

Maritime Boundary Disputes in Southeast Asia: Legal Frameworks, Resource Management and Environmental Impacts

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ABSTRACT

This study examines the complexities of maritime boundary disputes in Southeast Asia, focusing on offshore oil and gas exploration. The analysis centres on the legal framework provided by the United Nations Convention on the Law of the Sea (UNCLOS), exploring how its principles are applied and contested in real-world scenarios. Case studies, such as the Ambalat block conflict between Indonesia and Malaysia and the Malaysia-Thailand Joint Development Area (JDA), highlight the interplay between international law, resource agreement and geopolitical tensions. This research contextualises the challenges faced in Southeast Asia by incorporating comparative insights from similar disputes in regions like the Arctic and the Gulf of Mexico. Beyond legal considerations, the study addresses the economic stakes of hydrocarbon exploration and the environmental impact of offshore activities, emphasising the need for sustainable and cooperative approaches. This interdisciplinary investigation aims to comprehensively understand the factors shaping maritime boundary disputes and propose pathways towards effective conflict resolution and resource governance.

Keywords: Maritime Boundary Disputes; Offshore Oil and Gas; Southeast Asia Seas; Energy Resource Exploration; Regulatory Challenges

INTRODUCTION

Various Maritime boundary disputes represent complex challenges for nations worldwide, including ramifications beyond territorial sovereignty. The Southeast Asian countries face multiple challenges regarding their maritime boundary disputes revolving around claims over territorial sovereignty, resource exploitation rights and jurisdictional authority in the surrounding waters. This study explores the dynamics of maritime boundary disputes by looking at the foundational reasons, the legal frameworks, and the significant impact of these disputes on offshore oil and gas exploration.

Malaysia is one of the countries involved in these overlapping claims with its neighbouring nations, such as Indonesia, the Philippines, Vietnam, and Brunei, as it struggles with these conflicts, showcasing the complex interplay between legal interpretations over international law and historical context. The most obvious issue would be the South China Sea, which becomes a focal point of contention within the region. Many of the above states participate in their claims over maritime features, exclusive economic zones (EEZs) and continental shelf rights.

Situated strategically in the Southeast Asian region and endowed with extensive offshore hydrocarbon reserves, Malaysia's maritime territory encompasses a vast expanse of the South China Sea, where overlapping territorial claims and unresolved maritime boundaries have engendered geopolitical tensions and legal complexities. The presence of valuable oil and gas reserves in these disputed waters has further heightened the stakes, intensifying competition among neighbouring states and raising questions about resource ownership, regulatory jurisdiction, and investment security.

Amidst these complexities, offshore oil and gas exploration is paramount for Malaysia's economy. Offshore

areas often contain valuable natural resources, such as oil and gas. In a way, offshore oil and gas exploration refers to searching for and extracting hydrocarbon reserves in coastal waters or the open ocean beneath the seabed. However, the exploration and exploitation of offshore oil and gas resources in Malaysia are not without challenges, particularly in maritime boundary disputes and their far-reaching implications.

In navigating these intertwined challenges, Malaysia has adopted various strategies, including diplomatic negotiations, legal arbitration, and bilateral agreements, underpinned by international laws such as UNCLOS 1982. However, persistent enforcement gaps, compliance issues, and assertive maritime behaviour from neighbouring states continue to pose significant hurdles.

Notably, some environmental law principles will be implemented throughout this research. Firstly, emphasising the balance between economic development, social equity, and environmental protection, the polluter pays principle obligates those responsible for environmental damage to bear remediation costs, incentivising responsible behaviour in resource extraction activities. Additionally, it emphasises the importance of initiative-taking measures to minimise environmental risks, urging the implementation of stringent regulations and best practices in offshore operations. Furthermore, in the face of uncertainty, it is essential to use caution while working in any area of environmental laws and to support preventive action when environmental harm is possible, even in the lack of definitive scientific proof. This principle is particularly pertinent in offshore exploration, where the consequences of environmental damage can be severe and irreversible. Lastly, the issue of offshore maritime needs cooperation and accountability among nations sharing maritime boundaries. Given the interconnected nature of marine ecosystems, actions taken by one country can have far-reaching consequences for neighbouring states. Therefore, effective mechanisms for resolving disputes and mitigating transboundary harm are essential for promoting environmental sustainability and fostering regional cooperation.

The research examines the legal, geopolitical, economic, and environmental aspects of the problem related to maritime boundary disputes and their effects on offshore oil and gas extraction in Malaysia. Through an analysis of the complex relationship between managing maritime boundary disputes and resource exploitation, this research seeks to uncover opportunities for improving regional collaboration, advancing conflict resolution, and preserving maritime security.

LITERATURE REVIEW

As oil and gas are deemed to be a type of energy that will endeavour and be used by humanity for a long time, we need to apply the philosophical idea of posterity, as it is essential to operate and conduct energy resources. Central to Ronald Dworkin's philosophy of posterity is the concept of treating individuals as equals across generations (Dworkin, 2011). He argues that decisions made by current generations should consider the interests and rights of future generations, a concept he refers to as "intergenerational justice." Dworkin emphasises the importance of fairness and accountability in shaping policies that affect the well-being of future generations, particularly regarding the distribution of resources. Dworkin's philosophy suggests considering the long-term implications for both present and future generations. Rather than prioritising short-term gains or narrow national interests, decision-makers should strive for fair and sustainable outcomes over time.

The following prominent figure that we can refer to discuss the topic of posterity is Brian Barry. Brian Barry's philosophy emphasises equal concern and respect for all individuals, regardless of their temporal or spatial location (Barry, 2001). He argues that ethical considerations should extend beyond present generations' interests to include future generations' rights and well-being. Barry's concept of "justice between generations" calls for policies that ensure fairness and sustainability over time, acknowledging the moral significance of posterity. Barry's philosophy suggests that resolving these disputes requires recognising the rights and interests of future generations. Rather than privileging short-term gains or narrow national interests, decision-makers should strive for outcomes that promote long-term stability and equity. Barry's philosophy urges us to consider these implications through the lens of intergenerational justice, ensuring that present actions do not compromise the well-being of future generations. This perspective emphasises the importance of sustainable practices and equitable resource distribution in offshore resource extraction.

