



Security and Environment Concern of Energy Cooperation Between China and Myanmar

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Abstract. Part of China's energy security strategy is to use Myanmar's territory as an energy transportation route and transit area by actively implementing energy cooperation to build an oil and gas pipeline to transport oil from Myanmar to China. Aside from the fact that this project is hugely beneficial economically for Myanmar and China, there are also concerns involved. China's solution raises other problems, and not everything has gone according to plan. Thus, the purpose of this study is to examine the concerns about oil and gas pipeline cooperation between China and Myanmar by applying the energy security approach. The main argument of this research is that behind the great benefits of China and Myanmar's energy cooperation, there is a kind of "energy curse", that refers to numerous energy security concerns that will be applied in two ways: 1) the traditional security approach will be used to describe the security concerns, and 2) the non-traditional security approach will be used to explain the environmental concerns. This study concludes that the project should have ensured energy security and increased regional influence, but as Chinese companies in Myanmar tend to work only with the government, they lack an understanding of social change and public demands and fail to predict political and security trends. The concerns occur in the security sector, which is the most serious and vulnerable. This pipeline route is extremely dangerous since it runs across territory controlled by extremist ethnic groups. Meanwhile, the cooperation causes substantial environmental damage and contamination of land, water, and air. Pipeline leaks, emissions, and other damage can harm flora and nearby species and increase local pollution.

Keywords: Energy Security, Oil-Gas Pipeline, Military Conflict, Environmental Damage.

1 Introduction

Of all the natural wealth and resources available in Myanmar, oil and gas are the greatest commodities for trading. Myanmar controls 0.3% of global oil reserves (139 million barrels), the majority of which are in the Salon Basin and the seashore Yetagun Field. In 2020, Myanmar's total exports were worth \$19.4 billion, of which the main

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commodity in Myanmar's exports in that year was petroleum, with a total of \$2.99 billion, which accounted for 15.4% of the total exports. The main country that is the largest destination for Myanmar's oil exports is China. China is the last destination for Myanmar's oil exports. Based on data from CEIC, it is stated that, in general, China needs 15,442,094 barrels of crude oil per day in 2021. On the other hand, the oil fields in China only have the capability to produce 3,987,677 barrels of oil per day. This resulted in China being unable to meet its domestic demand for crude oil, so the country was in a crisis stage regarding crude oil energy sources. China's energy needs make Myanmar a potential energy source for the country [1]. At first, China was not interested in Myanmar's natural gas because it already had main partners in the energy sector, namely countries in the Middle East and Central Asia. However, due to energy demand and to avoid the risk of distributing oil and natural gas from these areas, China made Myanmar its energy partner.

Energy trade cooperation between China and Myanmar has existed since 2004, when the China Petro Company, led by China National Petroleum Corporation (CNPC), and Myanmar Oil and Gas Corporation (MOGC) formed a joint venture. China imports approximately 400 million cubic meters of natural gas per day from the Shwe natural gas plant off the coast of Rakhine, as well as approximately 16,000 tons of crude oil from Made Island in Rakhine State (Nilar, 2019). Myanmar territory in Rakhine State as the new pipeline routes are viewed by the Chinese government as part of a solution to China's "Malacca Dilemma," which is China's overdependence on maritime lanes that cross the small Strait of Malacca for its energy supplies. Oil and gas tankers that are generally brought from oil-producing countries, especially from the Middle East and Africa, are facing some maritime problems, such as sea blockages, as the worst-case scenario for China as the main user state in the Malacca Strait [2].

China's strategy is to use Myanmar's territory as an energy route by actively implementing energy cooperation to build an oil and gas pipeline to transport oil from Myanmar to China. The construction of this oil pipeline is the result of an agreement between Myanmar and China, which was outlined in a Memorandum of Understanding (MoU) in 2008. In executing the MoU, CNPC and MOGE collaborated to build a 793-kilometer oil pipeline at a cost of \$2 billion. This project completed construction in October 2021 and has been an oil pipeline from Myanmar to China since then. The profits from the pipeline are held by CNPC at 51% and by MOGE at 49% [3]. Aside from the fact that this project is hugely beneficial for Myanmar and China, there are also concerns involved. China's solution raises other problems and still not everything has gone according to plan.

