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MARINE BIODIVERSITY BEYOND NATIONAL JURISDICTION (BBNJ) AND THE INDO-PACIFIC: EMERGING LEGAL CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE OCEAN GOVERNANCE

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<i>Keywords</i>	<i>Abstract</i>
BBNJ Agreement, UNCLOS, Indo-Pacific, Marine Biodiversity, Ocean Governance, Marine Genetic Resources, Blue Economy.	The conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ) has emerged as one of the most significant developments in contemporary international maritime law. Areas beyond national jurisdiction (ABNJ), comprising the high seas and the international seabed Area, account for nearly two-thirds of the world's oceans and contain ecologically significant ecosystems that support global biodiversity, climate regulation, and marine productivity. Despite their ecological importance, these areas have historically been governed through fragmented legal and institutional mechanisms that proved inadequate to address emerging challenges such as biodiversity loss, climate change, overfishing, marine pollution, and the exploitation of marine genetic resources. The adoption of the Agreement under the United Nations Convention on the Law of the Sea (UNCLOS) on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement) in 2023 represents a landmark achievement in strengthening international ocean



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	governance. The Indo-Pacific occupies a central place in the implementation of the BBNJ Agreement because it encompasses some of the world's richest marine ecosystems, major sea lines of communication, and rapidly expanding blue economy initiatives. Simultaneously, the region faces growing environmental degradation and intensifying geopolitical competition, making biodiversity conservation increasingly complex. This article examines the evolution of the international legal framework governing marine biodiversity beyond national jurisdiction and analyses the implications of the BBNJ Agreement for the Indo-Pacific. It further evaluates the legal, institutional, and geopolitical challenges associated with implementing the Agreement and assesses India's role in promoting sustainable ocean governance. The paper argues that while the BBNJ Agreement provides an important legal foundation for protecting marine biodiversity, its effectiveness will depend on strengthened regional cooperation, scientific capacity, equitable benefit-sharing, and sustained political commitment among Indo-Pacific states.
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1. Introduction

The oceans constitute the largest ecological system on Earth, covering approximately seventy-one per cent of the planet's surface and supporting an extraordinary diversity of life. They regulate global climate, facilitate international trade, provide food security, generate economic opportunities, and sustain the livelihoods of billions of people. However, increasing anthropogenic pressures—including overfishing, marine pollution, climate change, habitat degradation, ocean acidification, and illegal exploitation of marine resources—have significantly threatened marine ecosystems. These challenges are particularly acute in areas beyond national jurisdiction (ABNJ), where governance has traditionally been fragmented and sector-specific.

Areas beyond national jurisdiction include the high seas and the international seabed Area situated beyond the sovereign jurisdiction of coastal states. These areas comprise approximately sixty-four per cent of the world's oceans and nearly ninety-five per cent of its habitable volume. They contain highly productive ecosystems, deep-sea coral reefs, hydrothermal vents, underwater mountain ranges, and genetically unique organisms that have immense ecological and commercial value. Marine genetic resources derived from these ecosystems have become increasingly important for pharmaceutical development, biotechnology, industrial research, and food security. At the same time, these ecosystems are extremely vulnerable to overexploitation, pollution, climate-induced changes, and emerging commercial activities such as deep-sea mining.

Although the United Nations Convention on the Law of the Sea (UNCLOS) established the legal framework governing maritime zones and imposed general obligations upon states to protect the



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marine environment, it did not provide a comprehensive mechanism for conserving biodiversity beyond national jurisdiction. Instead, governance evolved through a fragmented system consisting of the International Maritime Organization (IMO), the International Seabed Authority (ISA), Regional Fisheries Management Organizations (RFMOs), and various environmental agreements. These institutions addressed specific sectors but lacked an integrated legal framework capable of responding to cumulative environmental impacts and the increasing exploitation of marine biodiversity.

