Blue Economy in the Indo-Pacific
The Need to Create a Cooperative Framework

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Abstract

Contemporary environmental challenges stress ocean, coastal, and marine ecosystems, impacting billions. Coastal regions, vulnerable to climate change, face rising sea levels and intense storms. To address these complexities, innovative solutions offering economic growth are crucial. The ocean economy contributes USD 2.5 trillion globally, supporting 3 billion livelihoods. Beyond traditional sectors, nations explore ocean-based renewable energy and marine biotechnology. Embracing the blue economy concept promotes sustainable use of ocean resources for social, economic, and environmental progress. It recognizes threats like plastic pollution and emphasizes interconnected ecosystems. As the Indo-Pacific adapts, redefining the blue economy becomes vital to align with sustainable development goals. This entails inclusivity, value creation, and sustainability, fostering regional collaboration for prosperity and sustainable development.

Near every country considers the Indo-Pacific region pivotal geopolitically, strategically, and economically. With nearly two-thirds of the global population, it is also exceptionally culturally diverse. Encompassing the convergence of the Indian Ocean, deemed the most crucial ocean in the twenty-first century, and the Western Pacific, home to numerous dominant and burgeoning economies, the region boasts maritime choke-points, extensive uncharted waters, and diverse economic and geopolitical dimensions, nurturing rapidly advancing global economies and promoting small island developing states. Consequently, competition for influence, if not outright control, over the region’s resources has intensified.

Coastal and marine ecosystems are vital for the economic, environmental, and sociocultural well-being of Indo-Pacific countries. However, debasement due to marine pollution has led to increased salinization, adversely affecting land quality, drinking water, and fish populations, resulting in coastal encroachment and inland salinization, and declining ecosystem health.

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Improper unsustainable methods have significantly reduced ocean reserves in certain regions, harming marine species and ecosystem integrity. Coastal habitat degradation has displaced species supporting artisanal and commercial fisheries, causing biodiversity loss and impacting millions reliant on these ecosystems.3 Urgent action is needed to protect marine and coastal ecosystems by implementing sustainable fishing practices, reducing marine pollution, and restoring habitats, critical for species preservation and community well-being.

Collaboration among countries is essential to counter climate change impacts. Clean energy sources and innovative technologies are needed to meet decarbonization targets, requiring aid for regional nations.4 A blue economy framework promotes sustainable use of oceans and inland water resources for social, economic, and environmental progress. Achieving economic growth while preserving the environment demands international collaboration. The region presents vast potential for economic advancement through the blue economy and partnerships to address shared threats, making collaboration within the Indo-Pacific context paramount for addressing these challenges collectively.

Understanding Blue Economy

The term blue economy has a disputed origin, with some attributing its creation to Gunter Pauli in 1994, while others trace it back to discussions during the 1992 Rio Earth Summit.5 It symbolizes the convergence of economic growth and environmental concerns, aiming to achieve a balance by emphasizing sustainable utilization of natural resources within various ocean-related economic activities.6 However, conflicting perspectives exist regarding the blue economy, with some prioritizing economic growth and others advocating for ocean conservation and protection.7 Despite garnering significant attention in policy and academia over the past decade, there remains ambiguity regarding its scope, as different institu-

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tions offer varying interpretations. Clarification is necessary to navigate these differing perspectives effectively.  

**Blue Economy in the Indo-Pacific**

The Indo-Pacific, spanning approximately one-fifth of the Earth’s total ocean area, extends from the southern tip of Africa to the Americas, encompassing various bays, seas, and straits. This region hosts a diverse array of nations, ranging from small island countries to continents, including dependencies and overseas territories of the United Kingdom and France.

Ocean-based economies within the Indo-Pacific are among the world’s fastest-growing sectors, boasting significant advantages in trade, port infrastructure, transportation, energy generation, fisheries, and tourism. However, escalating greenhouse gas emissions, rising sea levels, and extreme weather events pose substantial threats to these activities. Governments and international organizations are increasingly urging shipping companies to adopt energy-efficient practices and transition from conventional fuels to alternative sources.

