



ISP CONFLICT ECONOMY STUDIES

July 2025

Myanmar's Rare Earths:

CRIES BEHIND CRITICAL MINERALS





Institute for Strategy and Policy – Myanmar

Established in 2016.

On April 26, 2025, ISP-Myanmar held its eighth *30 Minutes with the ISP* event, titled Myanmar's rare earths: Cries behind critical minerals. A bilingual recap memo, available in both Burmese and English, was produced to document the discussion and published in July 2025.



+66 807 747 9712

PO Box 149, Chiang Mai University PO, Chiang Mai, 50202.

info@ISPMyanmar.com | www.ISPMyanmar.com

CONCEPT NOTE

The global shift to green energy hinges on a handful of critical minerals, and Myanmar has become a key supplier in this emerging race. In other words, as the global race to renewable energy accelerates, advanced magnets are in increasingly high demand. The rare earth minerals indispensable for these magnetic and conductive materials are being extracted from Myanmar's conflict-ridden northern regions. China, which controls, refines, produces, and stockpiles nearly 90 percent of the world's rare earth supply, has long sourced a significant share of its raw materials from Myanmar's northern border regions. On the other side of the unregulated and illegal extractions, the environmental toll has been steep: soil, water, and air contamination from toxic chemicals has devastated local communities and rendered traditional livelihoods untenable. Streams once vital for drinking and irrigation now flow murky with toxins.

Research findings by ISP-Myanmar identified more than 370 rare earth mining sites and 2,700 in situ leaching collection ponds in Kachin State's Chipwi and Momauk townships, the epicenter of Myanmar's rare earth extraction. Over 240 of these sites (66 percent) were developed after the 2021 military coup. The total area of operations now exceeds the size of Singapore. Myanmar has exported over 290,000 tonnes of rare earths to China in total, with nearly 170,000 tonnes shipped in the years following the coup.

While this research was being conducted, the devastating Mandalay-Sagaing Earthquake struck on March 28, 2025, resulting in significant loss of life and destruction. In its immediate aftermath, China was among the first to dispatch substantial rescue teams and humanitarian aid—a gesture that was deeply appreciated by the Myanmar communities affected by the disaster. Chinese citizens also provided committed support, with rescue teams displaying advanced technology and a high level of coordination. Their efforts closely reflected Myanmar's esteemed

- ▶ “Four Sangaha Principles” (four means of sustaining a favorable relationship), notably *dana* (generous material support) and *samanattata* (treating others as equals). From a national perspective, China and its people conducted “earthquake diplomacy” with notable precision and generosity, earning the trust, respect, and reliance of many in Myanmar.

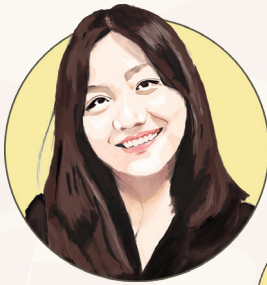
At the same time, China's broader handling of post-coup dynamics in Myanmar—particularly its role in facilitating the return of Lashio, which had come under the control of the Myanmar National Democratic Alliance Army (MNDAA), to the State Administration Council (SAC)—sparked considerable public debate and scrutiny.

Yet, the less visible side of Myanmar's conflict-driven economy warrants equal attention. A stark contrast emerges when comparing China's role in post-earthquake relief with its involvement in extracting rare earth minerals, often kept out of public view. The local community derives little to no benefit from these lucrative operations. Instead, they face repression and militarized rule under the sway of armed groups, deepening their hardship. Forced displacement is common; families are uprooted, crops and livestock perish, and health crises follow. If a powerful neighbour like China—so visibly aligned with the spirit of the “Sangaha Principles” in its earthquake response—were to apply similarly high standards of responsibility and care in its mining ventures, it could pave the way for a more equitable arrangement that benefits both sides.

This week's *30 Minutes with the ISP* program focused on China's role in Myanmar's rare earth mining. From a research perspective, we also highlighted the often-overlooked hardships faced by local communities affected by these operations and explored their hopes and concerns. ■

Myanmar's Rare Earths:

CRIES BEHIND CRITICAL MINERALS



Nan Lwin

Program Head
China Studies
Lead Panelist



Kaung San

Program Associate
China Studies
Co-panelist



Su Lin Han

Program Assistant
Communications Department
Host

This event was held on April 26, 2025, exclusively for ISP Gabyin Community members. The recorded video of the event is available on ISP-Myanmar's YouTube Channel with English subtitles. DVB broadcasts the recorded video with English subtitles of the live event on its TV and social media channels regularly on Mondays and Wednesdays.