The adoption of the BBNJ Agreement in June 2023 therefore represents a major milestone in the evolution of international maritime law. As the third implementing agreement under UNCLOS, it introduces legally binding obligations concerning marine genetic resources, area-based management tools, environmental impact assessments, and capacity building together with the transfer of marine technology. The Agreement seeks to bridge existing governance gaps while promoting equitable participation of developed and developing countries in the conservation and sustainable use of marine biodiversity.

The Indo-Pacific region has emerged as the focal point of these developments. Stretching from the eastern coast of Africa to the western Pacific Ocean, the Indo-Pacific contains some of the world's richest marine biodiversity hotspots, including the Coral Triangle and numerous ecologically significant high-seas ecosystems. It is also home to critical sea lines of communication through which a substantial proportion of global trade and energy supplies pass. Consequently, environmental sustainability, maritime security, and economic development are closely interconnected within the region.

However, the Indo-Pacific also faces mounting challenges. Geopolitical competition among major powers, increasing naval deployments, maritime territorial disputes, unsustainable fishing practices, marine pollution, and climate change complicate efforts to strengthen ocean governance. Rising sea temperatures, coral bleaching, ocean acidification, and biodiversity loss threaten marine ecosystems upon which coastal communities and national economies depend. Small Island Developing States (SIDS) are particularly vulnerable because of their dependence on marine resources and limited institutional capacity.

Against this backdrop, the implementation of the BBNJ Agreement has significant implications for the Indo-Pacific. The Agreement offers an opportunity to establish a more integrated and cooperative framework for marine biodiversity conservation while simultaneously promoting scientific research, equitable access to marine genetic resources, and sustainable economic development. Nevertheless, effective implementation will require balancing environmental objectives with geopolitical realities and developmental priorities.



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This article examines the evolving legal framework governing marine biodiversity beyond national jurisdiction and analyses the implications of the BBNJ Agreement for the Indo-Pacific. It explores the Agreement's principal legal mechanisms, assesses the challenges confronting its implementation, and evaluates India's role in advancing sustainable ocean governance. The study argues that successful implementation of the BBNJ Agreement will depend not only on legal obligations but also on strengthened regional cooperation, scientific innovation, institutional coordination, and political commitment.

2. International Legal Framework Governing Marine Biodiversity Beyond National Jurisdiction

The legal governance of marine biodiversity beyond national jurisdiction has evolved gradually through a combination of international treaties, customary international law, and institutional practice. While UNCLOS remains the foundation of international ocean governance, the increasing complexity of environmental challenges necessitated the development of supplementary legal instruments addressing biodiversity conservation.

UNCLOS establishes the legal status of maritime zones and defines the rights and obligations of states concerning navigation, fisheries, marine scientific research, environmental protection, and resource utilization. Articles 192 and 194 impose a general obligation upon states to protect and preserve the marine environment and to prevent pollution from all sources. Additionally, Articles 204–206 require environmental assessment where planned activities may significantly affect the marine environment. Despite these important provisions, UNCLOS did not establish detailed institutional mechanisms specifically addressing biodiversity conservation in areas beyond national jurisdiction. Issues such as marine protected areas, equitable access to marine genetic resources, and integrated ecosystem management remained largely unregulated.

Recognising these limitations, the international community initiated negotiations under the United Nations General Assembly to develop a legally binding implementing agreement. After nearly two decades of negotiations, the BBNJ Agreement was adopted in 2023. Rather than replacing UNCLOS, the Agreement strengthens and operationalises its environmental provisions by creating institutional mechanisms that support biodiversity conservation and sustainable use.

The Agreement is built around four interrelated pillars. The first concerns **marine genetic resources (MGRs)** and the fair and equitable sharing of benefits arising from their utilisation. Marine organisms found in deep-sea ecosystems possess valuable genetic characteristics with applications in medicine, biotechnology, cosmetics, agriculture, and industrial innovation. Historically, technologically advanced countries possessed greater capacity to exploit these resources, raising concerns regarding equitable access and benefit-sharing. The BBNJ Agreement addresses these



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concerns by establishing procedures for information sharing, scientific cooperation, and benefit-sharing mechanisms while encouraging continued marine scientific research.

