias like the NDA-K and powerful ethnic armed organisations like the KIO – under firmer Myanmar Army control and to reduce their size.[xvi] The government declared that after September 2010 all existing ceasefires would be void and groups which had not converted into BGFs would be deemed insurgents.

The BGF strategy had divergent outcomes. All the country's more powerful ethnic armed organisations (EAOs) refused to transform into BGFs since this status would force them to surrender autonomy prior to any form of political dialogue to address longstanding grievances. The BGF proposal also provided no provisions of the systems of governance administered by ethnic armed organisations that provided health, education and justice systems to large populations. The BGF proposal contributed to the breakdown of longstanding ceasefires – notably the 17-year ceasefire with the KIO, as well as ceasefires with other powerful EAOs in northern Shan State including the the Shan State Progress Party (SSPP) and the Myanmar National Democratic Alliance Army (MNDAA). Amidst the country's political transition after 2010 and the launching of a formal peace process, the breakdown of these ceasefires led to the worst fighting in more than a quarter of a century across Kachin State and northern Shan State. In contrast, many of the country's most powerful militias accepted the military's demand that they transform into BGFs. This decision was based on awareness that they lacked the strength to resist and that their ties to the military would become increasingly important as the armed conflict intensified.

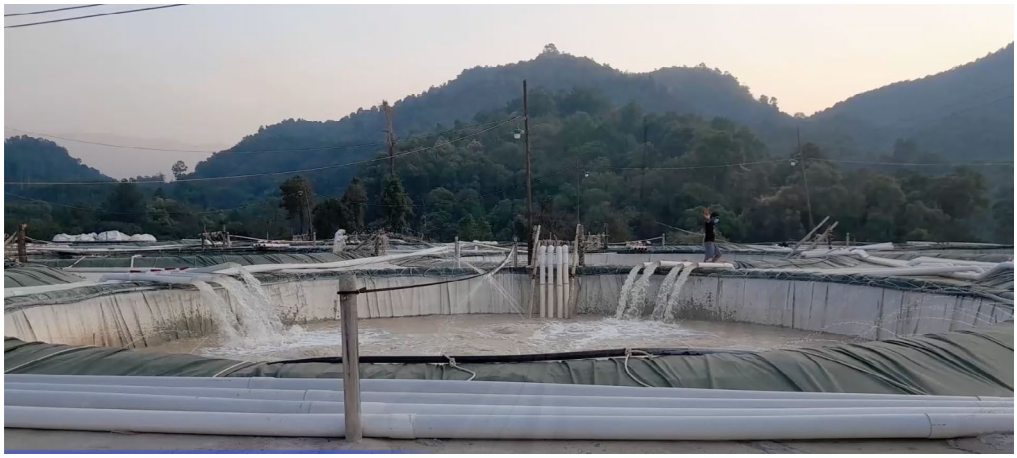
This turn of events had three important implications for the NDA-K. First, the breakdown of the KIO ceasefire and worsening armed conflict renewed theirimportance in the eyes of the Myanmar military as auxiliary counter-insurgency forces. Second, amidst the wider armed conflict between the KIO and the Myanmar Army after 2011, NDA-K territories remained relatively stable. Third, their demonstration of loyalty meant the NDA-K gained further economic opportunities and greater freedom to engage in illegal activities.[xvii] This enabled the NDA-K to benefit from increasing Chinese investment and cross-border trade, and subsequently to capitalise on the rare earth boom due to its de facto control over local territories close to the China border, and its ability to manage relationships with the Myanmar Army and state officials. This has made the NDA-K a useful business partner for Chinese companies. Myanmar registered companies owned by/affiliated to the NDA-K have provided a front for Chinese companies to establish rare earth mining enterprises. The NDA-K has also managed relations with local populations, buying up land from local farmers to lease to mining companies and managing local dissent.