Maritime boundary disputes present significant challenges for countries with offshore oil and gas exploration

activities, and Malaysia is no exception. To examine the complex ramifications of these conflicts in this research, we will focus on the South China Sea claims about Malaysia's offshore oil and gas industry.

In offering a thorough understanding of the issue by examining the tactics Malaysia has used to deal with these difficulties, we will cover the diplomatic efforts to resolve disputes peacefully, adhere to international legal frameworks such as the UN Convention on the Law of the Sea (UNCLOS), risk management strategies to mitigate the impacts on investment and operations, stakeholder engagement initiatives, and regional cooperation efforts.

By elucidating these aspects, Malaysia can effectively manage maritime boundary disputes to safeguard its interests in offshore oil and gas exploration while promoting stability, security, and sustainable development in the region.

Maritime Boundary Disputes on Oil and Gas Exploration

One of the principles of energy law that applies to this study is the Principle of National Resource Sovereignty, which asserts a nation's inherent right to control and manage its natural resources within its territorial boundaries. In maritime boundary disputes, this principle emphasises Malaysia's sovereign rights over its offshore oil and gas reserves and its authority to regulate exploration and exploitation activities following its national interests and priorities.

Distributional Justice (Aristotle, 2009; Adams, 1965) is a type of justice discussed in our study, which pertains to the fair allocation of societal benefits and burdens. In maritime boundary disputes, distributional justice requires equitable resource-sharing among affected parties, including coastal states, Indigenous communities, and other stakeholders. This principle emphasises the importance of considering historical and socio-economic factors when determining resource entitlements and ensuring all parties can access the benefits of offshore oil and gas exploration (distributional justice) (Elster, 1992; Rawls, 1971; Sen, 1999). However, presently, some parties face injustice distributionally where they may not have access to oil and gas exploration due to lack of technology, resources, access, expertise and many more. For example, to compare such an advanced country like China with Malaysia, their country would have more access and technological resources, allowing them to fully maximise their energy discovery more efficiently (action).

Navigating Maritime Boundary Disputes - Disputes in South China

The issue of energy security is a critical global concern, particularly for developing states in the Asian region. The significant increase in oil prices in 2008 has heightened the urgency for countries to secure reliable energy sources. In the South China Seas region, unresolved conflicts over territorial sovereignty and overlapping maritime boundaries have prevented access to valuable oil and gas resources for exploitation (Snyder, 1996). The International Court of Justice (ICJ) and other international arbitral tribunals have developed a robust jurisprudence on issues related to sovereignty acquisition and delineation of maritime boundaries over the past few decades (Jalil, 2014). Hence, the literature will discuss ways to navigate maritime boundary disputes, particularly in the South China Sea.

Efforts to Navigate Maritime Boundary Disputes International Principles of Territorial Acquisition

Reviewing the international legal authorities, which outline five ways to secure territorial sovereignty, is considered different means of acquisition. Thus, it is essential to note that Article 4 of the United Nations Charter prohibits using force or threats to acquire territory. Therefore, since the end of World War 2, states have been unable to gain territory through conquest (United Nations, 1945).

The disputes over maritime boundaries are complex in the context of the South China Sea. The International Court of Justice (ICJ) has taken many approaches to address these disputes. For example, in the case of *Philippines v. China* (2016), an arbitral tribunal under the Permanent Court of Arbitration (PCA) ruled on China's claim's validity over the extensive South China Sea areas. The tribunal emphasised that maritime features do not entitle states to territorial claims that disregard established international law principles, such as those related to exclusive economic zones and territorial waters (PCA, 2016). This case underscores the

importance of adhering to international law in resolving maritime disputes and ensuring equitable access to resources within disputed areas.

International legal authorities typically outline five ways to obtain territorial sovereignty, considered distinct means of acquisition. It is important to note that Article 4 of the United Nations Charter prohibits using force or threat of force to acquire territory. Since 1945, states have been unable to gain territory through conquest (Beckman, 2009).

The disputes over maritime boundaries are complex in the context of the South China Sea. The International Court of Justice (ICJ) has taken various approaches to addressing these disputes (Wan Abdullah, 2018). For example, the case of the Spratly Islands and Paracels is relevant, as claimants face challenges in demonstrating traditional acts of sovereignty due to the inhospitable nature of these islands. Mere discovery without actual possession has been deemed insufficient for establishing a territorial title, as legal scholars like Hugo Grotius have argued. The courts emphasise that territorial sovereignty requires the state's intent and actual exercise of authority. This principle has been reaffirmed by subsequent international tribunals, underscoring the importance of demonstrating both intent and visible exercise of sovereign authority in territorial claims (Monique, 2000).

Furthermore, recognition and acquiescence are valuable evidence to support claims of effective control and government activities when competing evidence is inconclusive. The International Court of Justice's ruling in the Sipadan and Ligitan case, which gave Malaysia sovereignty over the islands based on how well its government and power were executed, sets a helpful precedent for the South China Sea. Malaysia provided evidence of various administrative acts that showed effective control over the islands (Hamzah, 2021). Administrative acts that demonstrate a country's effective control over islands play a critical role in territorial sovereignty claims. In the case of Malaysia, such acts include the issuance of permits and licences for activities like fishing and oil exploration, indicating administrative oversight in the surrounding maritime area. Additionally, construction infrastructure such as lighthouses, military outposts, and weather stations on the islands is clear evidence of Malaysia's physical presence and control. The stationing of government officials, military personnel or police forces on these islands further substantiates Malaysia's sovereignty.

Maritime Boundary Delimitation

In cases where there is no dispute over territorial sovereignty, the second type of dispute arises in determining the delimitation of maritime and continental shelf boundaries between competing states. The International Court of Justice and arbitral tribunals have developed a significant body of case law addressing these delimitation issues (Schofield & Storey, 2005). The Black Sea Case (Romania v Ukraine) dealt with maritime delimitation (International Court of Justice, 2009).