The second pillar relates to **Area-Based Management Tools (ABMTs)**, including Marine Protected Areas (MPAs). The Agreement establishes procedures through which ecologically or biologically significant marine areas beyond national jurisdiction may be identified and protected. Marine protected areas contribute to ecosystem conservation, restoration of fish populations, protection of vulnerable habitats, and enhancement of resilience against climate change. Importantly, the Agreement promotes ecosystem-based management rather than isolated sectoral regulation.

The third pillar introduces a comprehensive framework for **Environmental Impact Assessments (EIAs)**. States undertaking activities that may significantly affect marine biodiversity beyond national jurisdiction are required to assess environmental consequences before authorising such activities. These provisions strengthen transparency, scientific decision-making, and the precautionary approach while encouraging public participation and international consultation where appropriate.

The fourth pillar concerns **capacity building and the transfer of marine technology**. Significant disparities exist between developed and developing countries in terms of scientific expertise, technological capabilities, financial resources, and institutional capacity. The Agreement therefore seeks to facilitate technology transfer, scientific training, research collaboration, and technical assistance, enabling developing countries to participate more effectively in ocean governance and marine scientific research.

The BBNJ Agreement also complements other international legal instruments. The Convention on Biological Diversity (CBD) provides the broader framework for biodiversity conservation and sustainable use, while the Kunming–Montreal Global Biodiversity Framework reinforces international commitments to protect at least 30 per cent of marine and terrestrial ecosystems by 2030. Similarly, the International Maritime Organization regulates shipping-related pollution, whereas the International Seabed Authority governs mineral activities in the international seabed Area. Regional Fisheries Management Organizations contribute to sustainable fisheries management, although their mandates remain sector-specific.

Collectively, these institutions form a multilayered system of ocean governance. The BBNJ Agreement serves as the missing legal link by integrating biodiversity conservation across sectors and strengthening coordination among existing international organizations. It represents a shift from fragmented governance towards a more comprehensive ecosystem-based approach that recognises the interconnected nature of marine ecosystems and the need for collective stewardship of the global commons.



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3. BBNJ and the Indo-Pacific: Legal, Environmental and Geopolitical Challenges

The Indo-Pacific has emerged as one of the most strategically and ecologically significant maritime regions in the world. Extending from the eastern coast of Africa across the Indian Ocean to the western and central Pacific, the region encompasses numerous coastal and island states, major shipping routes, vast areas of the high seas, and some of the world's richest marine ecosystems. It accounts for a substantial share of global maritime trade, fisheries production, offshore energy resources, and marine biodiversity. Consequently, the effective implementation of the BBNJ Agreement is particularly important for the Indo-Pacific, where environmental sustainability, economic development, and maritime security are deeply interconnected.

Despite the Agreement's comprehensive legal framework, several challenges continue to impede its implementation in the region. These challenges arise from ecological vulnerability, unequal technological capabilities, fragmented institutional arrangements, and an increasingly complex geopolitical environment.

3.1 Marine Biodiversity and Ecological Significance of the Indo-Pacific

The Indo-Pacific is widely recognised as the global centre of marine biodiversity. It contains ecologically significant regions such as the Coral Triangle, the Bay of Bengal, the Arabian Sea, the Western Indian Ocean, and numerous deep-sea ecosystems located beyond national jurisdiction. These waters support thousands of species of fish, corals, marine mammals, turtles, seabirds, and microorganisms that contribute to global ecological stability.

Marine ecosystems in the region perform essential ecological functions. Coral reefs provide breeding and nursery grounds for fish populations, mangrove forests protect coastlines against erosion and extreme weather events, while seagrass meadows act as important carbon sinks. Deep-sea ecosystems, including hydrothermal vents and abyssal plains, contain organisms possessing unique genetic characteristics with considerable scientific and commercial value.