Rare earth mining in KIO-controlled areas: Bhamo District

Rare earth mining exploration in KIO-controlled areas close to Mai Ja Yang began in the mid-2000s but halted following the collapse of the ceasefire between the Myanmar government and the KIO in 2011 because of the heavy fighting that ensued. Since 2014/2015, the KIO has granted permission for some Chinese mining companies to explore rare earth deposits in KIO-controlled territories. This was initially on a smallscale, but since 2021 the KIO has permitted extensive rare earth mining exploration in a mountainous area northwest of Mai Ja Yang close to the China border centred on Nhkawng Pa. The expansion of rare earth mining in the Nhkawng Pa area was linked to Covid-19 border restrictions that were imposed further north at the Kampaikti border crossing. This border crossing – jointly controlled by the Myanmar government and the NDA-K – was the main route for mining companies operating in Chipwe and Pangwa areas. Tighter border restrictions during the Covid-19 pandemic made it much harder for companies to transport the necessary chemicals and equipment from China. Consequently, Chinese companies sought out new sites for exploration closer to KIOcontrolled border crossings at Mai Ja Yang, where border restrictions were looser.

Since 2021, companies have extracted rare earths from many of the hillsides across the Nhkawng Pa region and many deposits in the area are now exhausted. In September 2022, the KIO granted permission to companies to start rare earth mining exploration in other KIO-controlled territories across Bhamo District. However, these plans generated widespread civil society opposition due to concerns regarding the environmental damage caused by rare earth mining. In April 2023, following months of protests, the KIO announced that rare earth mining projects in some KIO-controlled territory would be suspended. It is important to note that this announcement related specifically to planned mining projects in N'Ba Pa and Ding Sing Pa. The status of planned exploration in other KIO-controlled territories in Bhamo District remained unclear throughout 2023, although in June/July 2024, the KIO has approved a further expansion of rare earth mining.

Figure *Rare earth mining site, Kachin State*

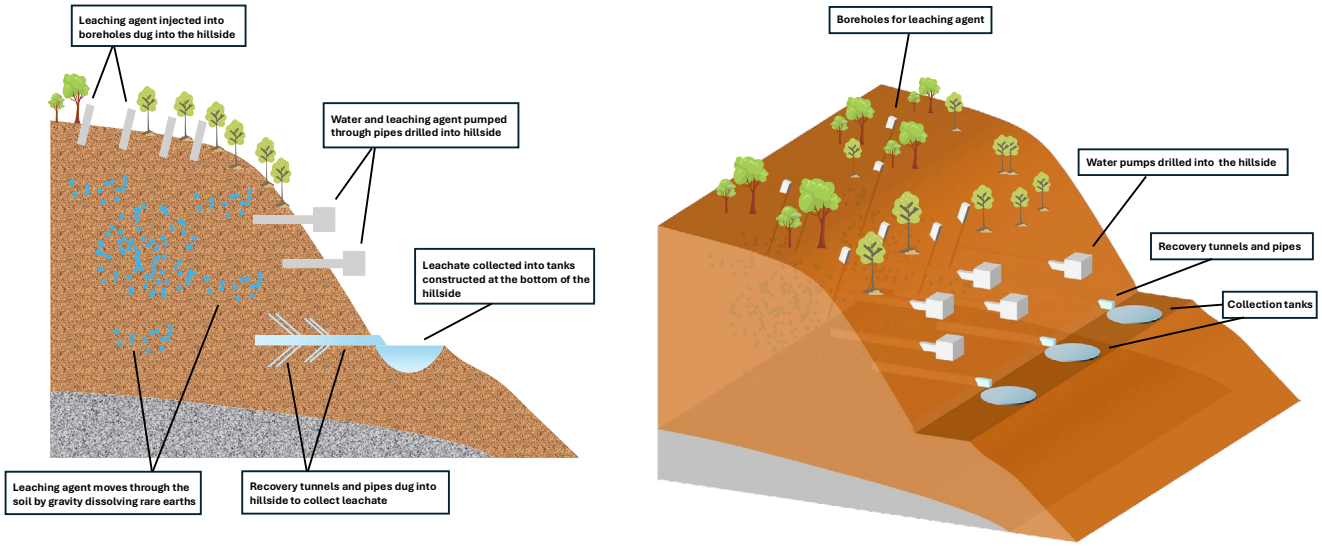


How are rare earths mined in Myanmar?

