



ISSN: 2617-6548

URL: www.ijirss.com



Legal analysis for exploring and utilizing continental shelf resources: A comparative Study between Saudi maritime zones law and international law of the Sea

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Abstract

The continental shelf (CS) is a fundamental aspect of maritime sovereignty, granting coastal states exclusive rights over its natural resources under both national and international law. This study aims to analyze the role of the Saudi Maritime Zones Law (SMLZ) in strengthening the Kingdom's sovereignty over its CS by comparing its provisions with those of the United Nations Convention on the Law of the Sea (UNCLOS), particularly Articles 77, 78, and 81. The study employs a comparative legal analysis between Saudi national legislation and UNCLOS provisions, focusing on Articles 18, 19, 20, and 21 of SMLZ. The study indicates that SMLZ enhances the Kingdom's national sovereignty by providing a precise and independent legal framework, granting the Kingdom broad powers to regulate maritime activities and exploit CS resources while safeguarding its national interests and international commitments. The study recommends an urgent need to update and develop both international and domestic maritime laws to ensure effective management of marine resources, enhance national sovereignty, provide clearer legal mechanisms for dispute resolution, and ensure the sustainability of these resources for future generations.

Keywords: Continental shelf, Maritime sovereignty, Natural resource exploitation, Saudi maritime zones law, UNCLOS.

DOI: 10.53894/ijirss.v8i3.6550

Funding: This work was supported by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia (Grant Number: KFU251414).

History: Received: 21 March 2025 / **Revised:** 21 April 2025 / **Accepted:** 23 April 2025 / **Published:** 28 April 2025

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Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.

Transparency: The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Publisher: Innovative Research Publishing

1. Introduction

The United Nations Convention on the Law of the Sea (UNCLOS) represents the outcome of a decades-long endeavor to systematically establish a unified body of international maritime law. This initiative began under the auspices of the United Nations and drew heavily on the foundational work of the International Law Commission, culminating in 1956 with the formulation of the four Geneva Conventions of 1958, the final of which specifically addressed the Continental Shelf (CS). The momentum of these efforts carried forward into the Third United Nations Conference on the Law of the Sea,

which ultimately led to the formal adoption of UNCLOS in 1982. Today, UNCLOS serves as the most authoritative and wide-ranging legal instrument governing the use and regulation of maritime spaces. A notable feature of the Convention is its incorporation of numerous elements from the earlier Geneva Conventions some adopted word-for-word, others with minimal modification. This deliberate inclusion reflects the consensus among participating states that these provisions represent entrenched norms of customary international law, thereby extending their applicability even to countries that have not formally acceded to the Convention [1].

The UNCLOS plays a vital role as the legal foundation governing how states may access and benefit from the natural resources found on the CS, including oil, gas, rare minerals, and other marine wealth. It has empowered coastal states to extend their sovereign rights and secure exclusive authority over the exploration and exploitation of these resources. However, this legal structure has not always been entirely neutral, often reflecting global power asymmetries and the economic interests of dominant nations and their affiliated extractive industries. Despite this, the law also provides avenues for promoting environmental protection and fair benefit-sharing through mechanisms established by international bodies such as the International Seabed Authority and current negotiations on marine biodiversity beyond national jurisdiction. Ultimately, the international law of the sea serves as a double-edged sword supporting economic opportunity on one side, while on the other, offering a framework for equity, sustainability, and shared responsibility in managing ocean resources for the common good [2].

On the other hand, UNCLOS offers an all-encompassing legal framework that governs virtually every aspect of maritime activity occurring on, in, under, and above the ocean surface [3]. As emphasized in its preamble, the convention lays down the legal basis for managing the world's seas and oceans, aiming to enhance global communication, encourage the peaceful use of marine spaces, ensure fair access to and responsible stewardship of living marine resources, promote efficient resource management, and support the advancement, preservation, and protection of the marine environment. Although UNCLOS was adopted in 1982 and came into force on November 16, 1994, with 168 parties ratifying it, the United States has yet to formally accede to the convention. Nevertheless, it acknowledges a significant portion of its provisions especially those related to ocean-based carbon dioxide removal, marine scientific research, and environmental safeguards as reflective of customary international law [4].

