

Emily Eayre
Council Rock High School North
Newtown, Pennsylvania USA
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Regulating Jade in Myanmar to Promote Food Security

Myanmar is a diverse Southeast Asian country with plentiful and profitable natural resources. Slightly smaller than Texas, Myanmar has four major mountain ranges with three river valleys, the largest and most populated extending for 2000 miles (Thomas). This geography promotes agriculture, as the river valleys feature fertile soil and access to large quantities of freshwater for irrigation (Soe). Further, the geography separates many of the ethnic groups in Myanmar, which encompasses over 130 groups with 110 distinct languages and dialects, beliefs, and sense of identity, emphasized by geographical differences (Evason, “Myanmar... Core Concepts”; Thomas). The total population of Myanmar is 53.26 million (Thomas). The typical Myanmar family is close knit and heavily valued, and they stay together, even as children become adults, with the oldest male typically having the most authority (Evason, “Myanmar... Family”). The typical diet consists primarily of rice (Soe), and agriculture employs 48.8% of the population (“Myanmar: The Employment”).

In addition to Myanmar’s significant agricultural potential, it also has abundant natural resources, including natural gas, water for hydroelectric power, rubies, timber and jade (Allen and Einzenberger). Jade is exceptionally prolific, with large mines located in northern Myanmar (Beech, Po). Demonstrating its economic significance, in 2014, the jade industry contributed nearly half of Myanmar’s gross domestic product (GDP), a figure that increases even more when also considering smuggled jade (Beech). Alarming, however, jade also has a significant role in both fueling conflict and causing environmental degradation, severely impeding agriculture advancement and adversely impacting food security. Showing how little the people of Myanmar (the Burmese) benefit from their tremendous resources, only 26% of the population has access to electricity (Allen and Einzenberger). Myanmar’s exploited resources, specifically jade, has contributed to long-term instability and environmental degradation that has led to a massive food insecurity crisis in the country.

In 2025, a third of Myanmar’s population is facing food insecurity, and 19.9 million people require humanitarian assistance from global aid groups (“A Third”). The cost of food is skyrocketing, with staples like rice and beans costing 30% more in the past year (“Myanmar on the Brink”). This extraordinary increase of food cost and insecurity is due to a variety of factors, including climate change, environmental degradation, political conflict, and exploitation of resources. Myanmar is predicted to be the most vulnerable to new disasters in the future due to climate change (Soe). As evidenced by severe flooding in 2024 that submerged 2.3 million hectares of farmland and significantly reduced rice yields (Soe), these environmental disasters are devastating for food production. In addition to extreme weather events, food production is also limited by environmental degradation such as soil erosion, nutrient depletion, water contamination, and especially deforestation, as Myanmar is ranked in the top ten of countries with the fastest rate of deforestation (Soe). Because the continued exploitation of resources, specifically jade, causes or exacerbates all of the other factors worsening access to food in Myanmar, the jade trade must be regulated in order to promote both sustainable agriculture and food security.

One significant factor exacerbating Myanmar's food insecurity crisis is prolonged governmental instability. Enticed by Myanmar's vast natural resources such as jade, in the late 1800s the United Kingdom colonized the region, exploiting ethnic differences to prevent challenges to British rule (Curtis et al.). Although Myanmar gained independence in 1948, ethnic tensions continued to fuel conflict, as leaders repeatedly emphasize these ethnic differences ("Understanding a Changing"; Curtis et al.). From 1962 to 2011 the Tatmadaw, Myanmar's notoriously brutal military, ruled the country, suppressing opposition and persecuting many minority groups, notably the Rohingya Muslims, over a million of whom have fled to Bangladesh (Curtis et al.). Anti-government campaigns and international pressure led to a transition to democracy and a 2015 election; however, the new constitution preserved a substantial amount of military power, allowing the Tatmadaw to control 25% of parliamentary seats and lucrative industries like mining (Curtis et al.). In February 2021, the Tatmadaw staged a coup and regained political control, and since then, a new parallel government has been attempting to regain control and enforce democracy (Christensen et al., Curtis et al.). As such, armed ethnic and militia groups have been fighting the Tatmadaw, leading to an escalating conflict (Christensen et al., Curtis et al.). The ultimate effect of these destabilizing events are long-term political uncertainty and violence that exacerbate food insecurity.