Rare earths are divided into 'heavy' and 'light' categories. Myanmar is a major source of 'heavy' rare earths, especially terbium and dysprosium, for which Myanmar is currently the world's largest producer. These elements are crucial components in the production of permanent magnets that are used in a variety of technologies including smartphones, wind turbines, and electric vehicles.[xviii] Rare earths can be extracted from the ground in various ways. The most common methods are open pit mining and 'in situ leaching'. Open pit methods involve removing the topsoil and digging up the rare-earth bearing clay (or blasting it if too hard to dig directly) and then mixing the clay with chemicals and water to leach the rare earths from the crushed rock. This process generates a large amount of solid waste (the remaining clay after leaching,which is called tailings) and wastewater (containing residual chemicals and other contaminants leached from the rock). However, the geology of Kachin State and the common steep hillsides makes in situ leaching possible, and this is the method that mining companies have adopted for the reasons set out in more detail below. To date there has been no open pit mining for rare earth elements in Kachin State.

In situ leaching involves inserting pipes through the topsoil and into the clay containing rare earths at the top of a hill. A leaching solution – most commonly ammonium chloride or ammonium sulphate dissolved in water – is then pumped into the clay through the pipes. The leaching solution moves down through the clay under gravity, dissolving the rare earths present in the clay as it goes. Large volumes of water are then pumped into the pipes to ensure the leaching solution washes through the clay. This water is then collected in large collection tanks built at the bottom of the hillside. Chemicals are added to the water in the collection tanks to precipitate the dissolved rare earths as a solid sediment, that settles to the bottom of the tank. Once the sediment is settled, most of the water is drained from the tank and the wet sediment sludge dug out of the collection tanks. The sludge is then transferred to 'burning sites' where large furnaces are constructed to burn the rare earth sludge. This can take up to 48 hours with three or four sacks of sludge producing one sack of dry dust. The dry dust is then packaged in sacks for export to China for further refining (see, for example, Figure 4). Briefing Paper 2 provides a more detailed analysis of the rare earth mining process.

Figure 3: *In-situ leaching*



In situ leaching has been preferred to open pit mining because it does not require large up-front costs: raw materials (leaching chemicals, pipes, collection tanks) and technology (pumps) are not expensive or difficult to transport. Unlike open-pit mining, in situ leaching does not require large-scale excavations (and the use of associated heavy equipment) or entail large-scale land clearance and deforestation, nor does it create large volumes of tailings that require active management. However, in situ leaching is associated with the contamination of soil and groundwater resources by leaching solutions and the physical destabilisation of hillsides through the pumping of leaching solution and water into the clay (increasing the risk of landslides). Both open pit and in situ methods can generate large volumes of wastewater, as each relies on water to recover the rare earths from the clay. Overall, in-situ leaching is potentially less destructive than open pit methods and – if managed properly – the negative impacts associated with this method could be reduced. However, this would require thorough environmental assessments, the development and enforcement of regulation, and additional investment – all of which are currently absent in Myanmar rare earth mining.

Figure 4: *Trucks carrying rare earth-bearing dust pass through the Pangwa-Tengchong crossing on the Myanmar-China border.*

What are the working conditions like in rare earth mining?

Mining areas have attracted large numbers of migrant workers, almost all of whom are male. Previous research has estimated that as many as 20,000 labourers were working in the Chipwe/Pangwa at any one time between 2018 and 2020.[xix] This workforce comprises migrants from China, local workers including internally-displaced people (IDP) from nearby camps, and workers from other parts of Myanmar. All site managers and technicians employed by companies in this area are Chinese, while Myanmar people work as manual labourers. Manual jobs include inserting the pipes into hillsides through which the leaching solution is then pumped, constructing collection tanks at the bottom of the hill, adding the precipitating chemical to the collection tanks, digging out and burning the sludge and bagging the dust that results from burning. The mining companies also generate other labour requirements, including cooks and construction of rudimentary accommodation. Workers are required to obtain permits from local authorities to work in mining areas and must pay money at checkpoints to enter mining areas.

Work in rare earth mining lacks the 'rags-to-riches' possibility of jade mining (where even unpaid 'jade scavenger' sifting through the tailings discarded by large mining companies may find valuable pieces of jadeite). However, rare earth mining does provide more stable wage labour, in the region of US$400-650 per month.[xx] Local reports suggest that jobs that require the handling of chemicals are better paid because this work is less popular and is considered to represent a greater risk to long term health. Workers have no knowledge of the chemicals that they are working with and often lack suitable protective equipment.[xxi] Living conditions are rudimentary, and mining sites are remote and isolated. Many labourers work in mining jobs periodically for a few months before returning to their hometowns. For more information on labour practices and conditions, see Briefing Paper 3.