However, these ecosystems are increasingly threatened by anthropogenic activities. Unsustainable fishing practices, destructive fishing methods, marine pollution, plastic waste, habitat destruction, invasive species, and offshore industrial development have contributed to declining biodiversity throughout the region. Since marine ecosystems are interconnected across national boundaries, degradation occurring within one jurisdiction frequently affects biodiversity beyond national jurisdiction, highlighting the necessity of regional cooperation.

3.2 Marine Genetic Resources and Equitable Benefit-Sharing

One of the principal innovations of the BBNJ Agreement is its framework governing marine genetic resources (MGRs). Advances in marine biotechnology have significantly increased commercial interest in genetic materials extracted from deep-sea organisms. These resources possess applications



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in pharmaceuticals, cosmetics, food technology, biofuels, industrial enzymes, and biomedical research.

The Indo-Pacific's deep-sea ecosystems represent valuable reservoirs of marine genetic diversity. However, access to these resources has historically been dominated by technologically advanced states possessing sophisticated research vessels, submersibles, genomic laboratories, and financial resources. This imbalance raised concerns that developing countries would remain excluded from scientific discoveries and economic benefits arising from marine biotechnology.

The BBNJ Agreement attempts to address this inequality by establishing principles of transparency, information sharing, and equitable benefit-sharing. Nevertheless, implementation remains legally and technically complex. Questions concerning ownership of genetic information, intellectual property rights, digital sequence information, commercial confidentiality, and valuation of marine genetic resources continue to generate debate.

Developing Indo-Pacific states have consistently argued that benefit-sharing should extend beyond financial compensation to include access to scientific research, technological cooperation, educational opportunities, and institutional capacity building. Such an approach would promote greater scientific equity while strengthening regional participation in marine biodiversity conservation.

3.3 Area-Based Management Tools and Marine Protected Areas

Area-Based Management Tools (ABMTs), particularly Marine Protected Areas (MPAs), represent one of the most important mechanisms introduced by the BBNJ Agreement. These instruments seek to conserve ecologically significant marine ecosystems by regulating or restricting activities likely to threaten biodiversity.

The Indo-Pacific contains numerous high-seas ecosystems that qualify for enhanced protection due to their ecological importance. Migratory routes used by whales, sharks, tuna, turtles, and seabirds frequently traverse areas beyond national jurisdiction. Similarly, underwater mountain ranges, deep-sea coral reefs, and hydrothermal vent communities support species found nowhere else on Earth.

Designating marine protected areas within these regions could significantly strengthen biodiversity conservation. Protected areas enhance ecosystem resilience, facilitate recovery of depleted fish stocks, preserve genetic diversity, and improve climate adaptation. They also contribute to achieving the global objective of protecting at least thirty per cent of marine ecosystems by 2030 under the Kunming-Montreal Global Biodiversity Framework.

Despite these advantages, implementation remains challenging. Many proposed marine protected areas overlap with economically important fishing grounds, shipping routes, submarine communication cable corridors, and prospective deep-sea mining sites. Consequently, states may be



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reluctant to support conservation measures perceived to restrict economic activities or strategic interests.

Furthermore, effective management of high-seas protected areas requires sophisticated monitoring and enforcement capabilities. Satellite surveillance, vessel monitoring systems, artificial intelligence, remote sensing, and international information-sharing mechanisms will become increasingly important in ensuring compliance with conservation measures.

3.4 Environmental Impact Assessments and Scientific Limitations

The BBNJ Agreement strengthens international environmental governance by requiring environmental impact assessments (EIAs) for activities likely to cause significant harm to biodiversity beyond national jurisdiction. This preventive approach reflects the precautionary principle and encourages states to consider long-term ecological consequences before authorising potentially harmful activities.

However, the practical application of EIAs in the Indo-Pacific presents several challenges. Scientific knowledge concerning deep-sea ecosystems remains incomplete, with substantial portions of the ocean floor yet to be explored. Limited baseline ecological data often make it difficult to predict environmental impacts accurately.

Another challenge concerns cumulative environmental effects. Individual activities such as fishing, scientific research, shipping, and seabed exploration may each appear environmentally manageable, yet their combined impacts over extended periods can substantially alter marine ecosystems. Existing environmental assessment methodologies frequently struggle to evaluate such cumulative and transboundary effects.