In this case, the Court concluded that it had jurisdiction to resolve the dispute based on an agreement between Romania and Ukraine in 1997, which allowed the ICJ to address the delimitation of the continental shelf and exclusive economic zones in the Black Sea. The Court proceeded to establish a single maritime boundary separating the maritime areas of both states by the provisions of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), to which both states are parties. This ruling outlines the rules that would be followed if delimitation issues in the South China Sea were to be taken before a court or arbitral tribunal, which makes it significant to consider. It is particularly relevant because, like the South China Sea, the Black Sea is a semi-enclosed body of water connected to the Mediterranean Sea through the Dardanelles, the Sea of Marmara, and the Bosphorus (Dyke 2010).

Enclosed or Semi-Enclosed Seas

Article 122 of the UNCLOS (United Nations, 1982) outlines specific provisions for enclosed or semi-enclosed seas, which are defined as bodies of water surrounded by two or more states and connected to other seas or oceans by a narrow outlet or consisting primarily of the territorial seas and exclusive economic zones of two or more coastal states. While it is not entirely clear whether the South China Sea meets this definition, the Interpretation of Article 122 is worth looking into. Given its significant size and connections to other seas by relatively wide outlets, the overlap of interests of the surrounding states does suggest a certain degree of semi-

enclosure.

Under Article 122, bordering states must cooperate in exercising their rights and performing their duties under the Convention. However, there is no specific obligation to cooperate in exploiting non-renewable oil and gas resources. Instead, the issue of continental shelf resources is considered separately under Article 83, which imposes a similar obligation of cooperation when the delimitation of the shelf has not yet been agreed between adjacent and opposite states. Article 83 requires that pending agreement on the matter, the states concerned must make every effort to enter into provisional arrangements of a practical nature and not jeopardise or hamper the final deal. These arrangements should be without prejudice to the final delimitation. While the meaning of "arrangements of a practical nature" is not entirely clear, it could include agreements on matters such as fishing or marine environmental issues. Should any state embark on exploration or exploitation of oil and gas resources, Article 83 requires an arrangement to preserve the rights of all interested states. In short, the nature of these arrangements will depend on the specific circumstances and needs of the states involved.

The provisions of Article 122 and Article 83 of the United Nations Convention on the Law of the Sea (UNCLOS) are relevant in understanding and addressing the complexities of cooperation and resource management in the South China Sea. The South China Sea, as a region surrounded by multiple states including China, Vietnam, Malaysia, the Philippines, Indonesia, and Brunei, is often regarded as a semi-enclosed sea, as described under Article 122. Its connections to other water bodies, such as the Pacific Ocean, through relatively narrow straits like the Luzon Strait, reinforce this categorisation. Article 122 emphasises the obligation of bordering states to cooperate in exercising their rights and performing their duties under the Convention. However, applying this provision has often faced challenges due to the overlapping interests of coastal states.

One example of cooperation in the South China Sea can be seen in joint development agreements, which serve as practical frameworks to manage shared resources. The Malaysia-Thailand Joint Development Area (MTJDA) is a prominent case where the two nations agreed to jointly exploit oil and gas resources in overlapping continental shelf areas. This initiative aligns with the cooperative obligations outlined in Article 122 and demonstrates the practical benefits of mutual agreements in resource management. The MTJDA serves as a successful model for addressing similar disputes in the South China Sea, where overlapping territorial and economic claims are common.

The MTJDA covers roughly 7,250 square kilometres in the Gulf of Thailand and established a cooperative joint effort to exploit natural resources in the disputed maritime zone between countries. It has unlocked approximately 8.5 trillion cubic feet of gas reserves identified in 2007 (Malaysia-Thailand Joint Authority, 2021). This collaboration model can be compared to the Mexico-United States Transboundary Hydrocarbon Agreement, which covers and governs the resource exploitation in the Gulf of Mexico (U.S. Department of the Interior, 2013). Both mentioned agreements highlight the importance of bilateral agreements in resolving maritime disputes and fostering energy security. These agreements demonstrate how territorial claims can be turned into sharing and minimising geopolitical tensions.

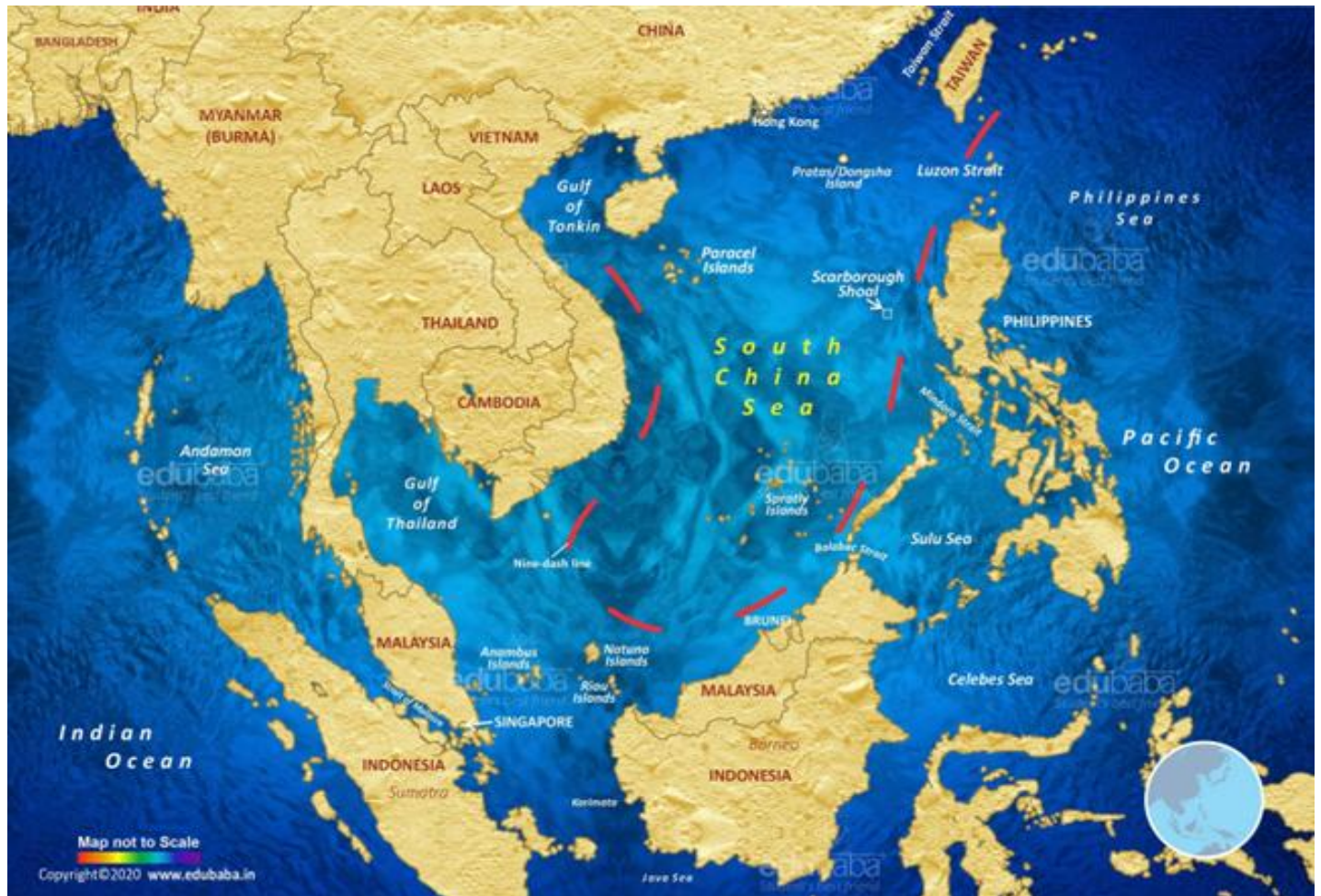
Article 83 of UNCLOS comes into play when dealing with the delimitation of the continental shelf in areas where adjacent or opposite states have yet to agree on boundaries. It requires that, pending a final agreement, states cooperate to enter into provisional arrangements practically without jeopardising or hampering future contracts. This provision has been invoked in several instances in the South China Sea, where overlapping claims to oil and gas resources have created tension among the littoral states. A notable example is the 2000 agreement between China and Vietnam, which resulted in joint fishing arrangements in the Gulf of Tonkin. Despite ongoing disputes, this agreement reflects the spirit of cooperation envisioned by Article 83, providing a mechanism to manage shared resources while leaving final delimitation issues unresolved.