Su Lin Han

Program Assistant
Communications Department
Host

Greetings to all Gabyin members joining today's *30 Minutes with the ISP* program. I'm Su Lin Han, and I'll be your host for today's event. This is the eighth episode of our *30 Minutes with the ISP* series. Our discussion will be presented under the topic: "Myanmar's Rare Earth: Cries Behind Critical Minerals." Leading today's

discussion are our panelists from ISP-Myanmar's China Studies Program, Nan Lwin and Kaung San. Alright, let's begin. I would like to invite our lead panelist, Nan Lwin, to kickstart the discussion.



Nan Lwin

Program Head
China Studies
Lead Panelist

Greetings to all friends joining today's *30 Minutes with the ISP* program. Today's discussion will mainly focus on China's role in Myanmar's rare earth mining. Before we dig into that, I'd like to touch on China's current involvement in Myanmar briefly. After that, we'll explore the importance of Myanmar's rare earth minerals to

China, the hardships local communities face from mining activities, and what these communities want and prefer.

First, let's take a look at China's involvement in Myanmar's ongoing conflict. China's role in Myanmar's peace process and conflict resolution can be seen as a new approach. The Chinese Special Envoy personally overseeing the ceasefire between the SAC and MNDAA, and facilitating the return of Lashio to the SAC, while providing ardent earthquake relief, are particularly notable. China's approach reminds us of the beginning of the British colonial era after the Konbaung Dynasty, when the British annexed Myanmar and ruled the occupied territories through appointing a commissioner. Looking at how China handles the northern Shan State issue, it suggests a new model of ceasefire, coercive dividing of administrative authority between the SAC and EAOs. This model differs from the post-1990 ceasefire model and represents a new paradigm. The northern Shan State is critical to China for security, trade, and strategic projects. That's why China is making these efforts.

Looking at the current ceasefire monitoring, China seems to prioritize economic development then the peace process and aims to gradually shape political outcomes, such as



► conducting elections, finally, which could serve as an exit strategy for the SAC. This peace-through-development model raises questions and hints that a resource-based war economy could grow stronger. China's interests are intricately interwoven, like a spider's web, across many sectors and regions in Myanmar, both in perception and empirical reality. When we talk about China's interests in Myanmar, people often think of expanding geopolitical influence, infrastructure, and economic corridors. We cannot overlook issues like widespread extraction of natural resources, such as rare earth mining, that come hand in hand with ongoing conflict. It also gives China more geographic and diplomatic advantages.

Rare earths generally include around 17 types of minerals. Our studies show critical minerals, are extracted in Kachin: Dysprosium (Dy) and Terbium (Tb). These elements are crucial for high-tech products worldwide, including EVs, defense, military equipment, and green energy technologies. According to our data, Myanmar's rare earth exports to China exceeded USD 3.6 billion in the past four years. That's over five times higher than the same period before the coup.

Satellite imagery shows at least 370 mining sites in Kachin, mainly in Chipwi and Momauk townships. These sites contain nearly 3,000

in situ leaching ponds for mineral extraction. More than half of these sites emerged after the coup. China accounts for 60-70 percent of global rare earth production. For refined rare earths, the figure is nearly 90 percent of the global production. Around half of these come from raw minerals sourced in Myanmar. Thus, Myanmar's rare earths are key to the China-led global supply chain. This is also tied to why mining has expedited production since the coup. At the same time, increased mining activities have caused rising hardship for local communities.