Improving environmental governance therefore requires enhanced scientific cooperation, long-term biodiversity monitoring, greater investment in oceanographic research, and standardised methodologies capable of producing reliable environmental assessments across jurisdictions.

3.5 Climate Change and Ocean Health

Climate change has emerged as one of the most serious threats to marine biodiversity in the Indo-Pacific. Rising sea surface temperatures, ocean acidification, sea-level rise, declining oxygen concentrations, and changing ocean circulation patterns are transforming marine ecosystems at an unprecedented pace.

Coral bleaching events have affected large portions of the Great Barrier Reef, the Coral Triangle, and coral ecosystems throughout the Indian Ocean. Ocean warming has also altered the distribution of commercially important fish stocks, affecting fisheries management and food security across the region. Many migratory species are shifting their habitats in response to changing ocean conditions, creating new conservation challenges that extend beyond national boundaries.



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Although the BBNJ Agreement does not directly regulate climate change, its emphasis on ecosystem conservation contributes to strengthening the resilience of marine ecosystems. Healthy marine habitats enhance carbon sequestration, improve biodiversity, and increase the adaptive capacity of ocean ecosystems facing climatic stress. Consequently, implementation of the BBNJ Agreement should be viewed as complementary to global climate governance under the Paris Agreement.

3.6 Deep-Sea Mining and Emerging Environmental Risks

Growing demand for minerals required for renewable energy technologies has increased international interest in deep-sea mining. Polymetallic nodules, cobalt-rich crusts, and polymetallic sulphides located within the international seabed contain minerals essential for batteries, electric vehicles, wind turbines, and other low-carbon technologies.

The Indo-Pacific possesses several regions with significant deep-sea mineral potential. While proponents argue that seabed mining could contribute to the global energy transition, environmental concerns remain substantial. Scientific research suggests that mining activities may destroy fragile habitats, generate extensive sediment plumes, disturb deep-sea food webs, and cause biodiversity losses that may persist for centuries.

Although the International Seabed Authority regulates mineral activities in the Area, effective coordination between the ISA and institutions established under the BBNJ Agreement will be necessary to ensure that mineral exploitation does not undermine biodiversity conservation objectives. The precautionary approach should guide future decision-making until sufficient scientific evidence regarding environmental impacts becomes available.

3.7 Geopolitical Competition and Ocean Governance

Perhaps the greatest challenge to implementing the BBNJ Agreement in the Indo-Pacific arises from the region's increasingly competitive strategic environment. The Indo-Pacific has become the focal point of geopolitical rivalry involving major powers, including India, China, the United States, Japan, Australia, and several ASEAN member states. Maritime disputes, strategic infrastructure projects, naval modernisation, and competing visions of regional order frequently influence broader patterns of maritime cooperation.

Environmental governance cannot be completely insulated from these geopolitical dynamics. Decisions concerning marine protected areas, scientific research, access to marine genetic resources, and environmental regulation may be affected by broader strategic calculations. At the same time, regional organisations—including ASEAN, the Indian Ocean Rim Association (IORA), the Pacific Islands Forum (PIF), BIMSTEC, and the Quad—provide opportunities for confidence-building and cooperative ocean governance.



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Rather than viewing biodiversity conservation solely through a security lens, Indo-Pacific states should recognise that healthy marine ecosystems constitute a shared regional interest. Marine pollution, biodiversity loss, climate change, and illegal fishing transcend national boundaries and therefore require cooperative responses grounded in international law.

Overall, the Indo-Pacific illustrates both the opportunities and challenges associated with implementing the BBNJ Agreement. The region's ecological significance makes it central to global biodiversity conservation, while its strategic complexity highlights the importance of multilateral cooperation. Successful implementation will depend upon balancing conservation objectives with legitimate developmental and security interests through inclusive, science-based, and rules-based ocean governance.