In the pipeline project, however, not everything has gone smoothly. The project should have ensured energy security and increased regional influence, but as Chinese companies in Myanmar tend to work only with the government, they lack an understanding of social change and public demands and fail to predict political and security trends. With Thein Sein's elected government replacing the military Junta and Aung San Suu Kyi freed, China is facing new problems in Myanmar. The major project of the oil and gas pipelines, which has long been opposed by locals and NGOs but was built with the support of the old junta [4].

In this study, the impact of Myanmar-China energy transportation cooperation through this pipeline can be divided into two concerns: security and the environment. The concerns relate to the risks and threats from the activities of non-state actors in Myanmar. They have the potential to attack the pipeline facilities or shut down the Myanmar-China oil and gas pipeline project if the corporations involved do not comply with international environmental standards for environmental impact assessment and ignore human rights. In other words, China's oil and gas pipeline cooperation in Myanmar faces big risks and concerns, both politically and militarily as well as socially and environmentally.

The purpose of this study is to examine the concerns of pipeline cooperation by applying the energy security approach. The notion of energy security will be applied in two ways: 1) the traditional security approach will be used to describe the security concerns, and 2) non-traditional security approach will be used to explain the environmental concerns. The concept of energy security has the advantage of having both dimensions. This concept has also been implemented accepted as one of the security concepts that is not only functional as a special science only studying the issue of energy as a resource nature (resources issues) only, but also discussed in various discourses on government policy making, foreign policy, and communities throughout the world. Energy issue comes into the scope of the study security (security studies) through the process which is called issue securitization (securitization): the process of identifying issues, political or non-political, which aims to make this an issue as a security agenda [5].

The main argument of this research is that behind the great benefits of China and Myanmar's energy cooperation, there is a kind of "energy curse". The first concern occurs in the security sector, which is the most serious and vulnerable. This pipeline route is extremely dangerous since it runs across territory controlled by extremist ethnic groups. Meanwhile, the Pyinoolwin Green Organization in Myanmar has been opposed to the pipeline's development from the outset, claiming that it will cause substantial environmental damage and contamination of land, water, and air. Pipeline leaks, emissions, and other damage can harm flora and nearby species and increase local pollution.

2 Research Methods

The chronology of this research begins with obtaining research material, namely by doing literary research from original and authentic sources. Following that, the primary arguments are assembled, and data to support the argument is identified. The descriptive-exploratory research approach was used, using secondary and qualitative data types complemented with quantitative data. The analysis begins by picking the most important aspects from a literature review and integrating them with the concept of energy security.

3 Result

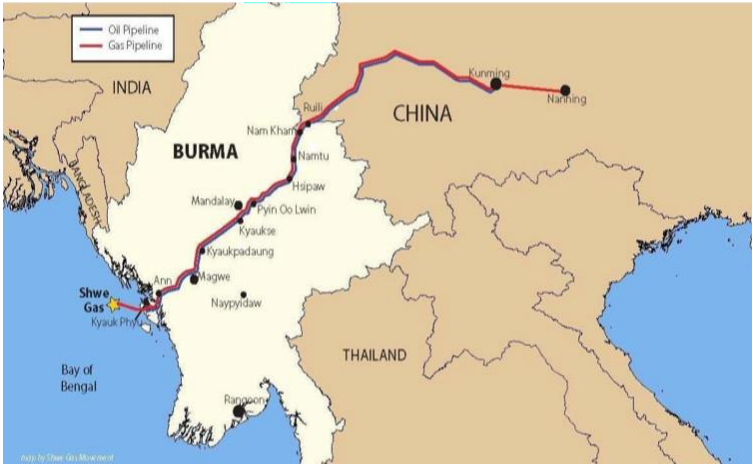
This study emphasizes that in this case the status of China as energy consumer country and Myanmar as producer and transit country. Conceptually, both countries must ensure the source, and the secure distribution and transportation channels up to reach consumers safely (distribution-side). Furthermore, both parties need to ensure safety infrastructure in energy exploration and facilities as well storage, such as factories and pipelines crossing national borders to be safe from interference or threats from various parties (cross border pipeline-side) [5]. Unfortunately, the result of this research is the main argument that behind the great benefits of China and Myanmar's energy cooperation, there is a kind of "energy curse". The curse referred to in this study is that there are several problems that arise because of this cooperation, which are explained in two approaches: traditional security to explain the problems of energy cooperation due to military security conflicts and changes in the Myanmar political-government regime, and non-traditional approaches to explain the concerns of environmental damage in Myanmar.