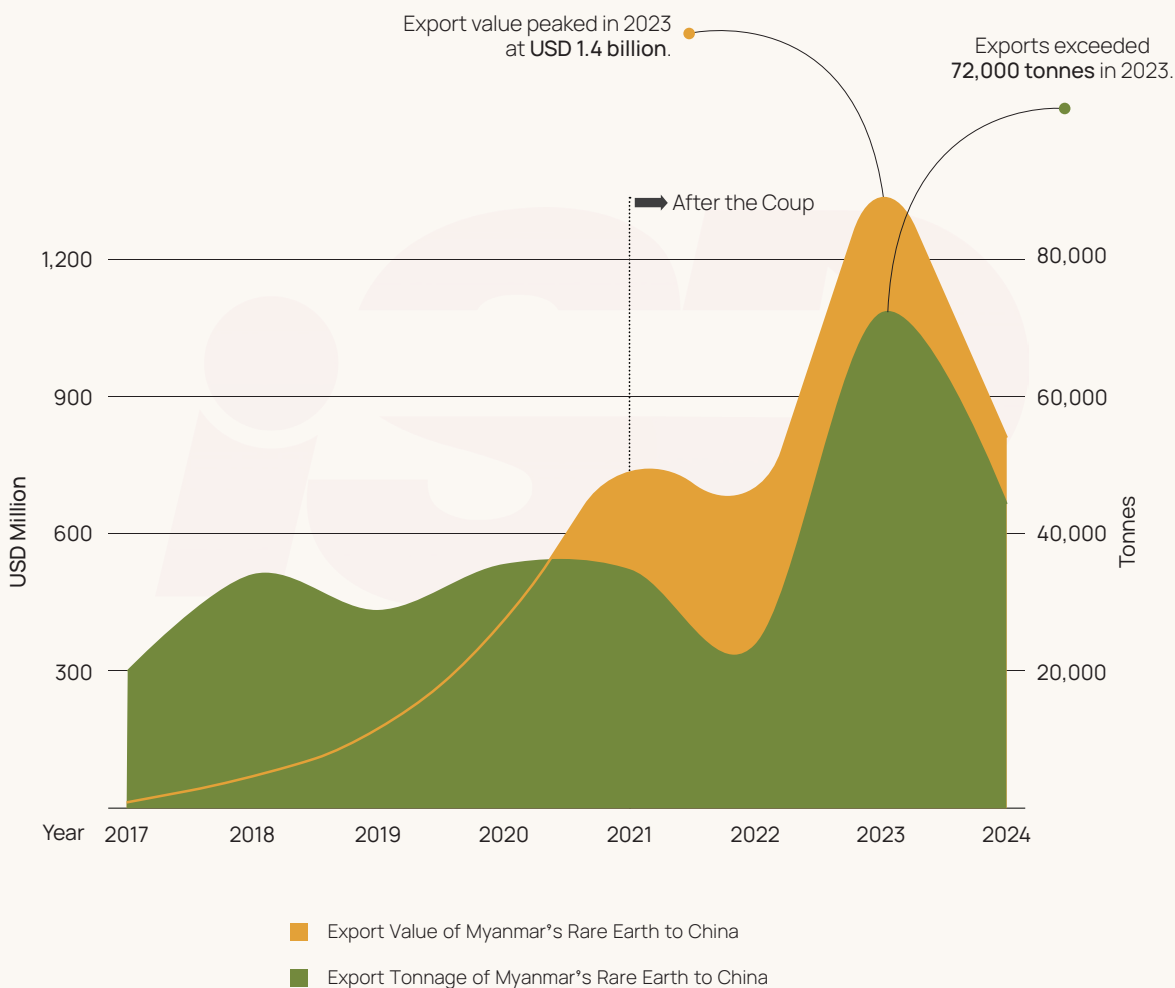
Kaung San will now continue with this section.

Rare Earth Exports to China Increased Fivefold After the Coup

ISP Data Matters Number 153

ISP Data Matters

Rare earth exports from Myanmar to China have increased **fivefold** in the **four years** since the coup, reaching **USD 3.6 billion**. During the post-coup period, **more than 170,000 tonnes** were exported to China.



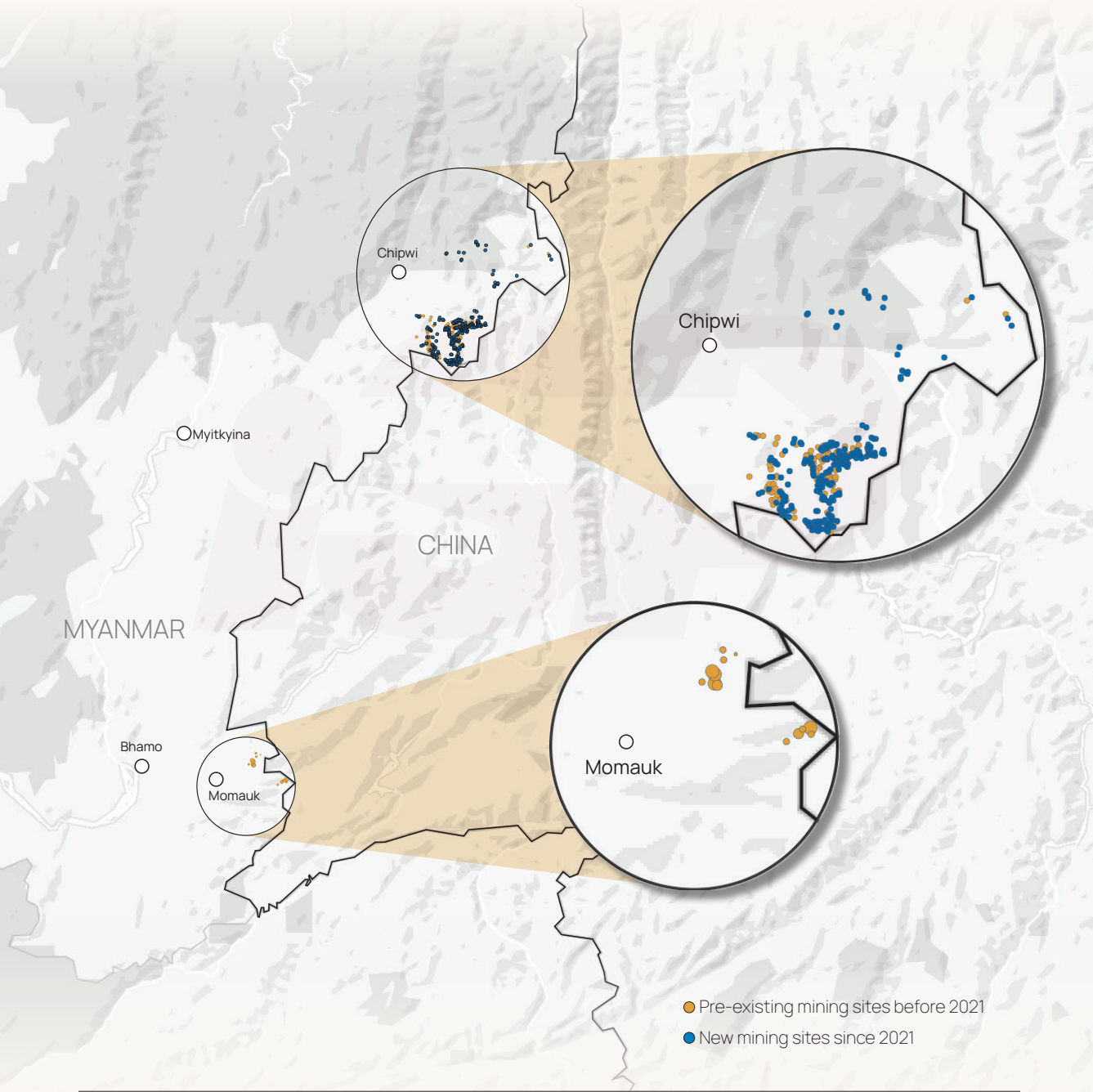
Note: Data from January 2017 to December 2024 are based on the data from the General Administration of Customs of China (GACC).