Collaborative efforts among governments can facilitate the development of efficient blue corridors, albeit with potentially costly shifts for industries investing in alternative fuels and emission-reducing technologies to align with emission-free objectives. The Indo-Pacific represents a critical economic frontier, with the blue economy playing a pivotal role in global trade and fostering connections among people, countries, and cultures.

While nations have leveraged oceanic resources to bolster gross domestic product (GDP) and economic growth, concerns are mounting regarding rising sea levels and unsustainable practices. Developing nations are urged to provide solutions to these challenges rather than solely relying on developed countries, which contribute significantly to climate change.

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12 Rahul Tongia, “It is unfair to push poor countries to reach zero carbon emissions too early,” *Brookings*, 26 October 2022, https://www.brookings.edu/.
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Energy security, typically a domestic concern, is increasingly intertwined with foreign policy. Reliance on limited resources, particularly fossil fuels such as coal-based energy, poses challenges for countries heavily dependent on them, exacerbating concerns about greenhouse gas emissions.

Anthropogenic activities pose severe and undeniable threats to marine and coastal ecosystems. Despite the increase in marine protected areas (MPA) over the past two decades, which currently cover only a fraction of the world’s oceans, global and local stressors persist, causing destruction to critical marine habitats.\(^{13}\) Major infrastructure projects significantly contribute to the exploitation of maritime resources, pollution, and disruptions to terrestrial biodiversity, with devastating consequences for marine and coastal ecosystems.\(^{14}\) Frequent extreme weather events further compound these challenges, leading to population displacement and the emergence of climate refugees.

Small-scale fisheries are integral to the Indo-Pacific region’s economy, providing employment to an estimated 120 million people, with an additional 20 million in aquaculture. These fisheries support approximately 177 million individuals and sustain the livelihoods of roughly 600 to 820 million people.\(^{15}\) However, overfishing and exploitation have depleted fish stocks, significantly impacting fishing communities and fisheries, leading to reduced catches, economic hardships, and jeopardizing sector sustainability.\(^{16}\)

The term blue economy denotes an economic framework aiming to sustainably utilize and conserve freshwater and marine environments while driving economic growth and resource production, including food and energy. Globally, the blue economy’s importance is underscored by the fact that around 90 percent of internationally traded goods are transported by sea.\(^{17}\) The estimated annual market value of marine and coastal industries and resources stands at USD 3 trillion, approximately 5 percent of the global GDP.\(^{18}\)


Coastal regions in the Indo-Pacific benefit from favorable climate conditions conducive to various economic activities, including fisheries, aquaculture, and forestry, with mangroves playing a pivotal role. Coastal agriculture and forestry offer carbon sequestration benefits and significant contributions to coastal economies. However, the region faces challenges such as flooding, erosion, salinity intrusion, and rising temperatures. Chemicals used in agriculture negatively impact marine life and ecosystems. Additionally, coastal areas are vulnerable to ocean pollution, ship accidents, and oil spills. Forest ecosystems confront similar challenges, with inadequate inventories and conservation measures potentially sacrificing long-term benefits for short-term gains. Pollution and increased sedimentation from shoreline structures pose further threats, while ocean acidification resulting from greenhouse gas emissions presents a grave danger to marine life.

Climate-induced migration, also known as environmental refuge migration, refers to people relocating due to the adverse effects of climate change. Such migration can render individuals ecological or climate change refugees when crossing international borders, though their legal status remains uncertain. Moreover, climate change can trigger internal displacement within countries.

Displacement caused by climate change impacts social, economic, and political facets, disrupting regional economies and raising concerns regarding foreign security and diplomatic matters such as visas and residency status. Policy frameworks addressing climate-induced migration should be integrated into disaster management plans. Real-time data collection on displacement is essential for understanding its population impact and formulating effective regional policies.

In the Indo-Pacific, increased natural disasters due to climate change have significant geopolitical ramifications, affecting maritime boundaries and necessitating the identification of new shipping routes. Consequently, regional nations must establish cooperative frameworks, address legal ambiguities, and share information and technology to enhance maritime domain awareness (MDA) and expedite responses to emerging humanitarian assistance and disaster relief (HADR) situations.