Although the 1982 UNCLOS is widely regarded as a milestone in the development of international maritime law under the United Nations framework, a number of pressing issues remain unresolved. Key among these are ongoing maritime boundary disputes, the contentious application of straight baselines, the ambiguous legal status of artificial islands, the regulation of military operations within Exclusive Economic Zones (EEZ), and emerging environmental concerns. Over the past forty years, the legal and operational context of maritime governance has become increasingly complex, presenting new challenges for the effective implementation of the convention. Intensifying competition over ocean resources has contributed to growing maritime congestion, while rapid technological innovation and shifting geopolitical dynamics further complicate the situation. Addressing these outstanding issues is essential to preserving the integrity and advancing the foundational goals of UNCLOS [5].

On the other hand, although UNCLOS, adopted in 1982, laid the foundation for a comprehensive international legal framework governing maritime affairs, the four decades since its inception have exposed several challenges and gaps that require urgent attention to maintain its effectiveness and relevance in a rapidly evolving global context. Emerging issues such as the resolution of maritime boundary disputes, the legal regulation of artificial island construction, and the pursuit of environmental sustainability have grown increasingly complex. These challenges are further intensified by accelerating technological progress, changing geopolitical landscapes, and heightened competition over marine resources, all of which demand a proactive and adaptive approach to uphold the core principles and objectives of the Convention [6].

The provisions set forth in Part VI of UNCLOS, particularly Articles 77, 79, and 81, are of critical importance in the context of exploring and utilizing CS resources [7]. These articles not only affirm the sovereign rights of coastal states to explore and utilize natural resources found on their CS but also establish clear legal parameters for conducting such activities responsibly. Article 77 safeguards a state's exclusive rights over its seabed resources [7] ensuring legal certainty and encouraging investment. Article 79 facilitates international cooperation by allowing the installation of submarine cables and pipelines under regulated conditions [7] which are essential for energy transport and global communication. Meanwhile, Article 81 addresses drilling activities [7] ensuring they are conducted within a legal and environmentally conscious framework. Collectively, these provisions provide a balanced legal structure that promotes sustainable development while protecting the rights and interests of coastal states.

This study examines the legal analysis for exploring and utilizing CS resources by conducting a comparative between Saudi Arabia's Maritime Zones Law (SMZL) and the United Nations Convention on the Law of the Sea (UNCLOS). The research seeks to address five fundamental inquiries:

Q1- What is the importance of UNCLOS Articles 77, 78, and 81 for Exploring and Utilizing CS Resources?

Q2-What is the legal significance of Articles 18, 19, 20, and 21 of SMZL in relation to the exploration and utilization of resources on the Kingdom's CS compared to UNCLOS?

Q3- Does international and domestic maritime law need to be updated and developed to clearly define authority regarding the Exploring and Utilizing CS Resources?

The assessment highlighted a significant gap in published studies focusing on SMZL, particularly when compared to the relevant provisions in UNCLOS concerning the exploitation of CS resources. Addressing this research gap is crucial for documenting the Kingdom's progress in regulating its maritime zones and its sovereign rights over CS, as well as identifying legal areas that require improvement. In the context of exploring and utilizing CS resources, such comparative studies are essential to ensure that national legislation aligns with the international standards set forth in United Nations

agreements, particularly regarding sustainable economic activities and environmental protection. This study aims to highlight the importance of assessing the congruence between local and international legal frameworks by examining the legal framework for utilizing CS resources according to Articles 77, 79, and 81 of UNCLOS, in comparison with Articles 18, 19, 20, and 21 of the SMZL. By doing so, the research contributes to strengthening the legal authority of national legislation in coastal states, reinforcing their sovereign rights over CS, while ensuring the protection and sustainable management of marine resources in line with international standards for achieving sustainable development and environmental protection.

2. Material and Methods

The study adopts a comparative analytical approach, examining legal literature and the United Nations Convention on the Law of the Sea (UNCLOS). This analysis evaluates Articles 18, 19, 20, and 21 of the Saudi Arabian Maritime Zones Law (SMZL) in conjunction with Articles 77, 78, and 81 of UNCLOS, with a focus on Saudi Arabia's sovereign rights to exploit the resources of its continental shelf (CS). The methodology employed involves a comprehensive examination of legal provisions, analyzing the SMZL alongside UNCLOS. The study also draws on reports from various Saudi government departments and prominent national and international platforms. The primary objective of this study is to conduct a comparative analysis of SMZL and UNCLOS concerning the exploring and utilizing CS resources.