Workers also report the risks they face from landslides, especially on steep hillsides following heavy rain, although there is no publicly available data on injuries and fatalities. In June 2024, Kachin media reported two major landslides in the Pangwa area. The first landslide, which occurred on 4th June, killed more than twenty people.[xxii] A second landslide on 19th June left more than fifty miners missing with most presumed dead.[xxiii] Smaller landslides in the area in late May had also killed several workers.[xxiv]

What are the local impacts of rare earth mining?

Land tenure insecurity: To date, land dispossession related to rare earth mining has not been formally documented. However, anecdotal evidence and media reports suggest that land tenure insecurity has worsened in rare earth mining areas, especially in areas surrounding Chipwe and Pangwa where mining has become more established and widespread.[xxv] In some of these areas, rare earth mining is taking place on land that had already been taken in previous years by Zakhung Ting Ying and his associates. In other areas, growing demand for rare earths has driven a new wave of dispossessions. In some cases, landowners have been given some compensation but the amount is non-negotiable and typically below market-price. Sometimes the land taken is community land for which there is no single owner, but which local populations rely on for various activities (such as shifting cultivation, grazing animals, sourcing food). Briefing Paper 2 provides a more detailed analysis of land tenure issues surrounding rare earth mining.

Environmental damage: Although (as noted above) in situ leaching has the potential to be a less destructive extraction method than open-pit mining, it can still have significant adverse impacts on the natural environment and people if it is not carried out responsibly. Although detailed studies are very limited, it appears that the most significant environmental damage in Kachin State to date has been the contamination of local water sources with the toxic chemicals used in the leaching solution and added to the water collection tanks.[xxvi] The worst damage to water supplies and soils seems to come from companies intentionally releasing toxic wastewater into rivers and streams.[xxvii] Further risks are created by the ubiquitous practice of abandoning toxic wastewater in collection tanks once rare earths in the hillside deposit have been exhausted. Even if the collection tanks are initially watertight, over time there is a risk of leaks that can contaminate underlying groundwater. Local media has reported that river contamination has killed off much local wildlife and people struggle to access safe drinking water or to grow crops on land close to mines.[xxviii] To date, there is no publicly available systematic scientific assessment of contaminant concentrations in local water supplies and soils in mining areas, and it is not always clear what chemicals are being used and how this varies between sites and companies.

Impacts on livelihoods: The rapid expansion of rare earth mining is having a transformational impact on remote rural regions of Kachin State although there has, to date, been no systematic research on these effects. Mining has brought jobs and investment, while the additional cash now circulating in local economies has supported new businesses and seen the growth of towns like Chipwe. However, mining is also a source of significant new livelihood threats, primarily due to land dispossession and environmental damage, which local people attribute to rare earth mining methods. Farmers report that they can no longer use some of their farmland because it has become contaminated and grazing animals have died as a result (see Figure 3 for an example of a scenario where contaminated water could potentially migrate from a hillside to agricultural land below it). Farmers have also struggled to sell produce that they grow close to mining sites – including vegetables, cardamon, walnuts, oranges and quince – because merchants, especially Chinese traders, are concerned about contamination.[xxix] Apparent contamination of rivers and streams has also adversely impacted local communities because it has killed off the fish that many households rely on to supplement their diets and incomes.[xxx] In some areas, fish have disappeared entirely; in other places the remaining fish make people sick when caught and consumed. As with agricultural products, local and Chinese traders have stopped buying fish in some areas due to concerns about toxicity.[xxxi] In some areas, farming livelihoods have also been affected by water shortages as mining companies divert water for their own use. This has reduced the water available for irrigation and has reduced crop yields.[xxxii]

Social impacts: There are concerns amongst the local population related to large migrant populations and fears that mining areas have become a magnet for worsening drug issues. This appears to be consistent with experiences from other mining areas 14 across Kachin State [xxxiii], although again there has been no detailed research on this issue.

Figure 5: *Rare earth mining and landslides on the hillsides above farmland*

What have been local responses to rare earth mining?

Responses to rare earth mining vary. In some areas, like Nhkawng Pa, local communities have been supportive of mining activities because of the jobs and revenue they have created, and local village authorities have been suspicious and critical of activist opposition to mining.[xxxiv] In other areas affected by rare earth mining, experiences of land grabbing, environmental damage, irresponsible mining companies, and the adverse impacts on people's livelihoods have generated anger, fear and resentment among local populations.