Over 245 New Mining Sites in Kachin Since the Coup

ISP Mapping Number 93

ISP Mapping

Following the 2021 coup, the number of rare earth mining sites in Kachin State rose from 126 to over 371—an increase of 245 sites, nearly doubling the total since the pre-coup period.



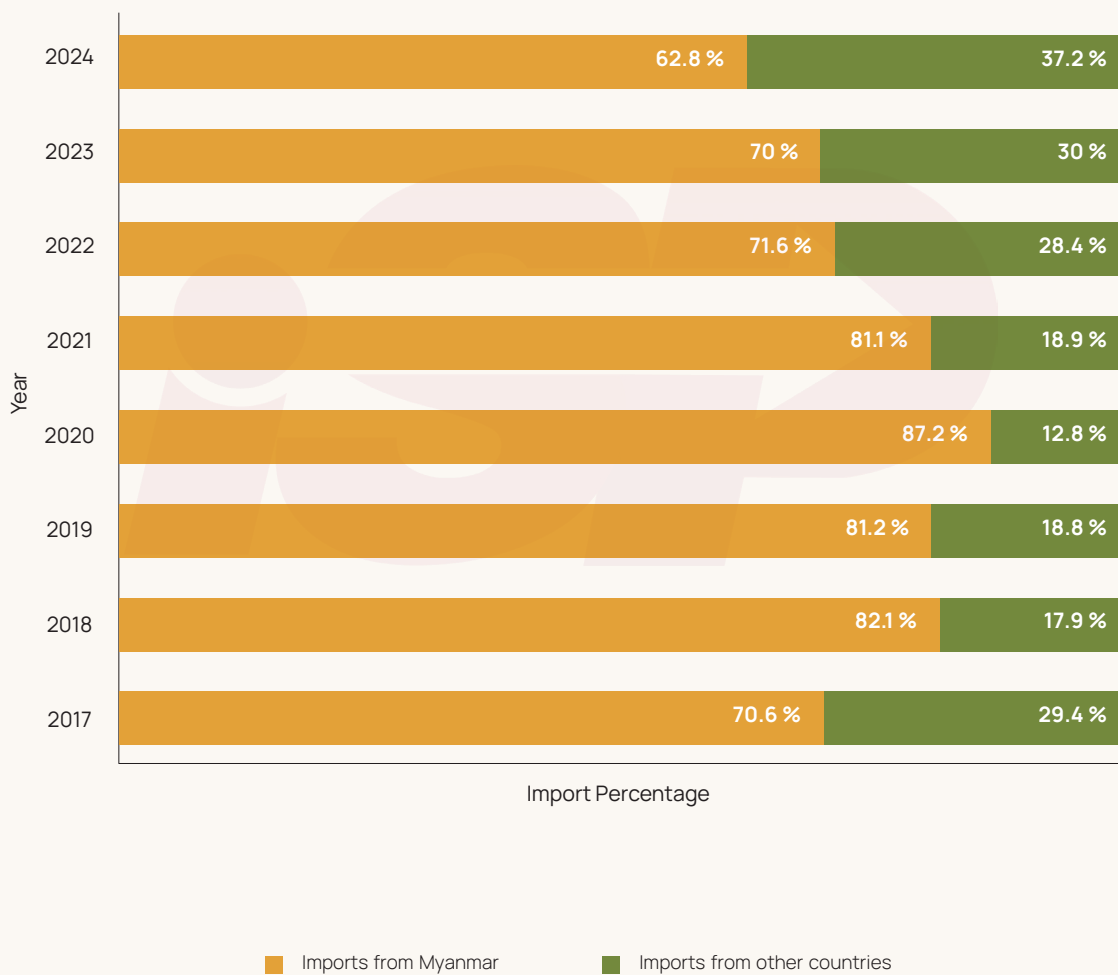
Note: Data as of December 2024 are based on ISP-Myanmar's research and may vary from other sources due to differences in methodology and data availability.