3. Results and Discussion

3.1. The Importance of UNCLOS Articles 77, 78, and 81 Lies in their Role in Regulating the Exploration and Utilization of Continental Shelf Resources

Articles 77, 78, and 81 of UNCLOS play a pivotal role in governing the exploration and utilization of CS resources. Article 77 outlines the sovereign rights of coastal states over their CS, granting them the authority to explore and exploit natural resources located on and beneath the seabed. Article 78 addresses the laying of submarine cables and pipelines across the CS, promoting international collaboration in the fields of energy transmission and communications. Meanwhile, Article 81 addresses drilling activities on the CS, establishing a legal framework that ensures environmental safety and mitigates the negative impacts of such activities. These provisions play a crucial role in balancing resource exploitation with environmental protection, while reinforcing coastal states' sovereignty over their maritime zones in accordance with international standards.

According to UNCLOS, the seabed extending up to 200 nautical miles from a coastal state's baseline may simultaneously fall within the legal scope of both CS and the Exclusive Economic Zone (EEZ). Despite this overlap, jurisdiction over the seabed is exercised solely under the CS regime. In contrast to the CS, the EEZ requires an explicit declaration by the coastal state; in the absence of such a proclamation, the waters beyond the territorial sea are considered part of the high seas, although the underlying seabed remains governed as part of the CS. Article 77 of UNCLOS delineates the separation between the seabed and the superjacent water column, providing criteria for assigning marine resources to either legal framework. Nonetheless, these criteria are not always clear-cut. For example, 'sedentary' species, such as clams and corals, are unequivocally classified under the CS regime. However, this classification has controversially been extended to include certain crustaceans, such as shrimp and crabs, despite their limited mobility. Conversely, other demersal species or marine life that rely on the seabed for reproduction are generally regulated under the EEZ or high seas regime, depending on their location [2].

One of the central justifications for extending national jurisdiction over the seabed lies in the inherent geographical continuity between CS and a state's landmass. The International Court of Justice recognized this principle, affirming that a coastal state's rights over the portion of the CS that forms a natural extension of its land territory beneath the sea arise *ipso facto* and *ab initio*—that is, by virtue of sovereignty over the land itself, without the need for any formal declaration [2]. This principle is also embedded in UNCLOS, particularly in Article 76, which defines the CS as the 'natural prolongation' of a coastal state's land territory. Moreover, the Convention emphasizes that coastal state rights over the CS are not contingent upon actual occupation, symbolic presence, or formal proclamation, as stated in Article 77 [7]. In addition, Article 77 grants coastal states exclusive rights to explore and utilize the natural resources of the CS. These resources encompass not only traditional mineral and hydrocarbon deposits, such as oil, gas, and metalliferous sediments, but also biological resources specifically sedentary species that live on or beneath the seabed [8].

The legal framework governing the CS holds particular importance for the transportation of energy from offshore wind farms. Article 79 of UNCLOS grants all states, whether coastal or non-coastal, the right to lay submarine cables and pipelines on the CS, provided they adhere to the conditions established by the convention. These conditions include obtaining the coastal state's consent regarding the route of the pipelines and taking into account any existing submarine cables or pipelines. However, the coastal state maintains jurisdiction over cables and pipelines laid on its CS. It also holds the authority to set conditions for cables or pipelines that enter its territorial waters or land, as well as to regulate and grant permissions for activities like drilling on the CS, which may be required for the installation of offshore wind farm foundations, as specified in Articles 79 and 81 of UNCLOS [9].

Historically, the concept of *res nullius*, or ownerless property, prevailed during European exploration, where unclaimed land and resources were considered available for appropriation. In contrast, under UNCLOS, access to and use of ocean resources is shaped by a combination of socially constructed ideas. The ocean is viewed as *res communis* (common property accessible to all), *res publica* (public property), and as a domain where individual coastal states can assert full sovereignty. In practice, the allocation of property rights over ocean resources varies by region, with the extent of sovereignty and jurisdiction gradually diminishing as the distance from the coastal state's baseline increases. As Borgese,

points out, UNCLOS “transforms sovereignty by disaggregating the concept into a bundle of rights, including ‘exclusive rights’ (Article 81), and ‘jurisdiction’ (Article 79), which is shared” [10].” Crucially, across all the jurisdictional zones defined by UNCLOS except for most internal waters, the freedom of navigation remains a fundamental right, primarily preserved to support international trade and commerce [11].