In seizing political control, the Tatmadaw were able to monopolize the jade industry and arrogate its profits (Po). As such, the jade industry provides significant funding for the Tatmadaw's destabilizing military operations, effectuating enduring violence and instability that impedes investment in food production, ultimately leading to greater food insecurity. From smuggling and bribing to suppressing resistance, the Tatmadaw has been able to thwart any opposition or system of accountability (Po). The scale of this illegal behavior has led organizations like Global Witness to deem the jade industry as the "biggest natural resource heist in modern history" (Beech). One jade miner, Yup Zaw Hkawng, concluded that "If there was no jade, there would be no war in the Kachin state" (Beech). The desire to maximize jade profits has led to severe human rights violations. Comparable to a gold-rush frenzy, the jade mines are essentially lawless, with the Myanmar government having little enforceable power and killings occurring regularly, both from violence and excessive landslides (Beech). With more and more people seeking prosperity from the mines, disease spread and heroin use increased (Beech). An estimated 75%-90% of all miners are addicted to heroin and share needles, leading to a massive HIV epidemic, with approximately half of the miners expected to contract the virus with limited treatment options (Beech).

The prolonged violence resulting from the Tatmadaw's control over the jade industry has exacerbated food insecurity in myriad ways. The Tatmadaw have destroyed agricultural infrastructure and equipment, introduced blockades, and initiated other challenges to prevent food and aid from reaching people in need ("A Third"). Currently, more than 3.5 million people are internally displaced and during 2025, the number of displaced persons is predicted to increase to 4.5 million due to the extreme conflict ("Myanmar on the Brink"). This instability prevents people from producing food and investing in sustainable initiatives. Because of this conflict, 83.8% of households are reporting decreased incomes (Soe), intensifying food insecurity. Thus the jade industry both exploits and impoverishes the mine workers, and funds the destabilizing military that in turn destroys agricultural advancement.

In addition to pervasive human rights abuses, the jade industry causes significant environmental harm to Myanmar's natural resources, making agricultural sustainability even more challenging. Water sources near jade mines are now so contaminated that previous food sources, like oysters, are no longer available (Fishbein and Lamung). Many of the mining companies dump sediment and waste from their mines into nearby waterways, contributing to the major and worsening floods (Fishbein and Lamung) that ultimately displace people and prevent adequate food production and distribution. The Kachin state, where major jade mining occurs, previously featured abundant rainforest, but extreme levels of deforestation have

occurred in the last 30 years (Beech). Myanmar's extensive old-growth forests both capture carbon and house many endangered and threatened species, but due to conflict and natural resource extraction, the forest is rapidly disappearing (Cowan). Unmitigated, this is likely to have catastrophic long-term impacts on agriculture.

Food insecurity is continuing to rise in Myanmar; in order to produce more food, a comprehensive solution that addresses the persistent political and infrastructure instability, corruption, and environmental degradation must be employed. Currently, humanitarian aid is the most feasible direct, short term solution to feed people, as food donations more reliably transported by international organizations generally have a decreased risk of spoilage ("A Third"). However, these direct donations do not improve Myanmar's future food production, so additional actions are essential to alleviate long-term food insecurity.

Solutions aimed at improving domestic agricultural yields through traditionally successful methods such as improved microfinancing programs, attainable technology, and accessible agricultural education are possible. However, the amount of displaced people due to the conflict ("Myanmar on the Brink") means that investments into land, often expensive, will not have a return on profit, and people are less likely to adopt them. Further, the regions with the most food insecurity are where the conflict is the most extreme, so the farmers are even less likely to adopt these initiatives, and those requiring the most help will not benefit, leaving the crisis unresolved. Therefore, until the conflict is addressed, agricultural infrastructure investment projects are not a viable strategy. While improving yields is important for alleviating food insecurity, the increased production is useless if those hungry cannot access the food. Because of the jade-fueled violence and instability, roads are destroyed or unusable, leading to uncertain food access ("A Third"). Therefore, while efforts to increase yields would likely have some benefit, without ending the conflict, the lack of supporting infrastructure would impede accessibility, minimizing the benefit of this solution.