The scope for people to speak out or to challenge local authorities and companies has also varied. This has been particularly challenging in Chipwe due to the control that the NDA-K wields over the area and the power it has avoid scrutiny. Despite these challenges, in the years prior to the February 2021 military coup, there were several attempts by residents to appeal to government authorities to address the damage being caused by rare earth mining.[xxxv] In response, the NLD government sent an inspection team. However, Myanmar Army representatives accompanied the government inspection teams and although mining stopped temporarily when the inspection team was in the area it soon started again after they had left.[xxxvi]

In contrast, there has been extensive and effective opposition by residents, church leaders and civil society organisations (CSOs) in KIO-controlled areas of Bhamo to plans to expand rare earth mining into new areas. Almost as soon as the KIO's decision to allow further rare earth mining exploration became known in September 2022, residents raised objections. Protests were particularly strong in the N'Ba Pa and Ding Sing Pa areas, which have a long history of active civil society mobilisation. Church networks – both the Kachin Baptist Convention (KBC) and the Roman Catholic church – were instrumental in mobilising opposition, while CSOs and human rights activists also played important roles. These protests played an important part in the KIO's decision in April 2023 to halt all plans for rare earth mining in N'Ba Pa and Ding Sing Pa.

How has the rare earth mining sector changed since the coup?

There has been a large expansion in rare earth mining since the February 2021 military coup in Myanmar, with some reports estimating that extraction has risen fivefold. Several factors account for this expansion. In the decade prior to the coup, the Chinese government had already restricted heavy rare earth mining within China to mitigate environmental and social harms. In 2021 the Chinese government implemented further control over domestic production. In December 2021, three of China's largest rare earth mining companies – China Minmetals Corporation, Aluminium Corporation of China Ltd. and Ganzhou Rare Earth Group Company – merged to form the China Rare Earth Group.[xxxvii] The Chinese government subsequently announced that mining quotas would only be distributed to this Group and its official subsidiaries. These new regulations were partly aimed at preventing the opening of new mining sites in China and clamping down on unregulated, illegal mining and the environmental impacts of existing mining techniques. At a time of increasing domestic and international demand for heavy rare earths and the products for which they are used, the restructuring of China's domestic sector had the effect of limiting the expansion of new mining sites within China and magnifying the importance of imported rare earths to China's supply chains, so long as heavy rare earth mining was suspended or restricted in China.

Increased mining is also attributable to the military coup ending the efforts of the NLD government to enforce stronger regulations over resource extraction. Although government policies had been only weakly enforced, they had at least encouraged companies to obtain official licences to avoid the risk of reprimand.[xxxviii] However, since the coup, companies have been able to expand their activities through informal negotiations with local authorities and without concerns that their activities may be subject to greater oversight by the national government.

Amidst the political crisis and renewed armed conflict that has engulfed Myanmar since the coup, rare earths are also becoming an increasingly important part of the wider war economy. Armed actors on all sides of the conflict have sought to find ways to finance fighting and this has seen a significant expansion in resource extraction in many areas of the country. The expansion of rare earth mining in KIO-controlled areas since the coup should be seen in this light. Indeed, although the KIO announced a halt to all rare earth mining in N'Ba Pa and Ding Sing Pa, mining has expanded in other KIO-controlled territories close to the China border, including other areas of Bhamo District and areas of Chipwe adjacent to NDA-K controlled territory.[xxxix]

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[xxxvii] Sadan, M., Smyer Yü, D., Dan, S.L., Brown, D., Zhou, R. (2022). Rare Earth Elements, Global Inequalities and the 'Just Transition'. British Academy, July 2022. Access here.

[xxxviii] The scale and unregulated nature of rare earth mining aroused concerns within the NLD government. In November 2018, the Yunnan Province Customs Office announced all rare earth imports from Myanmar would be stopped after May 2019 following pressure from the NLD government. In February 2019, the Customs Office banned the export of chemicals used to extract rare earth elements to Myanmar and in December 2019, the NLD government outlawed the export of rare earths to China, citing the presence of Chinese mining companies in Kachin state operating without official licenses. However, the NLD government's weak administrative control over the Chipwe and Pangwa regions and bordercrossings coupled with the strong vested interests of local authorities on both sides of the border to continue to allow rare earth mining and cross-border flows meant that these restrictions had little effect.

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