3.1 Traditional Security Concern: Military Ethnic Conflict and Regime Change

As seen in map 1 below, the natural gas pipeline starts in Kyaukpyu city in Myanmar's Rakhine State and ends in China's Yunnan region. It shows that Myanmar plays an important role in China's Belt and Road Initiative (BRI), the sweeping plan for infrastructure investment to link China to markets in Asia, Europe, and Africa. Energy supplies already are flowing from Myanmar to China through the Myanmar-China Natural Gas Pipeline and the Myanmar-China Oil Pipeline [6].

This pipeline route is particularly problematic in the security sector since it passes through areas controlled by terrorist ethnic groupings. Indeed, the security of oil and natural gas pipelines in Myanmar appears to be worse than in the Malacca Strait, where more than 50 kilometers of oil and gas pipelines are in an area of conflict. The pipelines operate through the northern Shan region of Myanmar, which is recognized as an insurgency area controlled by militant ethnic groups that oppose the Myanmar government's regime. The gas pipeline route from Myanmar that transports natural gas to China crosses mountains, raging rivers, and forests that are subject to sabotage by violent ethnic groups. Although the Myanmar government has deployed security forces to secure the pipeline, there aren't many of them in the Shan region where it runs [3].

Map 1. Route of China-Myanmar Pipeline



Source: Neslihan Topcu (2020), <https://www.chinacenter.net/2020/china-currents/19-3/a-relationship-on-a-pipeline-china-and-myanmar/>

Armed conflict can threaten the security of the oil and gas pipelines due to confrontation between militant ethnic groups operating in the Northern Shan region. Nonetheless, there were numerous military battles involving the Kachin Independence force (KIA), the United Wa State Army (UWSA), and the Tatmadaw force. These armies are part of ethnic military groups that are also active in the Shan area. For instance, during the Konkan crisis in 2009, the Tatmadaw Army and other militant ethnic groups rebelled, resulting in damage to pipeline networks' heavy facilities and infrastructure. Furthermore, to ensure the security of the construction of an oil and gas pipeline, Myanmar army troops, acting on the government's orders, invaded the KIA territory in the Shan region in September 2011. This incident resulted in conflicts between the two groups involved [7]. In the current situation, the attack in February 2022 by an ethnic militant group opposed to the Junta military is providing more and more evidence of the pipeline's insecurity. In Natogyi Township, Mandalay Region, two arm grenades were thrown by the ethnic arms group against soldiers of the Myanmar military who were guarding a pipeline station. Numerous reports documented by Strangio (2022) stated that a Chinese oil and gas pipeline facility in central Myanmar had been damaged in an attack by a local civilian anti-junta People's Defense Force (PDF).

Picture 2. China-Myanmar Oil and Gas Pipeline

Source: Hydrocarbon Technology, 2020

The picture 1 above shows the oil and gas pipeline construction of two separate, parallel pipelines for transporting crude oil and natural gas from Daewoo International's offshore blocks A-1 and A-3 in Myanmar to China. This parallel pipeline is prone to attack or damage due to conflicts and clashes like the ones exemplified often occur. This means that the oil and gas pipelines built by China are vulnerable to damage in the future. Installing pipelines in areas where armed conflict often occurs is certainly not a good idea, considering that explosions can occur at any time if there are bullets that target when the conflicting parties clash. An explosion will occur if the bullet enters the pipe, which could seriously harm the nearby surroundings.

An additional issue that surfaced was the shift in the military junta administration in Myanmar, which had a substantial impact on the country's internal political landscape. Statements from Chinese parties involved in the Myitsone Dam and the Pipelines are mentioned in several interviews and reports by Yi Li [4]. Jiang Heng says Chinese firms had failed to look at the political changes and trends in Myanmar when deciding on investment strategies, thus making all the contracts signed inadequate and leading to a "strategic failure." This is particularly apparent in the way Chinese firms preferred to work with those at the top – they only spoke with the military junta. In an interview, Jiang Heng stated that:

"In the past China always thought it could rely on its political advantage – we can go where Western companies can't. In the short term that was true, but it doesn't stand up in the long term...in the past we could rely on the junta to get the land, but that's all changed now. It's a headache...for a long time we just

worried about government licenses, we didn't care about a 'social license' from civil society. That meant huge losses, and Chinese firms should realize that."