Another relevant example is the 2005 Joint Marine Seismic Undertaking (JMSU) involving China, the Philippines, and Vietnam. This tripartite agreement aimed to conduct joint exploration for oil and gas in disputed areas of the South China Sea. Although controversial, the JMSU marked a significant attempt to address overlapping claims through cooperation, showcasing how Article 83's call for provisional arrangements can be operationalised in contentious regions. Similarly, Indonesia, despite its clear stance on the Natuna Islands' exclusive economic zone, has engaged in dialogues with neighbouring states to prevent the escalation of disputes,

demonstrating the application of Article 83 in fostering constructive interactions.

However, the practical application of these UNCLOS provisions in the South China Sea has faced significant challenges. Unilateral actions, such as China’s deployment of oil rigs near Vietnam’s exclusive economic zone and its extensive claims under the “Nine-Dash Line” (Figure 1.0), have often strained efforts for cooperation. Such activities contravene the principles outlined in Article 83, as they risk jeopardising or hampering final agreements. Additionally, the absence of a binding Code of Conduct between ASEAN countries and China has made it difficult to formalise cooperative frameworks, leaving states to navigate these issues through ad hoc arrangements and bilateral negotiations.

Figure 1.0 The Nine-Dash Line



(Source: AFGO, 2023)

Beyond resource exploitation, Article 122 also highlights the need for cooperation in marine environmental protection. This aspect has often been overlooked in the South China Sea, where overfishing and environmental degradation remain pressing concerns. While some joint initiatives, such as those focused on fisheries management, have been proposed, their implementation has been limited due to competing national interests and the lack of a cohesive regional framework.

In conclusion, the provisions of Articles 122 and 83 of UNCLOS provide a valuable legal basis for promoting cooperation and resource management in the South China Sea. While successful examples like the Malaysia-Thailand Joint Development Area and the China-Vietnam agreement demonstrate the potential for constructive engagement, the region continues to grapple with unilateral actions and the absence of binding contracts. Strengthening regional cooperation through a comprehensive Code of Conduct and adherence to UNCLOS principles is essential to unlock the benefits of sustainable resource management and peaceful dispute resolution in the South China Sea. By addressing the challenges of unilateralism and fostering collaboration, the littoral states can better align with the cooperative obligations envisioned under UNCLOS.

METHODOLOGY

This research employs a qualitative methodology to analyse maritime boundary disputes in Southeast Asia, focusing on offshore oil and gas exploration. The study integrates legal analysis, case study evaluation, and comparative assessment to understand the issues comprehensively. Legal analysis centres on the United Nations Convention on the Law of the Sea (UNCLOS) and related international legal principles, examining primary legal texts and treaties to evaluate the obligations and rights of disputing states. The study incorporates geopolitical, economic, and environmental considerations to complement the legal framework, supported by secondary data from journal articles, government publications, and reports. This interdisciplinary approach ensures a thorough exploration of the complexities surrounding maritime boundary disputes and resource management.

FINDINGS

The Implications of Offshore Oil and Gas Exploration Earth's Climate Change

The implications of offshore oil and gas exploration on Earth's climate change cannot be overstated, as the sector remains a major contributor to global greenhouse gas emissions through extraction, production, and the eventual combustion of fossil fuels. As a critical component of the worldwide energy supply chain, offshore oil and gas exploration has expanded significantly, facilitated by advancements in deep-water technology. However, this expansion often occurs at the expense of environmental conservation, exacerbating issues such as habitat degradation, loss of biodiversity, pollution of water and air, and global climate change. These impacts underline the urgent need to understand and mitigate the environmental consequences of offshore operations, especially as the world grapples with the escalating effects of climate change.

The technological advancements enabling deeper exploration into the ocean have allowed nations to extract resources from previously inaccessible reserves, but these practices have often lacked adequate environmental safeguards. As Mazor (2014) highlights, the regulatory frameworks governing the hydrocarbon industry vary significantly across maritime jurisdictions and areas beyond national boundaries. Inconsistent regulation and enforcement have often permitted unsustainable practices, leading to cumulative damage to marine ecosystems and increased carbon emissions.