Article 77 of UNCLOS grants coastal states sovereign rights over the CS for the purpose of exploring and exploiting its natural resources. These rights are exclusive, meaning that no other entity may engage in exploration or utilization of the CS 's resources without the explicit consent of the coastal state, unless the state opts not to carry out such activities. This entitlement applies to the CS up to a minimum of 200 nautical miles, unless there are overlapping claims with opposite or adjacent states. Additionally, the sovereign rights of the coastal state extend over the entire CS, with no distinction made between the shelf within 200 nautical miles and the shelf beyond that limit, as outlined in Article 77 [12].

Throughout the last century, submarine cables and pipelines have become indispensable to the functioning of the global economy, despite their inherently transboundary nature. Nevertheless, these maritime infrastructures carry significant risks, as they are vulnerable to both human error and natural events, which can lead to damage or structural failure. Such incidents may pose serious environmental hazards, with the potential for disasters comparable to the 2010 Deepwater Horizon oil spill in the Gulf of Mexico. The UNCLOS recognizes the authority of coastal states to install submarine cables and pipelines along their CS. Article 79 affirms the right of coastal states to implement reasonable measures for the exploration and utilization of CS resources and for the prevention, mitigation, and control of pollution resulting from pipeline operations. Additionally, it requires that coastal state consent be obtained regarding the determination of pipeline routes and obliges all involved states to ensure the proper placement and upkeep of such installations. While the coastal state retains regulatory powers, Article 79 also emphasizes that it may not obstruct the laying or maintenance of submarine cables or pipelines, provided its sovereign rights and environmental safeguards are respected. This non-interference principle, originally articulated in Article 4 of the 1958 Geneva Convention on CS, underpins the interpretation of Article 79 in UNCLOS. These legal provisions are especially relevant when evaluating the activities of third-party states and entities operating under their jurisdiction in relation to submarine cable and pipeline projects situated on the CS of a coastal state [1].

Thus, Articles 77, 78, and 81 of the UNCLOS are crucial in regulating the exploration and utilization of CS resources. Article 77 grants coastal states exclusive rights to extract resources from the CS, while Article 78 governs the installation of submarine pipelines and cables on the CS, requiring the coastal state's consent. Meanwhile, Article 81 outlines the coastal state's rights to regulate drilling activities on the CS, ensuring environmental protection.

3.2. Articles 18 to 21 of SMZL Provide a National Legal Basis for the Kingdom's Rights over Continental Shelf Resource Exploration and use, in Line with UNCLOS

The Kingdom of Saudi Arabia's endorsement of international maritime law, as per Royal Decree No. (M/17) dated 31/1/1996, led to the enactment of Saudi Arabia's Maritime Zones Law (SMZL) under Royal Decree No. (M/6) dated 13/12/2011. This law established the legal framework that regulates the Kingdom's sovereignty and rights over its diverse maritime zones [13]. Furthermore, the system outlines key concepts such as baselines, internal waters, CS, territorial sea, and EEZ, achieving a balance between protecting national interests and adhering to international legal obligations. It defines the marine boundaries for each zone, emphasizing sovereign rights for the exploitation and management of natural resources, environmental protection, and the assurance of security and safety [13].

The SMZL establishes frameworks for regulating the innocent passage of vessels, incorporating strict provisions designed to protect national security and preserve maritime resources. It defines the rights and obligations within the EEZ and CS, covering economic activities such as fishing and energy production. The system adheres to both international treaties and national regulations, ensuring alignment with international law and reinforcing the Kingdom's sovereign rights over its maritime resources and adjacent areas to its territorial sea [13]. The SMZL governs the Kingdom's sovereignty and claims over its maritime zones, including territorial seas, EEZ, and CS. This legislation is in accordance with the UNCLOS, established in 1982 to provide a comprehensive framework for global ocean governance [6].