This immediate change in regime hit China's interests and made him realize one thing, to prepare for "political shock"—a sudden change in the political landscape—you need social capital from the grassroots community as well as political capital from the ruling party. And Myanmar is a good example.

3.2 Non-traditional security concern: Social and Environment Damage

Social and environmental concerns resulting from explosion-related environmental damage are affected by this energy cooperation. Oil and gas pipeline explosions can result in significant harm, particularly when they happen close to residential areas. They can also lead to civil unrest, human rights violations, and health issues from gas leakage.

The development of China's gas and oil pipeline in Myanmar was met with protests from several environmental NGOs. An instance of this is the Pyinoolwin Green Organization in Myanmar, which has fought the pipeline's development from the outlet on the grounds that it will contaminate land, water, and the environment. The Sino-Myanmar Pipeline Monitoring Committee member, Sein Tun, added that the pipeline, which passes through rivers and forests, has negatively impacted the ecology and that the corporation has not done enough to rectify the damages. Pipeline leaks, emissions, and other damage can endanger local species, impair the flora, and raise the pollution levels in the air and water.

In 2012, the anti-pipeline NGO, Shwe Gas Movement (SGM), together with the Myanmar-China Pipeline Monitoring Committee asked the Myanmar government to stop the project because it had environmental impacts, social problems and human rights violations. Furthermore, the agency also revealed that China's exploitation of Myanmar's rich natural resources in oil and gas pipeline networks has created serious problems; China brings irreversible environmental and social impacts to Myanmar. This pipeline project also disrupts forest habitat because the pipeline also passes through the western mountains of Myanmar which are part of the Himalayan ecological region. The region is home to many endangered species, and opening this area to the pipeline would destroy the habitat of the flora and fauna that live there, increase wildlife poaching, and increase deforestation and soil erosion. The construction of this pipeline project also cleared mangroves in the Arakan region. In fact, mangroves are important for coastal protection from monsoon storms which often occur in the Arakan region. Approximately 60,000 hectares of mangrove vegetation were lost during the construction of the gas pipeline. People in Arakan may become more susceptible because of the effects of storm surges and typhoons.

Environmental damage to water areas is also widely reported by environmental organizations. From a report issued by the Shwe Gas Movement, it was noted that one-third of the coral reefs north of Kyakphyu town suffered serious damage due to dredging using dynamite. This dynamite is used to clear underwater natural gas pipelines. Meanwhile, coral reefs are an important habitat for fish and marine life.

Damage to coral reefs can have a negative impact on the local fishing industry. China-Myanmar oil and gas pipeline construction activities are required to continuously carry out continuous pipeline maintenance to avoid this potential accident. Thus, before an accident occurs, it is important to check the security of the pipeline. The Myanmar-China oil and gas pipeline project has the potential to be closed by non-state actors if companies operating in the project do not comply with international environmental standards for environmental impact assessment and do not pay attention to human rights. In other words, China's gas pipeline could be closed if Chinese companies overexploit natural resources in Myanmar, without considering environmental sustainability.

This condition is often ignored by the government, which has given rise to pressure and demands that government energy projects must be environmentally friendly and must be carried out jointly. In this approach, both government and non-government, two actors, namely government and non-government actors, played a critical role through the political ecology approach. Both actors have created a responsive political will in dealing with forest fires. At the same time, both actors raise public awareness by promoting public responses to fire [8].

4 Conclusions

Energy cooperation between Myanmar and China via pipelines, which transport oil and gas from Myanmar to China and put Myanmar as transit country, are particularly beneficial to both nations since they may assist their respective economic growth. Apart from the benefits gained by both countries, the pipeline's existence and operation pose several concerns, including security concern due to the presence of militant ethnic groups, military coup of Junta Regime, and social-environmental concerns due to the pipeline's construction causing environmental damage. To address current dangers, the governments of Myanmar and China, as well as the firms in charge of the pipeline, CNBC, and MOGE, must pay more attention so that impacts are decreased. In this case, there is not much that can be done because the conflict in Myanmar is related to Myanmar's sovereignty and China has no right to intervene even though it has interests in Myanmar through its pipeline. This study suggests further academic research that can encourage energy actors to focus their attention on this issue.

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