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The blue economy objectives of the Indian Ocean region have sparked intense debates among politicians, academics, economists, and conservationists due to the region’s reliance on maritime resources. Coastal states grapple with environmental degradation, climate change effects, and marginalized coastal communities, posing a significant policy dilemma for leaders. Balancing conservation efforts with economic growth proves particularly challenging for small island developing states (SIDS) and local authorities in coastal communities. While some leaders prioritize climate action due to severe regional impacts, political pressure persists to exploit coastal positions for economic gains, potentially leading to long-term environmental damage.

The Need for a Cooperative Framework: The Indo-Pacific Oceans Initiative

Achieving blue economy objectives in the Indo-Pacific encounters challenges from both traditional and nontraditional threats. Cooperation among littoral states is paramount to advancing these goals, with the Indo-Pacific Oceans Initiative (IPOI) serving as a foundational platform for joint action. Ideally, subregional cooperation drives progress, complemented by extraregional assistance to bolster coastal states’ capabilities in combating illegal fishing, piracy, and prioritizing marine conservation efforts. However, geopolitical tensions, particularly between the United States and China and India and China, can impede collaborative efforts toward blue economy goals in the Indo-Pacific.

Nations in the Indo-Pacific must concentrate on establishing a unified framework for the blue economy by harmonizing various national initiatives. This collaborative platform would facilitate discussions and deliberations on the blue economy within the region, ensuring alignment with overarching regional interests. Given the presence of diverse regional organizations pursuing their agendas in this domain, the IPOI must prioritize the collective interests of the region concerning the blue economy.

The Indo-Pacific region, spanning the Indian and Pacific oceans, significantly influences global security and prosperity. While stakeholders strive for peace and stability, competition among powerful nations often results in alliance formations. The IPOI, spearheaded by the Government of India, builds upon New Delhi’s Security and Growth for All in the Region (SAGAR) initiative, fostering col-

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laboration among states to safeguard a secure and stable maritime domain while advocating for the conservation and sustainable use of marine resources.\(^{25}\)

The IPOI represents a global endeavor to tackle challenges within the maritime domain through pragmatic cooperation, aiming to establish new partnerships with like-minded nations through mutually beneficial collaboration. India’s prime minister, Narendra Modi, unveiled the initiative during the East Asia Summit in Bangkok in 2019, underscoring India’s commitment to upholding the existing global order and fortifying its relations with countries across Africa, Asia, and the Americas.\(^{26}\) India has actively engaged with potential partners to lead specific sectors within its seven pillars, all centered around the maritime domain. These identified pillars, each led by an Indo-Pacific country, encompass (1) maritime security; (2) maritime ecology; (3) resources; (4) capacity building and resource sharing; (5) disaster risk reduction and management; (6) science, technology, and academic cooperation; as well as (7) trade, connectivity, and maritime transport. While the vastness of the blue economy inherently integrates the seven pillars of IPOI, a road map is essential to align the IPOI with the overarching concept of the blue economy.

The concept of the blue economy underscores our economy’s significant reliance on the oceans and rests on three core principles. Firstly, recognizing the seas’ pivotal role in global economic activities.\(^{27}\) Secondly, acknowledging that environmental degradation is an unavoidable consequence of the Anthropocene era and undertaking measures to minimize its impact.\(^{28}\) Lastly, ensuring the sustainable extraction of resources from the oceans to prevent adverse environmental effects.\(^{29}\)

For the IPOI to effectively implement a policy for the blue economy in the Indo-Pacific, several key considerations must be considered:

First and foremost, ensuring the sustainable management of the marine environment and resources is imperative. Member countries of the IPOI must grasp the significance of oceans and their subsets, striving to manage resources and the environment sustainably. A comprehensive understanding of the oceans and their


subsets will empower IPOI member countries to assess their potential accurately and manage them appropriately through concrete actions:

- Building the capacity and capability of Indo-Pacific countries, facilitated by the IPOI, to adhere to international norms and standards, and enhancing the collection and sharing of fisheries data.

- Strengthening regional research and data-sharing partnerships to enhance observations in the Indian and Pacific oceans and coastlines.

