

**Blue Economy in Pakistan, Potential, Challenges and Policy Framework**Sahib Jan¹¹ CRIMA, Minhaj University Lahore Email: sahibjan3207@gmail.com**Abstract**

The significant strategic maritime position of Pakistan at the mouth of the Persian Gulf and Arabian Sea with a 1050 km coastline of Sindh and Balochistan, an Exclusive Economic Zone (EEZ) of approximately 240000 sq.km and extended continental shelf area are significant factors and resources for increasing Pakistan's contribution in the field of blue economy. This maritime blessing, however, has made Pakistan's ocean-based industries a very small and yet untapped, as of now it accounts for 0.4% of GDP, when compared to other developing countries like Indonesia, Bangladesh and India, which have been more proactive in developing their Blue Economy. The paper discuss the existing potential, challenges and opportunities in the sector of oceanic economy for future national development. This study also presents an OCEAN framework, policy recommendations and initiatives to implement OCEAN framework which will work as practical instrument and tool to realize the potential of Pakistan's Blue Economy into the real economic benefits.

The current study explores and critically assesses the existing situation of the blue economy in Pakistan in terms of its economic potential, institutional and policy gaps, infrastructural limitations, technological gaps, and opportunities for sustainable maritime development. It also examines the disparity between the potential of Pakistan's vast ocean resources and their under-utilization in productive economic activities, jobs creation, investments, and national income. The proposed OCEAN framework creates a clear path to reinforce ocean governance, investment, maritime infrastructure, innovation and technology, human capital and capacity-building, and partnership-building between government, private sector, academia, coastal communities and international partners. The study also highlights the essential policy measures and tools needed for the successful application of the OCEAN Framework. The results offer a policy-related blueprint to realize the potential of Pakistan's coastal areas and better include the blue economy in the national development planning and long-term economic growth of the country.

Keywords

Blue Economy; Pakistan; Marine Resources; Maritime Development; Sustainable Development; Coastal Economy; Policy Framework; Ocean Governance

Introduction

The blue economy is defined by the United Nation as the sustainable use of ocean and coastal resources for economic growth, livelihoods and jobs in a way that ensures the health of ocean systems (United Nations, 2022). International community consider the blue economy mainly in three ways, economy addresses global water crisis, innovative development economy, and marine development economy (Wenhai et al., 2019). The key components of blue economy in Pakistan are fisheries and aquaculture, ports and maritime trade, coastal tourism, minerals and energy resources in sea. Pakistan's 1,046 to 1,050 kilometers long coastline, an Exclusive Economic Zone (EEZ) of about 240,000 square kilometers, and a strong geo-strategic position offer numerous opportunities in the fields of fisheries, maritime transport, offshore oil and gas prospecting, coastal tourism, aquaculture, shipbuilding, foreign investment, marine biotechnology, and the its ports located at the junction of the Arabian sea trade routes connecting the Persian gulf to the south and central Asia. Most studies, however, characterize an under-performing, neglected maritime sector' that only adds little to GDP

and is hampered by low level of governance, sea blindness, and poor policy coherence. Pakistan gets approximately one billion dollars annually from this endowment less than 0.5 percent of GDP, while the estimated potential is over a hundred billion dollars and a global average maritime contribution of seven percent of GDP. Apart from development statistic, it is a loss of a billion rupees every year, and a structural barrier to foreign exchange reserve. The performance gap in the blue economy and maritime sector is due to governance failure and institutional fragmentation that erodes five to six billion dollars annually from current account.

Pakistan is a low income economic country with less than 3 percent growth rate (Gul et al., 2021). Blue economy's potential in Pakistan, despite the fact having more than 1000 km long coastline with sea ports and Exclusive Economic Zone of about 240,000 sq. km with additional continental shelf area of about 50,000 sq. km, has been over looked (Hussain, 2022). This paper therefore brings together the existing literature on the Blue Economy at the global and regional level, and specifically in Pakistan, (i) pinpoints the key research and policy gaps that will have to be addressed in order for Pakistan to achieve a successful Blue Economy transformation, (ii) proposes an original governance framework, the OCEAN Framework, specifically adapted to the institutional and financial landscape in Pakistan, and outlines concrete policy recommendations, bankable project concept and the structural challenges that will shape the realization of the potential of the Blue Economy in Pakistan over the next 20 years.

Pakistan's untapped Blue Economy

1) Coastal Tourism

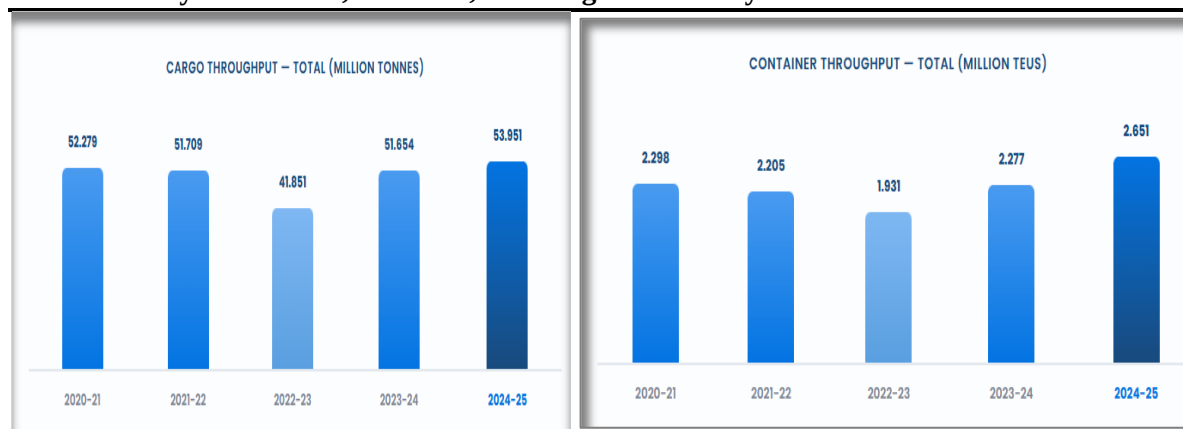
Coastal tourism is one of the most underdeveloped sectors of Pakistan with great potential along the coast of the Arabian Sea. The sea shore provides beaches, islands, mangroves, wetlands, marine biodiversity, coastal scenes, archeological sites and religious / cultural values. Important places are Clifton, Hawke's Bay, Sandspit, Manora, Mubarak Village, Churna Island, Kund Malir, Hingol National Park, Ormara, Pasni, Gwadar, Jiwhani, and Astola Island. These natural and cultural resources are recognized as significant opportunity for coastal and maritime tourism (Shahzad, 2020).