As a contested region with significant hydrocarbon potential, the South China Sea is a microcosm for the global challenges associated with offshore oil and gas exploration. The overlapping territorial claims and lack of a comprehensive regional regulatory framework have led to uncoordinated and often environmentally harmful exploration activities. For instance, unilateral actions such as China's deployment of oil rigs in disputed waters have caused tensions among neighbouring states while raising concerns about the environmental sustainability of such practices. The absence of cooperative mechanisms exacerbates the risks of environmental degradation, as parties focus on asserting sovereignty rather than prioritising conservation (Asia Maritime Transparency Initiative, 2023).

Comparisons can be drawn to other regions where offshore oil and gas activities have similarly strained environmental and geopolitical stability. In the Arctic, for example, melting sea ice has opened new opportunities for oil and gas exploration, but the fragile ecosystem faces significant threats from these operations (Smith, 2020). The Arctic Council, a regional body promoting cooperation among Arctic states, has attempted to mitigate these impacts through agreements on oil spill preparedness and response. However, the effectiveness of these measures has been questioned, as enforcement remains a challenge in remote and harsh environments. Similarly, decades of offshore exploration have resulted in extensive habitat destruction and pollution in the Gulf of Mexico, with incidents such as the 2010 Deepwater Horizon oil spill highlighting the catastrophic potential of regulatory lapses (Klein, 2018). The gas production from the region began with the discovery of vast reserves in the 1940s. Since then, offshore drilling activities have expanded significantly, contributing to the region's economic growth and environmental challenges (Graham, 2017).

The regulatory vacuum presents unique challenges for managing offshore hydrocarbon activities in areas beyond national jurisdiction, such as the high seas. While the United Nations Convention on the Law of the Sea (UNCLOS) provides a general framework for maritime governance, its provisions related to environmental

protection and resource management often rely on the cooperation of states, which can be challenging to achieve in practice. The International Seabed Authority (ISA), established under UNCLOS to regulate mining activities in the deep seabed, has begun to address environmental concerns in its mining code. However, similar mechanisms for regulating offshore oil and gas exploration in the high seas are lacking, leaving a gap in the governance of this critical activity.

The environmental implications of offshore oil and gas exploration are further compounded by the global reliance on fossil fuels, which continues to drive climate change. The combustion of hydrocarbons extracted from offshore reserves releases significant quantities of carbon dioxide into the atmosphere, contributing to global warming and its associated impacts, such as rising sea levels, more frequent extreme weather events, and ocean acidification. These challenges underscore the need to transition to renewable energy sources and adopt stringent environmental safeguards for existing fossil fuel operations.

Efforts to mitigate the environmental impact of offshore oil and gas exploration must prioritise international cooperation and harmonising regulatory frameworks. This could involve establishing a regional body to oversee resource management and environmental protection for the South China Sea, similar to the Arctic Council. Such a mechanism would require the commitment of all stakeholders to prioritise sustainability over sovereignty disputes. Globally, implementing stricter emissions targets and promoting renewable energy alternatives are critical to reducing the sector's contribution to climate change.

In conclusion, while offshore oil and gas exploration is vital in meeting global energy demands, its environmental consequences pose significant challenges to sustainability and climate change mitigation. The lack of consistent and enforceable regulations across jurisdictions has allowed environmentally harmful practices to persist, with regions like the South China Sea and the Arctic highlighting the need for stronger governance. Addressing these issues requires a coordinated effort among nations to balance exploiting marine resources with preserving the environment, ensuring a sustainable future for generations to come.

The United Nations Convention on the Law of the Sea

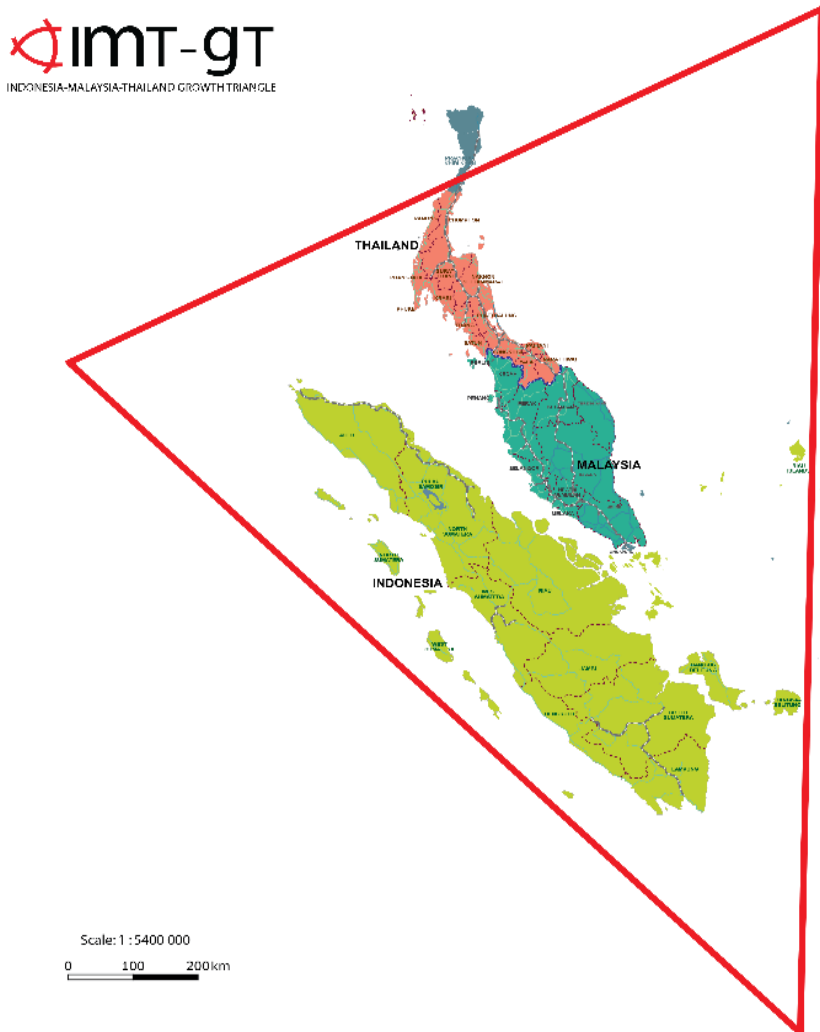
The United Nations Convention on the Law of the Sea (UNCLOS) complements national state authority over activities within their Exclusive Economic Zones (EEZs) when managing mineral extraction outside EEZs. These laws might, for instance, establish specific habitats and species that need special protection and the borders of regions set aside for spatial management. They might also lay out the framework for environmental evaluation and monitoring. However, like with high-seas fisheries management, there has not yet been much work done to create regional management organisations or standardise legislation across EEZs. In Malaysia, the primary legislation used in governing the Malaysia oil and gas industry is the Petroleum Development Act 1974 (PDA, 1974), which was established in the form of a public company called Petroliam Nasional Berhad (Petronas) where it regulates the petroleum activities in Malaysia as such the regulation of upstream oil and gas to be explored, developed, produced and processed (Wan Zahari, 2020).