- Gaining a better understanding of the marine sector’s market and nonmarket value, enabling stakeholders and decision makers to achieve sustainable, integrated marine management.

- Promoting sustainable management of activities in the marine environment within the Indo-Pacific to enhance the condition and productivity of marine and coastal ecosystems. Establishing an agreed-upon set of factors applicable to marine ecosystems and establishing a vital collection of variables to monitor and assess ecosystem changes in the region are crucial for ensuring the sustainability of the blue economy in the Indo-Pacific.

- Implementing the United Nations Environment Programme’s Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, which will encourage relevant Indo-Pacific economies to reduce land-based sources of marine pollution.

- Recognizing that the blue economy heavily relies on oceans and that the marine environment is delicate. A rise in marine invasive species threatens the livelihoods of coastal communities and the larger economy. Therefore, the IPOI must promote the ratification or adherence to various conventions and treaties (such as the Ballast Water Convention) by countries within the organization to prevent the introduction of marine invasive species in the Indo-Pacific.

Secondly, the blue economy relies heavily on marine resources. Thus, ensuring the sustainable management of these resources is essential for fostering a healthy and productive environment. To achieve this goal, the following points should be considered by the IPOI:

- Facilitating the adherence of Indo-Pacific economies to UNCLOS, UNFSA, FAO Compliance Agreement, FAO Code of Conduct for Responsible Fisheries, and effectively implement their provisions domestically and regionally.
• Enhancing the capacity of Indo-Pacific economies to develop and implement domestic conservation and resource management plans.

• Fostering a deeper understanding of the interaction between climate and fisheries in the Indo-Pacific region.

Thirdly, member economies of the IPOI must devise effective and practical measures to unlock the full economic potential of the ocean resources in the Indo-Pacific region. This entails fostering increased trade and liberalization across the region while simultaneously prioritizing conservation and sustainable management of living marine resources. To achieve this, institutional capacity building and technical assistance are essential, and can be pursued through the following avenues:

• Establishing an IPOI Aquaculture Network for the Indo-Pacific to enhance the traceability of marine products.

• Facilitating market access for industries, particularly small and medium enterprises (SME), across various product lines.

• Implementing international laws to promote the trade of fish and fish products while eliminating discriminatory practices.

Lastly, the vitality of the blue economy hinges on the health and productivity of oceans and coasts. Given the impact of anthropogenic climate activities and the escalation of natural disasters, it is imperative for IPOI members to acknowledge the necessity of prompt rehabilitation and reconstruction efforts to restore sustainable coastal economies across the Indo-Pacific. To mitigate the effects of future hazards and climate extremes on society, it is imperative to ensure that all future coastal development adheres to principles of sustainable management, disaster risk management, and integrated coastal zone management.

It is noteworthy that due to the vast size and diverse requirements of the Indo-Pacific, the implementation of the blue economy policy and its various components through the seven spokes of the IPOI will need to be tailored to accommodate the unique needs of different subregions within the Indo-Pacific. Failure to do so risks relegating the IPOI to just another among the many regional organizations in the area.

The Way Ahead

The Indo-Pacific region encompasses vast maritime interests that attract numerous stakeholders. It serves as a crucial economic powerhouse, contributing 62 percent to the global GDP and facilitating nearly half the world’s trade through
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its waters. While the region’s cultural diversity and growing population drive economic growth, it also grapples with geopolitical and geoeconomic challenges. Climate change poses a significant risk to the region’s stability, while rapid technological advancements bring both promise and peril. The adoption of a blue economy strategy is imperative for the area, albeit presenting challenges due to varying geographical pressures. Investment in fisheries and other sectors, improved access to basic amenities, and the effective implementation of sustainable ocean governance policies are pivotal for further regional growth.

Despite the presence of regional organizations, achieving consensus among them is crucial when implementing a regional blue economy strategy. The IPOI holds potential to enact the concept of a blue economy by leveraging resources, enhancing understanding of ocean governance, and carefully navigating decision-making processes to execute such a program accurately and efficiently. Fostering cooperation among countries in the region and identifying common ground is essential to bridging gaps in understanding and balancing the interests of member states within the IPOI.

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