On the other hand, Articles 18 to 21 of the SMZL regulations serve as a cornerstone of the SMZL, governing the Kingdom's rights and responsibilities over its CS. These provisions underscore Saudi Arabia's dedication to asserting its exclusive sovereign rights over its maritime zones, particularly in the exploration and utilization of natural resources, in line with UNCLOS. The significance of these articles lies in their precise definition of the scope of Saudi Arabia's sovereign authority, ensuring the protection and sustainable use of both non-living resources, such as minerals, and living resources like sedentary species. Furthermore, they establish the Kingdom's exclusive rights to authorize and regulate drilling activities, while preventing unauthorized use of its maritime rights by foreign entities. These provisions also set a framework that balances national sovereignty with international cooperation, safeguarding certain freedoms such as navigation and the installation of cables and pipelines for other states, in accordance with international law and Saudi regulations. Furthermore, it outlines the relevant legal provisions governing the utilization of CS resources under SMZL, as presented in Table 1.

Table 1.

Articles provisions related to the exploration and utilization of Continental Shelf resources under Saudi Arabia's Maritime Zones Law.

Saudi Arabia's Maritime Zones Law	Content
Article 18	Paragraph 1: The Kingdom exercises exclusive sovereign rights over its CS for the purpose of exploring and exploiting its natural resources. Paragraph 2: The natural resources referred to in paragraph (1) of this article include mineral resources and other non-living resources found on or beneath the seabed, in addition to living organisms belonging to sedentary species, which are organisms that can be harvested either when immobile and located on or beneath the seabed, or when incapable of movement except through permanent physical contact with the seabed or subsoil.
Article 19	The Kingdom has the exclusive right to permit drilling on its CS and regulate this drilling for all purposes. It also has the right to exploit the subsoil by digging tunnels, regardless of the water height above the subsoil.
Article 20	Paragraph 1: Sovereign rights over the CS mean that they are exclusive rights of the Kingdom and are not dependent on actual or presumed occupation, nor on an explicit declaration by the Kingdom. Paragraph 2: No one is allowed to exercise any of the rights referred to in paragraph (1) of this article without the written and explicit consent of the competent authorities in the Kingdom.
Article 21	The freedom of navigation, overflight, laying cables, and placing submerged pipelines is guaranteed for other countries in the Kingdom's EEZ and CS, in accordance with the provisions of the convention, international law, and the Kingdom's regulations and policies.

Moreover, the Saudi legal framework regarding the CS reflects a distinct differentiation from the provisions of international maritime law, particularly in relation to the UNCLOS. This analysis highlights the aspects that set Saudi Arabia's legal system apart from public international law, demonstrating how the Kingdom reinforces its sovereignty over its maritime resources.

- **Absolute Sovereignty over the CS and Its Resources:** According to Article 18 of the Saudi legal system, the Kingdom enjoys exclusive sovereign rights over its CS for the purpose of exploring and exploiting its natural resources. This differs from the UNCLOS, which acknowledges the rights of coastal states over the CS but restricts them under the principle of "functional jurisdiction," meaning sovereignty is limited by environmental and legal obligations toward the international community. What sets Saudi Arabia apart is that it grants itself an exclusive right to exploration and exploitation, without additional functional constraints that may be imposed by international considerations.
- **Expanding the Scope of Natural Resources:** According to paragraph 2 in Article 18, The Saudi legal system defines natural resources to include minerals, non-living resources, as well as sedentary species. This differs from UNCLOS, which acknowledges the rights of states to exploit non-living resources, but subjects the exploitation of living species on the CS to environmental standards and international regulations. What sets Saudi Arabia apart is its reinforcement of sovereignty by clearly defining the scope of these resources, including sedentary species, thereby granting it broader powers compared to international law.
- **Saudi Arabia's Absolute Right to Regulate Drilling and Exploitation:** Article 19 grants Saudi Arabia full authority to regulate drilling activities on its CS for any purpose, including tunneling beneath the seabed, regardless of water depth. According to UNCLOS, coastal states have exclusive rights to their CS, but these rights are subject to international oversight in some activities, particularly when they affect the marine environment or other states. What sets Saudi Arabia apart is its stricter approach to enforcing sovereignty, as it does not require any international approval or coordination with external entities, giving the Kingdom complete control over the use of its resources.
- **No Requirement for Declaration or Actual Occupation of Sovereign Rights:** The article 20 affirms that Saudi Arabia's rights over its CS are inherent and not contingent upon actual occupation or a formal declaration. In contrast, international law, in some cases, requires proof of actual control or the issuance of a clear declaration to define maritime boundaries. What distinguishes Saudi Arabia is that the Saudi legal system ensures proactive protection of sovereign rights without the need for any additional action, thereby strengthening its legal position in the face of any potential disputes.
- **Restriction of Foreign Activities with Saudi Authorization:** Paragraph 2 in article 20 prohibits any activity related to Saudi Arabia's rights over its CS without explicit and written consent from the Kingdom. While international law permits other states to conduct certain activities, such as scientific research, with prior notification or coordination with the coastal state, Saudi law requires explicit permission. What distinguishes Saudi Arabia is that this approach imposes strict restrictions that safeguard the Kingdom's economic and security interests, minimizing any unauthorized external exploitation.
- **Guarantee of Freedom of Navigation According to Saudi Laws:** Article 21 guarantees other states the freedom of navigation, overflight, and the laying of submarine cables, but in accordance with Saudi regulations. In contrast, international law stipulates that freedom of navigation on the CS is subject only to internationally agreed restrictions,