Myanmar: China's Largest Supplier of Rare Earths

ISP Data Matters Number 154

ISP Data Matters

On average, Myanmar was the largest supplier of rare earth minerals to China from 2017 to 2024 by volume. Myanmar's rare earth minerals account for approximately **two-thirds** of China's annual rare earth imports. From January 2017 to December 2024, Myanmar exported **over 290,000 tonnes** of rare earth to China. Of these, **over 170,000 tonnes** were exported after the coup.



Note: Data from January 2017 to December 2024 are based on the data from the General Administration of Customs of China (GACC).



Kaung San

Program Associate
China Studies
Co-panelist

The rare earth minerals are worth billions of USD, but their negative impacts are significant as well. These impacts are felt most by the local communities in Kachin State—especially in Chipwi, Pangwa, and Momauk. I'd like to highlight three key findings from our research. First, serious environmental damage is harming public health.

Second, livelihood loss is leading to social hardship. Third, human rights violations by authorities and mining companies are undermining socio-economic conditions and disrupting social harmony, leading to both physical and psychological insecurity.

Firstly, the environmental damage mainly involves the pollution of water resources and soil. In the mountains where rare earths are mined, they drill holes, dig pits, and pour in chemicals that harm the environment.

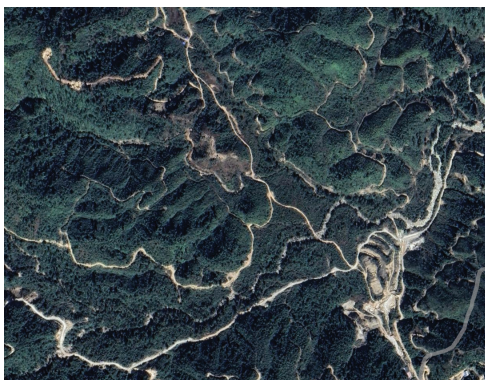
The chemicals seep into the soil and are easily discharged into nearby streams. As a result, the stream water becomes polluted. Next, we've also seen noticeable changes in Pangwa's landscape due to mining expansion. The terrain has significantly changed in a rare earth mining site in Pangwa due to these expansions. Satellite images from Chipwi and Pangwa show widespread land transformation. There are barren hills and forest patches left looking like open wounds. In Chipwi Township, locals say the Chipwi Stream now smells foul, to the point where marine animals are dying. Another concern is that this stream flows into the Maykha (N'Mai Kha) River, which then joins the Irrawaddy River. So, communities along the Irrawaddy River may also be affected. In Momauk, the Tar Pein River water has become murky, and aquatic populations have dropped significantly.

Expansion of Mining Sites in Pangwa

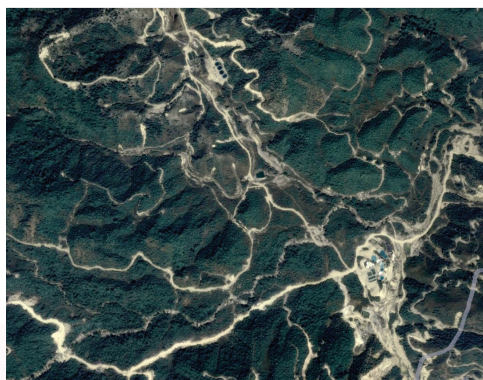
ISP Data Matters **Number 155**

ISP Data Matters

The following images show the transformation of mining sites in Pangwa, Chipwi Township, between 2018 and 2025. Mining activities expanded significantly following the 2021 coup.



2018



2021



2025

Data as of April 25, 2025, is based on ISP-Myanmar's research through Google earth satellite images. It may vary from other sources due to differences in methodology and data availability. Please note that analyses based on Google satellite imagery may have limitations for time-sensitive assessments, as the images are composites generated from multiple satellite passes over time.