It is seen that the world is still heavily dependent on fossil fuels, with less than 15% of energy demands currently met by alternative renewable sources, despite significant efforts to diversify energy sources since the consumption of fossil fuels by the world's population showed an astounding increase during the 20th century (Dale, 2007). For example, crude oil is still the most valuable energy source and is expected to stay that way for some time. Within the next few decades, known oil reserves could run out at the current consumption rate. Because of this dependence on oil, the world's energy system faces a significant and imminent threat from resource depletion, especially given the anticipated rise in human population. As a result, increased efforts have been made to find new oil resources worldwide. For a country like Malaysia, a developing and petroleum-producing nation, Malaysia must strike a balance between environmental preservation and the economic growth of the oil and gas industry (Musdar, 2012).

Maritime Boundary Disputes in the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT). The Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) (Figure 2.0) represents a strategic sub-regional initiative to foster economic cooperation and development in less-developed regions across the three countries. Despite its economic focus, the region has been marred by persistent maritime boundary disputes, primarily driven by the

area's lucrative offshore oil and gas resources.

Figure 2.0 IMT-GT



(Source: IMT-GT, 2023)

Indonesia-Malaysia Disputes

Among the most contentious disputes in the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) region is the maritime boundary between Indonesia and Malaysia, particularly concerning the Ambalat block in the Celebes Sea. This area, rich in hydrocarbon reserves, has become a focal point for competing sovereignty claims by both nations, leading to significant diplomatic and security tensions. The core of the dispute revolves around overlapping exploration licenses issued by the two governments to different oil companies, resulting in confrontations that have occasionally escalated into naval standoffs. These developments highlight the complexity of reconciling competing claims in resource-rich maritime regions under international law.

The dispute stems from divergent interpretations of historical evidence, geographical considerations, and the application of international legal principles, including those outlined in the United Nations Convention on the Law of the Sea (UNCLOS). Indonesia bases its claim on historical maps and agreements, asserting that the Ambalat block lies within its territorial waters and exclusive economic zone (EEZ). Meanwhile, Malaysia relies on its continental shelf claim, referencing historical treaties such as the 1891 Anglo-Dutch Treaty, which delineated territorial boundaries between British and Dutch colonial powers (Hadi, 2014). The application of UNCLOS, particularly Articles 74 and 83 regarding the delimitation of EEZs and continental shelves, has been central to both nations' arguments. These provisions emphasise the need for equitable solutions based on geographical and historical factors, yet their interpretation and implementation often vary, resulting in

conflicting claims.

The Ambalat dispute has escalated at various points, with military encounters highlighting the high stakes. For instance, in 2005, a confrontation between Indonesian and Malaysian naval vessels underscored the contentious nature of the issue. Indonesia accused Malaysia of intruding into its territorial waters, while Malaysia maintained that its actions were within the bounds of its sovereign rights. Such incidents have fuelled nationalistic sentiments in both countries, complicating efforts to reach a diplomatic resolution. Media coverage and public opinion in Indonesia and Malaysia have often amplified tensions, portraying the dispute as a matter of national pride and sovereignty.

Efforts to resolve the Ambalat dispute have included bilateral negotiations, third-party mediation, and proposals for joint development agreements. Bilateral talks between the two governments have been held intermittently, aiming to establish a mutually acceptable boundary. However, the lack of trust and differing priorities have hindered progress. Indonesia has consistently opposed joint development proposals, viewing them as undermining its sovereignty claims. In contrast, Malaysia has been more open to such arrangements, seeing them as a pragmatic approach to resource exploitation while awaiting a final resolution.

International legal mechanisms, such as arbitration or adjudication by the International Court of Justice (ICJ), have also been suggested as potential avenues for resolving the dispute. The ICJ has previously adjudicated maritime disputes in the region, including the 2002 ruling on the sovereignty of Sipadan and Ligitan Islands, which were awarded to Malaysia. Although this ruling did not directly address the Ambalat block, it has influenced the dynamics of the dispute. Indonesia, dissatisfied with the ICJ's decision on Sipadan and Ligitan, has been reluctant to submit the Ambalat case to the Court, fearing a similar outcome. This hesitancy underscores the challenges of relying on international legal forums to resolve complex sovereignty disputes.

The Ambalat case is not unique; it reflects broader challenges in managing maritime boundaries and resource conflicts in Southeast Asia. Similar disputes, such as those involving the South China Sea, illustrate the interplay of historical claims, national interests, and international legal frameworks. The South China Sea dispute, involving multiple claimants such as China, the Philippines, Vietnam, and Malaysia, has seen limited success in resolving overlapping claims despite the guidelines provided by UNCLOS. Like the Ambalat dispute, the South China Sea conflicts underscore the limitations of international law in addressing deeply entrenched sovereignty issues without the political will for compromise.

The economic stakes of the Ambalat block further complicate the dispute. Its hydrocarbon reserves are strategically crucial to Indonesia and Malaysia, providing a critical source of revenue and energy security. The overlapping exploration licenses issued by the two governments have attracted multinational oil companies, adding an international dimension to the conflict. Companies operating in contested areas face legal and operational risks, as demonstrated by instances of drilling activities being disrupted by naval interventions. These incidents escalate tensions and deter investment, highlighting the broader economic implications of unresolved maritime disputes.