The Tatmadaw's lawless military advances must be curtailed in order to support long-term agricultural development, and the most effective solution is to minimize their main funding source: jade. The prominent jade industry must be reformed due to its role in the conflict and adverse environmental impact in order to further improve agriculture to increase yields and food accessibility. The individual mining workers and others in the industry could work for reform, but the individuals often face extreme violence and have a difficult time knowing who to protest against because the industry is so opaque (Beech). Further, the possibilities of becoming rich, as some jade sells for millions of dollars, and the lack of other opportunities to provide for their meaningful families, mean that people are reliant on the mines (Beech, Evason, "Myanmar... Family", "Myanmar: The Employment"). Thus, little can be done to protect the miners and reform the industry to ultimately promote food security without major institutional change.

Theoretically, the Myanmar government could impose substantial regulations; however, its power is limited and not enforced. Military groups impede transparency initiatives, making it difficult for the government to put pressure on the right people (Beech). One U.S. reporter who traveled to the jade mines noted that one miner described that the government essentially had no power, and the military could do whatever they wanted to do (Beech). Thus, the government does not have the ability to correctly regulate and punish those who are exploiting people. Global Witness reports that previous attempts at regulation ultimately allowed corruption to flourish even more (Fishbein and Lamung), leading to the ultimate conclusion that further regulation does not suggest future success. Recognizing the conflict that the jade industry promotes, many foreign countries have enforced sanctions on Myanmar jade. Notably, previous US President Joe Biden sanctioned two Tatmadaw-controlled companies in order to help minimize the

profits they receive, and the United Kingdom and European Union followed suit (Po). However, this attempt solely called for a global standard without effecting substantial change to the jade industry because, as expert Chia-Yun Po notes, these countries purchase limited jade regardless. Sanctions are ineffective without the majority consumer, China (Po).

China has an undeniable role in Myanmar's jade industry, and should be called upon to support necessary reform. An estimated 90% of Myanmar's jade is exported to China (Po). While reliable data is limited, many miners and global transparency initiatives like Global Witness believe that Chinese companies own many of the mining companies in Myanmar, and earn tremendous profit at the expense of the miners and Myanmar itself (Beech, "China's Role"). Technically in violation of Myanmar's Gemstone Law preventing foreign ownership of the jade trade, many Chinese people bribe and work with the Tatmadaw by creating front companies allowing the industry to be profitable (Po). Global Witness estimated that some companies receive up to 70% of their funding from Chinese sources ("China's role"). While China's role in terms of mining ownership may be ambiguous, China's influence in fueling the jade trade, and the associated conflict, is not; China has created an incredible demand for the mineral (Po). China has continued to exploit the jade resource in Myanmar with few effective reforms, and this injustice must be addressed in order to alleviate the conflict and environmental disasters fueling the worsening food insecurity in Myanmar.

Importantly, there are actions that China should take to promote ethical jade, which will in turn significantly improve stability, disincentivize violence, and allow for improved food production. Ideally, China would impose sanctions on jade companies that support the Tatmadaw, contribute to environmental degradation, and do not provide safe working conditions. However, China historically has not participated in these international actions and sanctions (Po). Further, there are several reasons why sanctions are unlikely to work: there is little transparency as to mining ownership ("China's Role"), so China itself could have difficulty determining which companies are supporting the Tatmadaw, and it would be difficult for international organizations like the United Nations (UN) and Association of South East Asian Nations (ASEAN) to hold China accountable for enforcing the sanctions. Additionally, even without sanctions, an estimated 80% of jade is smuggled into China to avoid taxes and regulation ("China's Role"). Enforcing sanctions would not change illegal trafficking without other significant reforms. As another option, China could support infrastructure development in Myanmar; however, these projects often do not meet the needs of the people (Allen and Eibenberger), leading to anti-Chinese resentment. Further, the conflict makes development extremely challenging, so China is less inclined to invest (Abb et al.). Therefore, China investing in infrastructure is likely not a strong solution.