with some oversight from the coastal states. What distinguishes Saudi Arabia is that it ensures all activities comply with local laws, thereby strengthening its legal control over maritime activities within its economic zone.

This analysis clearly demonstrates that the Kingdom of Saudi Arabia has successfully established its sovereignty over the CS in a way that surpasses many of the limitations imposed by general international law. The Kingdom has affirmed its absolute sovereign rights without additional international constraints, which enhances its full control over the exploration and utilization of its natural resources. Additionally, it has expanded the scope of resources to include sedentary species, which strengthens its ability to economically exploit these resources. Saudi Arabia maintains complete control over drilling and exploitation activities without the need for international coordination or approval, granting it full autonomy in managing its resources. Furthermore, the absence of any requirement for a declaration or actual occupation of sovereign rights bolsters its legal position and provides proactive protection against any attempts to diminish its rights. The Kingdom also imposes strict restrictions on foreign activities related to the CS, ensuring the protection of its national resources from unauthorized exploitation. Finally, the enforcement of Saudi laws in regulating freedom of navigation within its CS guarantees full adherence to local regulations, further reinforcing its legal control over maritime activities within its economic zone. In this way, Saudi Arabia stands as a strong example of protecting its maritime rights, going beyond the constraints of international agreements.

3.3. The Need for Updating and Developing International and Domestic Maritime Laws is Essential to Clarify Authority over the Exploration and Utilization of Continental Shelves

Article 77 of the UNCLOS defines sedentary species as organisms that are either immobile on or under the seabed, or able to move only while maintaining constant physical contact with the seabed or subsoil, at the harvestable stage. This definition creates two categories of sedentary species: those that are immobile and those that are mobile but require physical contact with the seabed to move. The concept of "sedentary" applies only when the species are in the "harvestable stage," a classification that has sparked controversy, particularly concerning crustaceans like shrimp and crabs. Scientifically, "sedentary" refers to organisms that are fixed in one place, but in legal terms, it includes both immobile species and those that are partially mobile. The negotiation history of this term reveals varying interpretations, ranging from species permanently attached to the seabed to those that are biologically dependent on it. Ultimately, the legal definition, which was included in the 1958 and 1982 conventions, does not fully align with the scientific understanding [14]. Additionally, under Article 77 of the LOSC, access to information regarding natural resources is considered an exclusive right of the coastal state, as confirmed by the International Court of Justice in the Aegean Sea CS case. Therefore, acquiring seismic data in an area that falls within another state's CS or EEZ could be seen as a violation of its sovereign rights [15].

Article 77 of UNCLOS grants coastal states sovereign rights over their CS, including exclusive rights to explore and exploit its natural resources. However, legal complexities emerge in areas with undelimited maritime boundaries, where one state may argue that the unilateral actions of another state infringe upon its sovereign rights, resulting in intricate legal disputes. Jurisprudence, as seen in cases like the Aegean CS Case, *Nicaragua v. Colombia*, and *Ghana v. Côte d'Ivoire*, demonstrates that both the International Court of Justice and the International Tribunal for the Law of the Sea (ITLOS) face challenges in applying Article 77 before the precise maritime boundaries between the concerned states are defined. For instance, in the South China Sea Arbitration, the tribunal could not assess the legality of China's activities until it established that there was no overlap with the Philippines' entitlements. Even when courts are authorized to delimit maritime boundaries, determining the legal responsibility of a state involved in unilateral activities remains difficult. This was evident in the 2012 *Nicaragua v. Colombia* case, where Nicaragua's claim was weakened because the court's delimitation did not grant the entire contested area to Nicaragua. Furthermore, in the *Ghana/Côte d'Ivoire* case, the ITLOS Special Chamber clarified that maritime activities conducted in a CS area later attributed to another state do not automatically violate sovereign rights if those activities were carried out in good faith prior to the judgment. Therefore, Article 77 is rarely sufficient as an independent legal basis for submitting disputes over activities in undelimited maritime areas to the compulsory procedures under UNCLOS. Establishing a violation of sovereign rights necessitates the precise determination of maritime boundaries, thereby limiting the applicability of this article in boundary disputes, as supported by existing jurisprudence [16].