In conclusion, the Ambalat dispute exemplifies the challenges of resolving maritime boundary conflicts in resource-rich regions. The divergent interpretations of historical evidence, geographical factors, and international law, coupled with nationalistic sentiments and economic interests, have perpetuated the standoff between Indonesia and Malaysia. While UNCLOS provides a framework for equitable solutions, its effectiveness depends on the willingness of states to cooperate and compromise. The dispute underscores the need for sustained diplomatic efforts, confidence-building measures, and innovative approaches, such as joint development agreements or regional mechanisms to manage shared resources. By addressing the underlying causes of tension and fostering collaboration, Indonesia and Malaysia could pave the way for a more stable and prosperous future in the IMT-GT region.

Malaysia-Thailand Disputes

The maritime boundary dispute between Malaysia and Thailand in the Gulf of Thailand exemplifies the interplay between geopolitical claims and natural resource management. This dispute originated in the early 1970s when

South Vietnam, Cambodia, and Thailand each made unilateral claims to the continental shelf. These claims, made between 1971 and 1973, resulted in significant overlapping areas, particularly between Malaysia and Thailand (Nguyen, 1999). A key point of contention in this dispute was the islet of Ko Losin. Thailand considered Ko Losin a valid base point for maritime boundary delimitation. In contrast, Malaysia contested its relevance, arguing that the islet's uninhabited status and elevation of only 1.5 metres above sea level should not impact boundary decisions (Dairairam, 2022).

In recognising the potential benefits of cooperation over prolonged disputes, Thailand and Malaysia signed a Memorandum of Understanding (MoU) on February 21, 1979, to establish a Joint Development Area (JDA) (Baradari, 2023). This JDA covered approximately 7,300 square miles, defined by the unilateral claim lines from Thailand in 1973 and Malaysia in 1979. The Thai-Malaysian JDA set a precedent for regional cooperation, allowing both nations to manage and exploit the natural resources within their overlapping claims without resolving the boundary issue definitively. The gas reserves in this JDA were estimated to be 6.5 trillion cubic feet by the end of 1996, highlighting the area's economic significance (Nguyen, 1999). The area's substantial gas reserves attracted both nations' interests, leading them to prioritise resource exploitation over immediate boundary resolution. Establishing a joint authority facilitated the management and exploitation of these resources for fifty years.

The Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) initiative further complements these efforts by fostering regional cooperation and economic integration, creating a conducive environment for implementing JDAs successfully. Together, these mechanisms offer a roadmap for managing maritime boundary disputes and harnessing the economic potential of petroleum resources in disputed areas, contributing to regional stability and prosperity.

Thailand-Indonesia Disputes

Similarly, Thailand and Indonesia have encountered disputes over maritime boundaries. However, these disputes have generally been less pronounced than those involving Malaysia. The relative stability in the Thailand-Indonesia maritime boundary can be attributed to fewer overlapping resource interests and a lower intensity of historical territorial claims. The IMT-GT region exemplifies both the potential for economic integration and the challenges of unresolved maritime boundary disputes. Efforts to manage these disputes vary from bilateral negotiations and legal arbitration to cooperative agreements such as Joint Development Zones (JDZ).

The Indonesia-Thailand JDZ has unlocked substantial petroleum reserves, providing a stable supply of hydrocarbons to meet the growing energy demands of both nations (Abrahamson, 2020). The shared benefits from these resources have also facilitated investments in advanced extraction technologies and infrastructure, further boosting the productivity and profitability of petroleum operations in the JDZ (Aziz, 2018). Moreover, the cooperative framework of JDZs ensures that both countries can manage and mitigate the environmental impacts of petroleum extraction more effectively. Joint environmental standards and monitoring mechanisms help preserve the region's ecological balance, ensuring sustainable development of petroleum resources.

Such mechanisms resolve conflicting claims and promote stability, mutual benefit, and sustainable development across national boundaries. Looking forward, sustained diplomatic engagement, adherence to international legal norms, and a commitment to dialogue will be essential in navigating the intricate terrain of maritime boundary disputes within the IMT-GT framework.

The South China Sea is characterised by complex maritime boundary disputes involving multiple countries, including China, Vietnam, the Philippines, Malaysia, Brunei, and Taiwan. The primary issue between the South China Sea borders is the conflict of territorial claims. China claims the hugest portion of the South China Sea based on historical records, often called the "nine-dash line." However, this claim overlaps with other countries' exclusive economic zones (EEZs).

Consequently, territorial conflict has led to political risks. The South China Sea disputes are deeply intertwined with geopolitical tensions and rivalries among claimant countries and external powers. Companies operating in the region face heightened political risk, including the possibility of diplomatic disputes, economic sanctions,

and even military confrontation. Political instability can undermine investment confidence and deter companies from pursuing exploration projects.

The second issue that can be discussed is the deviating exposition of UNCLOS and Legal Frameworks. The United Nations Convention on the Law of the Sea (UNCLOS) provides a legal framework for resolving maritime disputes (United Nations, 1982, p. 56). However, interpretations and applications of UNCLOS vary among the claimant countries. Some countries, like the Philippines, have pursued legal arbitration under UNCLOS to challenge China's claims, leading to tensions and disagreements. UNCLOS creates legal uncertainty for companies involved in offshore oil and gas exploration. Disputes over maritime boundaries increase the risk of legal challenges, regulatory hurdles, and potential disruptions to exploration and production activities (Hensel, 2014). The uncertainty of areas regarding disputed islands and reefs in the South China Sea increases operational challenges for offshore oil and gas exploration activities. Companies must navigate through heavily surveillance and militarised waters, potentially facing interference or harassment from military vessels. This raises safety concerns and operational costs, making exploration projects less attractive or feasible.