Similarly, water, air, and soil are all becoming polluted. Crop yields are also decreasing, with their quality compromised. Residents in Chipwi and Momauk are severely affected by these effects. Another issue is health risks. Workers at rare earth mines lack proper protective equipment for their working conditions, and as a consequence, some suffer from respiratory issues and lung diseases. As rivers and streams become polluted, people relying on them are also at risk. In some cases, using this water has led to skin diseases. For example, after the Nam Phat Stream near Mai Ja Yang became polluted, villagers in Nhkawng Pa who relied on it began suffering from skin problems. Due to the ongoing conflict, we haven't been able to conduct a thorough investigation yet. If a full investigation were possible, the impacts would likely be even worse and more plentiful than we currently know.

The second point is the socio-economic hardships people are facing. As water and land resources are damaged, farmers struggle more than ever. People living in mining areas have traditionally relied on farming for generations. They also used to export their crops to China. But now, China no longer buys the local products, causing serious hardship. Their buffalo and cattle drink from polluted streams, leading to illness and even death. Some residents have had to abandon their traditional livelihoods, relocating

in search of new places to live. Those who remain often end up working at the mining sites to earn a living. But this does not appear to be a sustainable long-term solution.

Another issue is human rights violations committed by mining companies and authorities. These violations disturb social harmony and worsen existing conflicts. In Chipwi and Momauk townships, there are reports of drug abuse and sexual violence. We've heard that some mining sites permit drug use or even provide drugs to exploit workers' labor. At some sites, women seeking work face sexual exploitation. There are cases where women are hired only if they agree to sleep together with supervisors—a practice known locally as “bed-fellow women.” Because of the absence of clear policies and legal regulations in mining sites, locals are often exploited through inadequate land compensation and unpaid wages. When it comes to land compensation, there are no transparent or fair standards. This leads to frequent disputes between companies and local communities. The lands involved are often ancestral or communal farmland. As a result, land sales cause divisions within families and create more conflict among villagers.

On the other hand, there are also reports of threats and restrictions in these areas. Community groups

- ▶ raising awareness about rare earth mining face obstruction. Researchers and the media are blocked from accessing information. These actions are carried out not only by the New Democratic Army – Kachin (NDAK), Border Guard Force under Zahkung Ting Ying, but also by the KIA, which now controls the area. Those who resist these restrictions or continue to rally and speak out often face threats or even arrest. To be honest, the local communities are not demanding a complete stop to rare earth mining. What they are asking for is a more systematic and less harmful resource governance. Nan Lwin will now continue with more of our research findings on this issue.



Nan Lwin

Program Head
China Studies
Lead Panelist

Regarding rare earth mining sites, both the locals and community groups we interviewed recognize that calling for a complete halt to mining would be difficult. However, they emphasized three key demands to improve the management and governance of these sites. The first point is transparency from organizations and authorities

involved. They want to be clear about how mining licenses are granted, how profits are used, and who benefits from the operations. They're also unhappy with the restrictions placed on community-based groups. More importantly, they want to see meaningful collaboration between authorities and local communities. Instead of local authorities intimidating or bullying, they want responsible organizations to operate transparently, listen to local voices, and work together with the communities.

The second point concerns how revenue from rare earth mining is used. Locals want that income to benefit the region, especially healthcare, education, and basic infrastructure. Rare earth mining has been ongoing for over a decade, but has brought no real benefits to the area. Instead, local communities continue to bear the brunt of the burden. Looking at the data from the past six years, the revenue from rare earth exports was over a hundred times higher than the foreign direct investment flowing into the mining sector during the same period. It's still unclear which organizations are allocating, extracting, or profiting from this revenue. But what's clear is this: the burden of their exploitation falls squarely on the shoulders of the local communities. That's why including local communities in any fair resource distribution system is critical.

The third point is minimizing social and environmental harm. This is key to reducing the long-term negative impacts. Locals want to stop unregulated mining immediately and adopt a more responsible, accountable extraction model. In the long term, they want solutions for environmental damage. They call for advanced technologies to reduce harm and for mineral sales to be fair and public-beneficial. The locals also hope for a proper assessment of the current health and social impacts, along with real efforts to address them. To sum up, authorities granting permits for rare earth mining and the Chinese companies operating them play a key role. If the issues we've discussed go unaddressed, conflicts between locals, authorities, or companies will continue in a vicious cycle.

As we mentioned, rare earths are strategic minerals for China, important for geopolitics and global market dominance. So Myanmar's rare earths will remain crucial to China's strategic supply chain. But whether these sites benefit the public and reduce conflict depends on how the Chinese government handles its companies. For example, when the Mandalay-Sagaing earthquake struck, China was among the first to respond, sending a large amount of financial aid, sophisticated experts, and technical assistance. At that time, public opinion of China in Myanmar was quite positive, as seen clearly on

social media. China has advanced technologies, high standards, strong legal framework, and guidelines. Just like the earthquake aid, if it applies the same responsible practices for the public interest in its investments, such as infrastructure development and rare earth mining, it could make a significant difference. If China adopts its good practices and systems in Myanmar, ensuring local benefits and accountability, this could play a key role in shifting public perception in a more positive direction. With that, I conclude my discussion.