There remains uncertainty regarding the scope of "reasonable measures" that Coastal States can implement in relation to the laying of submarine pipelines on the CS, particularly with regard to actions required to mitigate the risk of marine pollution. Article 79 of UNCLOS largely aligns with Article 4 of the 1958 CS Convention, reinforcing the need for a consistent interpretation of the 1982 UNCLOS provisions in line with the customary standards established in 1958. Article 79 emphasizes the right of third states to lay and maintain submarine pipelines on the CS, while underscoring the necessity of cooperation with the Coastal State. However, a gap exists in the interpretation of the term "reasonable measures," as no unified interpretation is agreed upon by states. For instance, in Poland, third states are required to obtain consent before laying submarine cables in the EEZ, which reflects a broader interpretation of state competencies. This gap complicates coordination between states concerning the rights and obligations of the parties involved, especially in different legal contexts. Nevertheless, such disputes can be addressed through the mechanisms provided under UNCLOS, with competent tribunals empowered to impose provisional measures as necessary to protect the marine environment [1].

Under Article 79 of UNCLOS, all states have the right to lay submarine cables and/or pipelines on the CS. However, the determination of the route for these cables and pipelines requires the consent of the coastal state. Granting consent to third states to lay submarine cables in coastal maritime areas is closely linked to national security concerns. As such, coastal states hold the ultimate authority in determining the path that submarine cables and pipelines will follow within

their CS. Additionally, the Convention establishes that coastal states have the right to access all data and samples collected, request periodic reports, and even participate (on board) during research activities within their maritime zones. Therefore, it may be considered unreasonable, or even hazardous, for such prerogatives to be exercised by any party other than the concerned sovereign authority [17].

Based on the previous discussion, it is evident that both international and domestic maritime laws require updating and development to clearly define authority concerning the exploration and exploitation of CS resources. While existing frameworks, such as UNCLOS, provide a legal foundation for regulating the CS, these laws need to be revised to address current challenges and shifts in the maritime domain. At the international level, maritime law must adapt to evolving geopolitical, technological, and environmental factors, particularly with the increasing exploration of deep-sea resources. Clearer standards should be established for the sustainable exploitation of these resources and for protecting them from illegal use. Additionally, more precise mechanisms are required to resolve conflicts related to CS, ensuring that potential disputes between nations are addressed effectively.

At the domestic level, countries like Saudi Arabia have already demonstrated a strong commitment to asserting sovereignty over their CS through stringent laws, but these laws must be continuously updated to keep pace with contemporary environmental and technological advancements. The legal framework should also be strengthened to regulate foreign activities related to CS, such as scientific research and maritime navigation, while safeguarding national interests. Therefore, updating and developing both international and domestic maritime laws is crucial for ensuring effective management of marine resources, enhancing national sovereignty, providing clearer legal mechanisms for dispute resolution, and ensuring the sustainability of these resources for future generations.

4. Conclusion

The exploration and utilization of CS resources present both opportunities and challenges that require a clear and robust legal framework. While existing international agreements, such as UNCLOS, provide a legal foundation, it is clear that there is a need to update and develop both international and domestic maritime laws. In this context, the distinctiveness of SMLZ stands out in regulating sovereignty over the CS, granting the Kingdom exclusive control over its marine resources without the functional restrictions imposed by some international standards. Moreover, SMLZ further enhances its sovereignty by clearly defining resources, including minerals and living resources, and ensuring stringent regulation of foreign activities on the CS. This approach reflects effective protection of Saudi Arabia's economic and security interests, strengthening its legal position and granting it full control over the management of its marine resources. Strengthening these legal frameworks will enhance national control over marine resources, contribute to their sustainable use, and ensure that Saudi Arabia remains in a strong position in international cooperation and environmental responsibility.