The last issue around the South China Sea borders discussion is resource exploitation. The South China Sea is believed to contain significant oil and natural gas reserves and rich fishing grounds (Asia Maritime Transparency Initiative, 2023). The overlapping territorial claims have led to disputes over the exploration and exploitation of these resources (Valencia, 1997). Consequently, market uncertainty leads to price volatility and supply disruptions. Companies engaged in offshore oil and gas exploration must carefully assess and manage these market risks. This is because unresolved maritime disputes also limit access to potentially lucrative oil and gas reserves in the South China Sea. Companies may hesitate to invest in exploration projects located in disputed areas due to the risk of legal disputes or geopolitical tensions. The inability to access certain offshore areas hampers efforts to assess and fully exploit the region's hydrocarbon resource (Webber & Bush, 2017)

The maritime boundary disputes in the South China Sea create a challenging operating environment for offshore oil and gas exploration companies. Addressing these issues requires diplomatic efforts to resolve territorial disputes, enhance regulatory clarity, and promote cooperation among claimant countries. Until a comprehensive and peaceful resolution is achieved, companies operating in the region will face significant uncertainties and risks.

RECOMMENDATION

Following the analysis of issues and implications, it is noticeable that laws regulating UNCLOS have not been absolute and comprehensive. Therefore, the authors of this paper suggest that future researchers study the legal framework and UNCLOS in-depth. It is critical to measure and analyse this area as it can be used to solve the negative implications of the issues that may arise. The United Nations Convention on the Law of the Sea (UNCLOS) stands as a cornerstone of international maritime law, governing the rights and responsibilities of nations concerning their use of the world's oceans (Jalil, 2014). We suggest that future explorers explore these findings and propose a path forward for future researchers to delve deeper into the legal intricacies of UNCLOS. While UNCLOS provides a comprehensive framework for marine governance, there are areas where its applicability may not be absolute. This realisation underscores the need for a more nuanced understanding of the convention's legal provisions and their interpretations across different contexts and jurisdictions.

One of the primary recommendations stemming from our findings is the imperative for future research to focus on the legal framework of UNCLOS. Researchers can uncover potential gaps or ambiguities that may hinder its effectiveness by conducting in-depth studies into the interpretation and application of its laws. These gaps, once identified, can serve as focal points for amendments or clarifications that enhance the convention's ability to address contemporary challenges in marine governance.

Furthermore, understanding UNCLOS's legal framework in greater detail holds promise in mitigating negative implications that arise from its current limitations. Issues such as maritime boundary disputes, conflicting rights and obligations interpretations, and gaps in environmental protection measures could benefit immensely from a more robust legal analysis. By elucidating these complexities, researchers can contribute to developing solutions that promote sustainable ocean management and equitable maritime governance. The significance of this

endeavour extends beyond academic discourse. It directly impacts policymakers, legal practitioners, and stakeholders involved in maritime affairs globally (Hensel, 2014). A thorough understanding of UNCLOS's legal intricacies empowers these stakeholders to navigate complex issues with clarity and precision, fostering cooperation and peaceful resolution of maritime disputes.

Moreover, the evolving nature of global challenges, including climate change, resource exploitation, and biodiversity conservation, necessitates a dynamic legal framework that adapts to new realities. Through rigorous research into UNCLOS, scholars can identify opportunities to strengthen its provisions and ensure they remain relevant and effective in addressing emerging issues.

Our analysis underscores the critical importance of delving deeper into the legal framework of UNCLOS. By advocating for comprehensive research into its provisions, interpretations, and applications, we pave the way for a more robust and adaptive international maritime law regime. This initiative-taking approach enhances our understanding of UNCLOS and equips us with the tools to address contemporary maritime challenges effectively. As we look to the future, a commitment to advancing our knowledge of UNCLOS will be instrumental in shaping a sustainable and equitable ocean governance framework for future generations.

It is recommended that the philosophical idea of posterity should be applied in depth to our subject matter. As mentioned above, this philosophical idea discussed above has provided that the implications of offshore oil and gas and maritime boundary disputes are seen to be the future for the upcoming generations. However, the discovery must be more specific as it may promote long-term stability and equity in the nation. The South China Sea is a region fraught with complex maritime boundary disputes and rich in offshore oil and gas resources. These disputes, involving multiple nations with overlapping claims, pose significant challenges to these resources' equitable and sustainable management. As such, it is imperative to consider the philosophical idea of posterity when addressing these issues. Posterity, which emphasises the current generation's responsibility to safeguard future generations' interests and well-being, provides a valuable framework for ensuring long-term stability, equity, and sustainability in the South China Sea.

The philosophical concept of posterity mandates that current actions should not compromise the ability of future generations to meet their needs. This principle is particularly relevant in offshore oil and gas exploration, where the temptation for short-term economic gains can lead to unsustainable practices and environmental degradation. Nations involved in South China Sea disputes should adopt environmental sustainability and resource conservation policies. By prioritising long-term stability, these policies can help ensure that the region's natural resources are managed responsibly, preserving their availability and benefits for future generations.

Implementing the principle of posterity requires a focus on intergenerational equity, which involves ensuring that the benefits derived from offshore oil and gas resources are equitably shared among current stakeholders and future populations. To achieve this, research should explore mechanisms for equitable resource distribution. Sovereign wealth funds or environmental trust funds can be established to secure a portion of the proceeds from resource extraction for future use. Such financial instruments can promote economic stability and social equity by providing a steady source of revenue for future development, healthcare, education, and infrastructure projects.

Incorporating the philosophical idea of posterity into analysing maritime boundary disputes and offshore oil and gas exploration in the South China Sea is crucial for developing comprehensive, ethical, and sustainable approaches. By prioritising the interests of future generations, policymakers and researchers can address current geopolitical and economic challenges while safeguarding the region's resources and environment for posterity. This approach ensures long-term stability and equity and contributes to the overall well-being and prosperity of the nations involved. As such, the principle of posterity should be a guiding framework for all future endeavours in the South China Sea, promoting a legacy of sustainability and justice for generations to come.

CONCLUSION

Maritime boundary disputes represent a multifaceted challenge for nations, with Malaysia being deeply affected by overlapping claims in Southeast Asia, particularly in the South China Sea. These disputes stem from

competing territorial sovereignty claims, resource exploitation rights and jurisdictional authority. Substantial offshore hydrocarbon reserves increase these tensions, making offshore oil and gas exploration critical and geopolitically contentious.

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