Su Lin Han

Program Assistant
Communications Department
Host

Thank you for the insightful discussion, our panelists. That concludes the first part of our session. Now, we'll move on to the Q&A session. I'll start with one of the pre-submitted questions from the Gabyin community.

Has the KIA seized all the rare earth mining sites in Kachin State? Is the KIA continuing to operate these mining sites, or have they been halted?



Kaung San

Program Associate
China Studies
Co-panelist

After the KIA seized Pangwa in October 2024, China closed its border gates, which halted rare earth mining and exports. Although the border gates were reopened later, rare earth exports did not resume. But locals say some mining has continued in parts of

Chipwi and Momauk. Just last March, the KIA reportedly told miners they could resume exports to China—with a tax of about 35,000 yuan per ton. So, I'd like to say that we may see a rise in rare earth exports in the coming months.



Su Lin Han

Program Assistant
Communications Department
Host

Thank you, Kaung San, for the answer.
I now see a question in the chat box
which says:

It's understood that as part of China's response to the U.S. increasing import tariffs, there's mention of halting rare earth exports. Rare earths are also critical for the United States. So, could the U.S. start eyeing Myanmar's rare earth minerals?



Nan Lwin

Program Head
China Studies
Lead Panelist

As discussed earlier, rare earths from Kachin are heavy rare earths and highly valuable. Around half of China's heavy rare earths come from Myanmar, indirectly contributing to the global supply chain. It also intertwines with tech and defense

production in the United States. That's why in the U.S.-China trade war, China is playing the strategic "halt on rare earths" card as a countermeasure. American companies are now looking for markets not dominated by China. But it's hard for the U.S. to eye Myanmar's rare earth. Armed groups control the mining areas, where there's an ongoing conflict, a growing war economy, human rights violations without transparency, and a high economic sanctions risks, making it difficult for U.S. companies to deal directly or ethically with them. Exports and production can be disrupted at any time by conflicts, making the reliance on Myanmar's rare earth a strategic weakness. With that, I'd like to say it's really difficult for the U.S. to eye on them.



Su Lin Han

Program Assistant
Communications Department
Host

Thank you for your comment,
Nan Lwin. Allow me to read another
question submitted in the chat box.

—

Rare earth mining causes environmental damage, but it's a valuable resource with a large market, which could generate significant income for Kachin State. What's stopping the KIO or KIA from creating a clear policy on it? Why haven't they been able to use this resource effectively for development?



Kaung San

Program Associate
China Studies
Co-panelist

First, thank you for bringing the question up. Rare earths have a huge market, not only in China but globally. The revenue potential is substantial; there could be great advantages if managed properly. The KIA has made efforts to introduce policies for

systematic mining. But in my opinion, there are obstacles to it. The first is territorial control and condition. The KIA used to control Momauk and now also Pangwa. They have a lot of rare earth sites on their hands right now. So, they need to adapt their policies to the shifting situation. The second challenge is the technical and financial capacity required for rare earth mining. These issues are making it difficult for the KIA to manage. Rare earth mining requires a lot of expertise and investment. So, in my view, the two main issues are technical limitations and policy adjustments. That's why it's still difficult for them right now to create a clear policy.



Su Lin Han

Program Assistant
Communications Department
Host

Thank you, Kaung San, for answering the question. We'd like to re-invite our Gabyin members attending today for questions and comments.

A participant named Zung Ting has raised the hand. You may now ask or share your thoughts.

Regarding the NUG, what kind of collaboration or support can they offer for the KIA's rare earth production and management? What kind of assistance or joint efforts are possible? Specifically, what support can they provide?



Nan Lwin

Program Head
China Studies
Lead Panelist

First of all, we need to consider the territorial situation. The rare earth deposits are in Kachin State. Regarding the conflicts, the PDFs are actively involved in providing support. But from a technical standpoint, collaboration with the NUG is possible.

Rare earths could become a source of revenue for the resistance forces. So, I believe technical cooperation can be pursued.



Su Lin Han

Program Assistant
Communications Department
Host

Special thanks to Nan Lwin for the insight. Due to the time constraints, we'll conclude the Q&A session here. I'd like Nan Lwin to share a few words for the closing remarks on today's discussions.



Nan Lwin

Program Head
China Studies
Lead Panelist

To sum up, there are three main points. First, Myanmar's rare earths are vital to China and the global market, and locals are aware of this, yet they're facing immense struggles. Second, they're not asking to stop mining completely, but to ensure it's fair and regulated, whether bilaterally or trilaterally. Residents want to avoid unregulated, discriminatory mining that causes a resource curse and harms communities. They're calling on authorities to enforce strong oversight. Lastly, just as China provided aid after the Mandalay-Sagaing earthquake, similar support now could lead to a more equitable arrangement that benefits both. With that, I'd like to conclude.