4. India's Role in Implementing the BBNJ Agreement

India occupies a central position in the Indo-Pacific owing to its geographical location, extensive coastline of over 7,500 kilometres, island territories in the Andaman and Nicobar and Lakshadweep archipelagos, and a vast Exclusive Economic Zone (EEZ). As one of the leading maritime powers in the Indian Ocean, India has consistently supported a rules-based maritime order founded on the principles of the United Nations Convention on the Law of the Sea (UNCLOS). Its growing emphasis on the Blue Economy, marine scientific research, and regional maritime cooperation makes it an important stakeholder in the implementation of the BBNJ Agreement.

India actively participated in the negotiations leading to the adoption of the BBNJ Agreement and advocated an equitable framework that balances biodiversity conservation with the developmental interests of developing countries. Throughout the negotiations, India emphasized that marine biodiversity beyond national jurisdiction constitutes a global commons whose conservation requires collective responsibility while ensuring fair access to marine genetic resources and equitable sharing of benefits arising from their utilization.

India's maritime initiatives complement many objectives of the BBNJ Agreement. The **Security and Growth for All in the Region (SAGAR)** doctrine promotes maritime cooperation, environmental sustainability, disaster resilience, and capacity building among Indian Ocean littoral states. Similarly, the **Indo-Pacific Oceans Initiative (IPOI)** encourages collaboration in maritime ecology, marine resource management, disaster risk reduction, maritime security, and scientific cooperation. These initiatives provide an important regional platform through which the objectives of the BBNJ Agreement may be advanced.

India has also invested significantly in marine scientific research through institutions such as the National Institute of Ocean Technology (NIOT), the Indian National Centre for Ocean Information Services (INCOIS), the National Centre for Polar and Ocean Research (NCPOR), and the National Institute of Oceanography (NIO). The **Deep Ocean Mission** further strengthens India's capabilities in



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deep-sea exploration, biodiversity assessment, marine biotechnology, underwater robotics, and ocean observation. These scientific capabilities position India to contribute substantially to regional biodiversity research, environmental monitoring, and technology transfer.

Nevertheless, India faces several implementation challenges. Domestic legislation must be harmonized with the provisions of the BBNJ Agreement, particularly concerning environmental impact assessments, access to marine genetic resources, and biodiversity conservation beyond national jurisdiction. Continued investment in scientific infrastructure, skilled human resources, and international collaboration will also be necessary. As an emerging maritime power, India is well placed to promote regional cooperation by facilitating joint scientific expeditions, sharing oceanographic information, strengthening capacity-building programmes, and supporting equitable benefit-sharing mechanisms for developing countries across the Indo-Pacific.

5. Policy Recommendations

The effectiveness of the BBNJ Agreement will depend on the extent to which states translate its legal commitments into practical conservation measures. For the Indo-Pacific, implementation should focus on strengthening institutional cooperation, scientific capacity, and sustainable ocean governance. The following policy recommendations are proposed:

5.1 Accelerate Ratification and Domestic Implementation

Indo-Pacific states should ratify the BBNJ Agreement at the earliest opportunity and incorporate its provisions into national legal frameworks. Domestic legislation should establish institutional mechanisms for implementing obligations relating to marine genetic resources, environmental impact assessments, area-based management tools, and capacity building.

5.2 Strengthen Regional Cooperation

Regional organizations such as the Indian Ocean Rim Association (IORA), ASEAN, BIMSTEC, the Pacific Islands Forum (PIF), and the Indian Ocean Naval Symposium (IONS) should integrate biodiversity conservation into their maritime agendas. Greater coordination among these organizations would improve information sharing, scientific cooperation, and implementation of marine conservation measures across jurisdictional boundaries.

5.3 Enhance Marine Scientific Research

Governments should increase investment in marine biodiversity research, ocean observation systems, deep-sea exploration, and biodiversity mapping. Collaborative research programmes involving universities, scientific institutions, and international organizations should be encouraged to generate reliable scientific data for evidence-based policymaking.