References

- [1] T. Kamiński and R. Szweczyk, "The coastal state obligation not to impede the laying or maintenance of submarine pipelines on the continental shelf according to United Nations convention on the law of the sea," *Marine Policy*, vol. 143, p. 105086, 2022. <https://doi.org/10.1016/j.marpol.2022.105086>
- [2] S. Ranganathan, "Ocean floor grab: International law and the making of an extractive imaginary," *European Journal of International Law*, vol. 30, no. 2, pp. 573-600, 2019. <https://doi.org/10.1093/ejil/chz027>
- [3] R. Churchill, *The 1982 United Nations convention on the law of the Sea*, in *The Oxford Handbook of the Law of the Sea*. Oxford, UK: Oxford University Press, 2015.
- [4] W. Burns, "Governance of ocean-based carbon dioxide removal research under the United Nations convention on the law of the sea," *Maine Law Review*, vol. 75, no. 1, pp. 38-70, 2023.
- [5] G. Barrie, "The 1982 United Nations law of the Sea convention: Unresolved issues remain," *Obiter*, vol. 42, no. 3, pp. 529-546, 2021.
- [6] M. Y. Abobaker, "Legal framework for defining the continental shelf in light of article 76 of the United Nations convention on the law of the sea: A comparative study with the maritime zones law of Saudi Arabia," *International Journal of Innovative Research and Scientific Studies*, vol. 8, no. 1, pp. 2575-2581, 2025. <https://doi.org/10.53894/ijirss.v8i1.5032>
- [7] UNCLOS, "United Nations Convention on the Law of the Sea "UNCLOS"," Retrieved: https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf, 1982.
- [8] H. Brekke, *Chapter 4: Setting maritime limits and boundaries: Experiences from Norway*. In C. Banet (Ed.), *The law of the seabed: Access, uses, and protection of seabed resources*. Germany: De Gruyter, 2020.
- [9] M. DeCastro *et al.*, "An overview of offshore wind energy resources in Europe under present and future climate," *Annals of the New York Academy of Sciences*, vol. 1436, no. 1, pp. 70-97, 2019. <https://doi.org/10.1111/nyas.13924>
- [10] E. M. Borgese, "Global civil society: Lessons from ocean governance," *Futures*, vol. 31, no. 9-10, pp. 983-991, 1999. [https://doi.org/10.1016/S0016-3287\(99\)00057-9](https://doi.org/10.1016/S0016-3287(99)00057-9)
- [11] Y. Tanaka, *Navigational rights and freedoms*. In *The oxford handbook of the law of the Sea*, ed. Donald R. Rothwell, Alex G. Oude Elferink, Karen N. Scott, and Tim Stephens, 536-558. UK, Oxford: Oxford University Press, 2015.
- [12] M. Kalduński and T. Wasilewski, "Some remarks on article 82 of the unclos and the non-living resources on the outer continental Shelf," *Prawo Morskie*, vol. 34, pp. 99-121, 2018. <https://doi.org/10.24425/pm.2018.125830>
- [13] Saudi Arabia's Maritime Zones Law, "Saudi Arabia's Maritime Zones Law "SMZL"," Retrieved: <https://laws.boe.gov.sa/BoeLaws/Laws/LawDetails/98b1d2e8-4724-439b-af00-a9a700f255ef/1>, 2011.
- [14] H. Woker, *Interactions between law and science within the law of the sea: A systems theory perspective*. In *The law of the sea*. Routledge: United Kingdom, 2022.
- [15] M. Evans and N. A. Ioannides, *The international court of justice and the law of the sea dispute settlement system*, A. Skordas and L. Mardikian (eds). Cheltenham, UK: Research Handbook on the International Court of Justice, Edward Elgar, 2023.

- [16] X. Liao, "The road not taken: Submission of disputes concerning activities in undelimited maritime areas to UNCLOS compulsory procedures," *Ocean Development & International Law*, vol. 52, no. 3, pp. 297-324, 2021. <https://doi.org/10.1080/00908320.2021.1959772>
- [17] L. M. Monroy, "UNCLOS and the law of occupation: On the rights and duties of occupying states in maritime areas," *International Law Studies*, vol. 103, no. 1, pp. 231-269, 2024.