Su Lin Han

Program Assistant
Communications Department
Host

Thank you, Nan Lwin, for the closing remarks. You can access more research on our website, www.ispmyanmar.com and social media platforms. We truly appreciate each and every Gabyin member for joining today's discussion. By saying our appreciation, we will conclude the program for today.

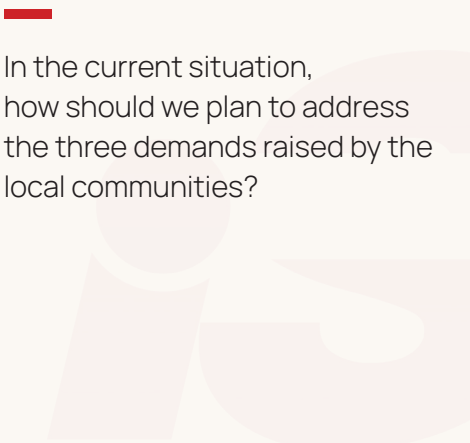
Appendix Questions

The question listed below was submitted via chat during the
30 Minutes with the ISP event on April 26, 2024.



Are rare earth minerals only found in Kachin State? Are they also found in other parts of Myanmar? If they are, what would happen if China came to mine them?

At present, commercially viable rare earth deposits have only been confirmed in Kachin State. Whether similar deposits exist elsewhere in Myanmar remains uncertain. Some studies point to potential reserves in eastern Shan State, the Mandalay Region, the Sagaing Region, and parts of Tanintharyi Region, such as Dawei. However, determining the size and commercial viability of these deposits will require further exploration and research. If rare earths are indeed found in other regions, it's likely that China, following its pattern in Kachin, would seek to expand its mining operations. Given the rising global demand, other countries might also pursue involvement. To prepare for this possibility, Myanmar must establish clear policies, legal frameworks, and regulatory mechanisms specific to rare earth mining, and—crucially—ensure they are effectively enforced. With such safeguards in place, the environmental damage and social disruptions often associated with mining can be mitigated, no matter which external actors are involved.



In the current situation, how should we plan to address the three demands raised by the local communities?

Given current circumstances, fully meeting all three demands from local communities will be difficult and will take time. Rather than rushing implementation, meaningful progress depends, as noted earlier, on the active involvement of local authorities, armed groups, and Chinese companies, all of which play pivotal roles. Local authorities, reliant on public support, must recognize that these issues require careful, phased responses. From what I understand, the Kachin Independence Organization (KIO) is also working to develop clearer governance on rare earth mining. In this process, it is essential to listen sincerely to grassroots voices. For its part, the Chinese government should take a more systematic approach to regulating resource extraction to avoid undermining China–Myanmar relations, especially public perceptions of China among the Myanmar population. Positive steps might include providing technical support, promoting international best practices, and ensuring that operations are structured to share benefits with local communities, minimize environmental and social harm, and include robust compensation mechanisms where damage does occur.



Previous quasi-civilian governments in Myanmar weren't able to address the rare earth issue effectively. A big part of the challenge was the complex involvement of various armed groups and their competing interests. While the topic was discussed in parliament, actual solutions were hard to implement because of the ongoing conflict and the influence those groups hold on the ground. Over the years, unregulated rare earth mining has continued, often expanding during times of conflict, leading to serious environmental damage and worsening conditions for local communities. Right now, efforts are underway to draft new policies, but what's missing is the meaningful inclusion of all stakeholders. If local communities are genuinely heard during this process, there's a real opportunity to develop a policy that's more balanced, more effective, and more sustainable in the long run.

Despite the existence of environmental ministries in both the SAC and NUG governments, as well as in EROs like the KIA, what specific actions are these entities taking to address the current consequences of rare earth mining? Are they completely unable to do anything about it?

Besides the KIO, which other domestic entities or companies are involved in rare earth mining operations?

Before the KIA took control of the Pangwa region, rare earth mining in areas like Chipwi and Pangwa was mostly tied to companies linked to the Kachin Democratic Army, or NDA-K—a border guard force under the SAC. One of the key players was the Myanmar Myo Ko Ko Company, led by NDA-K leader Zahkung Ting Ying, which operated across most of the rare earth mining sites. In addition to that, some local militias and a few “Wa”-affiliated companies were also reportedly involved in these operations. ■



Curious about Myanmar's rare earth?
Explore our latest report:

Unearthing the Cost – Rare Earth Mining in Myanmar's War-Torn Regions.

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+66 80 747 9712



PO Box 149, Chiang Mai University PO, Chiang Mai, 50202.



info@ISPMyanmar.com



www.ISPMyanmar.com