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5.4 Promote Equitable Benefit-Sharing

Effective implementation of the BBNJ Agreement requires transparent mechanisms for sharing both monetary and non-monetary benefits arising from marine genetic resources. Scientific knowledge, marine technology, research infrastructure, and training opportunities should be made accessible to developing countries, thereby reducing technological disparities.

5.5 Strengthen Environmental Monitoring

Advanced technologies such as satellite surveillance, remote sensing, artificial intelligence, autonomous underwater vehicles, and maritime domain awareness systems should be employed to monitor biodiversity, detect illegal activities, and evaluate the effectiveness of marine protected areas. Regional information-sharing platforms would further strengthen compliance and enforcement.

5.6 Integrate Climate Change with Ocean Governance

Marine biodiversity conservation should be integrated into national climate adaptation and mitigation strategies. Protecting coral reefs, mangroves, seagrass ecosystems, and deep-sea habitats contributes simultaneously to biodiversity conservation, carbon sequestration, and climate resilience. Coordination between the BBNJ framework and international climate commitments should therefore be strengthened.

5.7 Expand Capacity Building and Technology Transfer

Developed countries should fulfil their obligations regarding technical assistance, financial support, and transfer of marine technology. Regional centres of excellence could provide training in marine biodiversity assessment, environmental impact assessments, marine biotechnology, and ocean governance, thereby enhancing implementation capacities throughout the Indo-Pacific.

5.8 Strengthen India's Regional Leadership

India should continue expanding initiatives under SAGAR and the Indo-Pacific Oceans Initiative by incorporating biodiversity conservation, marine scientific research, and environmental diplomacy as core pillars of regional engagement. Increased collaboration with neighbouring states through joint expeditions, hydrographic cooperation, biodiversity monitoring, and scientific exchanges would reinforce India's role as a responsible maritime power.

6. Conclusion

The adoption of the BBNJ Agreement marks a historic milestone in the evolution of international maritime law and global ocean governance. By addressing longstanding gaps in the legal framework governing marine biodiversity beyond national jurisdiction, the Agreement strengthens the implementation of UNCLOS and establishes comprehensive mechanisms relating to marine genetic



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resources, area-based management tools, environmental impact assessments, and capacity building. Its adoption reflects growing international recognition that the conservation of biodiversity beyond national jurisdiction is essential for maintaining ecological integrity, ensuring sustainable development, and safeguarding the global commons for future generations.

The Indo-Pacific occupies a pivotal position within this emerging legal framework. As the world's most dynamic maritime region, it combines exceptional biodiversity with expanding economic activity and increasing geopolitical competition. These characteristics make the implementation of the BBNJ Agreement both necessary and challenging. While the Agreement provides an effective legal foundation for biodiversity conservation, its success will ultimately depend upon coordinated regional action, robust scientific research, institutional cooperation, equitable benefit-sharing, and sustained political commitment. The region must balance environmental protection with economic development, maritime security, and technological innovation to achieve long-term sustainability.

India's role is particularly significant in this context. Through its commitment to UNCLOS, investment in marine scientific research, promotion of the Blue Economy, and initiatives such as SAGAR and the Indo-Pacific Oceans Initiative, India has demonstrated its intention to contribute constructively to regional ocean governance. As a leading maritime nation, India is well positioned to facilitate scientific cooperation, strengthen capacity building, support equitable access to marine resources, and promote a rules-based maritime order grounded in international law.

Ultimately, the BBNJ Agreement represents more than a legal instrument; it embodies a collective commitment to responsible stewardship of the oceans. Effective implementation in the Indo-Pacific will require governments, international organizations, scientific institutions, civil society, and regional organizations to work collaboratively in addressing shared environmental challenges. Such cooperation is indispensable for ensuring that marine biodiversity beyond national jurisdiction is conserved and sustainably utilized for the benefit of present and future generations.

7. AUTHOR(S) CONTRIBUTION

The writers affirm that they have no connections to, or engagement with, any group or body that provides financial or non-financial assistance for the topics or resources covered in this manuscript.

8. CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

9. PLAGIARISM POLICY

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