China could lessen the disastrous impacts of the jade trade by both curtailing smuggling and creating a reliable way of authenticating sustainably sourced jade. Many top Chinese officials accept jade as a bribe, which conflicts with President Xi Jinping's anti-corruption campaigns intended to prevent Chinese officials from receiving gifts (Po). Strengthening trade security at the border anti-corruption laws are viable options to minimize border corruption (Po). Methods include using cameras, increasing the number of legal crossing points with more trained, high-paid staff, enforcing higher fines and punishments for people smuggling jade, and investigating corrupt officials through China's Central Commission for Discipline Investigation (Po). By investing in these methods to improve border security, China would both better regulate the jade industry, promote transparency, and collect significantly more tax revenue, which could be used for further investment. In order to monitor large scale transactions, the Chinese government should also require that jade transactions valued over the currency exchange cap per person per year, which is 50,000 USD, be monitored and recorded (Po). Notably, many of the jade exchanges occur in foreign currency, so many Chinese merchants are required to convert their yuan to another

currency, but the currency exchange cap per person per year of 50,000 USD is too low for most merchants (Po). Instead, merchants have an underground exchange system in order to circumvent the law, smuggle jade, and hide how much money they are actually earning (Po). If the Chinese government monitored large jade purchases as well, it would prevent this loophole from allowing jade smuggling to occur. These recommendations would need to be implemented by the central Chinese government, as local governments do not have this power within China's political system (Po).

In addition to preventing smuggling, China could also ensure that jade is ethically sourced by employing a jade certification system. Inspired by the Kimberly Process Certification System for diamonds, a similar system could be developed by the UN National Security Council. Chinese officials could inspect mines and provide a seal to verify that the jade is not being used to fund the Tatmadaw and that mining practices adhere to environmental guidelines and safe labor laws. International groups, such as the UN or Global Witness, could monitor to reduce corruption. If China would commit to only purchasing verified jade, this would have a dramatic effect on the jade industry, and would likely be a greater success with the different anti-corruption and border security efforts. This would likely drastically cut the available jade supply until companies comply; however, without China fueling the industry, the profits would also disappear, so companies would likely be motivated to reform quickly. The harm to China's economy is a limitation to this solution's feasibility, as China and stakeholders profiting from the industry may be resistant to implement these changes.

One way to entice China to implement these changes may be to appeal to their strong sense of virtue and jade's cultural significance. Confucius himself associated jade with virtue, benevolence, and righteousness (Po); these values directly contrast the devastation jade mining currently causes. The Chinese government could initiate a public advertising campaign extolling the virtue of verified, ethically sourced jade, and shaming those who did not purchase verified jade. By creating public awareness of the horrors that occur in the jade mines, Chinese consumers would be highly motivated to acquire only verified, ethical jade. The individual Chinese citizen could also further protest and campaign, driving demand. This solution requires a robust system to verify jade's origin, and would likely at least reduce the demand for illegal jade. This solution would also help appeal to the Chinese stakeholders that are also profiting from the jade mining because they could retain profits. Considered together, these actions could result in a jade industry that is increasingly ethical and sustainable, promoting stability instead of conflict, and allowing for more traditional agricultural advancement to flourish.

There are many incentives for the Chinese government to implement the recommendations in their entirety, including increasing tax revenue and ensuring long-term supplies of jade to fuel their economy. However, China still may not want to adopt these policies, so international organizations like the UN or ASEAN could pressure China and emphasize the benefits of supporting these policies. Specifically, the stakeholders of the mining companies would not want these policies enforced, but emphasis on the long-term sustainability of the profitability of jade, and ensuring that jade remains profitable through the advertising campaign shifting the demand to more ethical jade, would help minimize these concerns.

Food insecurity in Myanmar is undeniable and worsening: a true crisis. Exacerbated by environmental concerns and conflict, there are few comprehensive solutions possible. However, changing the exploitative jade industry through international pressure on China would promote transparency and ethically sourced jade to both minimize the conflict and promote food security in the country. No meaningful improvement to food security in Myanmar is possible without drastic reform to the jade industry.

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