At present, however, the sector is characterized by local, and short duration, recreation tourism which has concentrated around Karachi and around accessible coastal areas as opposed to a proper, developed international coastal tourism sector. The main barriers mentioned in literature are less accommodation facility, less recreational facilities, poor connectivity, poor destination management, environmental degradation, security perception and less institutional coordination.

2) Geo strategic Significance:

The geo strategic position of Pakistan through efficient ports as Karachi, Gwadar and Bin Qasim serves as optimal route way for international trade. These ports are strategically situated on the banks of Arabian Sea and provide Pakistan with geographical edge in the confluence of South Asia, Middle East and Central Asia. The universal thirst for advanced ports infrastructure, as the global trade is on an upward trajectory, is rising that directly impacts the trade capacity and economic development. Advancement at ports through modern facilities not just develop the domestic infrastructure, coupled with, also bring the foreign investment, trade partnerships and boost the economy (Azam, 2025). Karachi port, the largest and busiest port of Pakistan, handle 60% of nation's maritime trade and has three terminal operators namely KGTL on East wharf, KICT on west wharf, an SAPTL on south wharf handle day to day activities.

The second largest and busiest port of Pakistan, Port Qasim, manages 89 million tons cargo yearly and serves 35% of nation's maritime cargo. The total imports of financial year 2024-25 increased from 35.033 to 37.735 million tones and exports increased slightly from 9.200 to 9.256 million tones (PQA, 2025). The geostrategic position of Gwadar port, third most important port of Pakistan, at the peak of the Persian Gulf rich with oil and also connect the South and Central Asia as well as Middle east by providing Trade routes (Naz & Ali, 2018). Gwadar is a potential trade hub for the region and the world. The port is the southern terminus of the CPEC, offering a quicker and more effective route for the Central Asian republics and China to access the world markets.



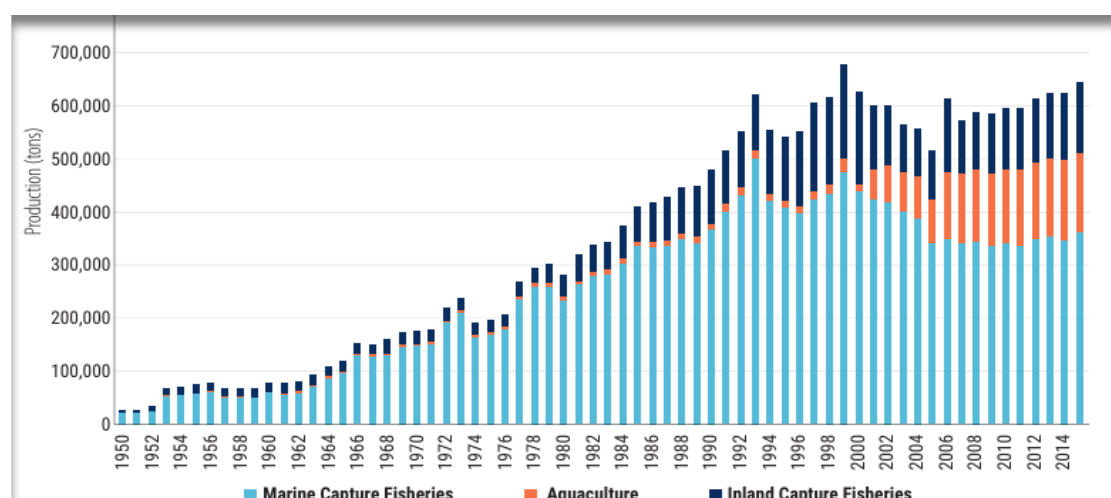
Source: Karachi Port Trust

Gwadar's strategic position makes it an important port for the trade of goods and transport of energy from the Middle East and the Gulf States, as well as its importance in the economic integration of the region, thus it is a pillar of Pakistan's Blue Economy.

3) Fisheries and Aquaculture:

Pakistan is the 6th most populous country in the world. Agriculture and fishing, as well as other livelihoods, form a significant part of the livelihoods of many households in the population and have a high dependency on these natural resources. Almost 360 thousand tons of fish were captured in marine fisheries and nearly 100 thousand tons in inland fisheries in the year 2015 less than 0.4% of GDP. Fisheries have a direct employment of 390,000 people and with the secondary jobs, estimated at 900,000 to 1,800,000 (Patil, 2018). The main fishing area are Karachi, Gwadar, Ormara and Pasni. The available resources in marine fisheries are Tuna, Shrimp, sardines, Lobster, mackerel and inland resources are included Rohu, Catla, Mrigal and Trout. Aquaculture farming is popular in KPK and Punjab among local investors.

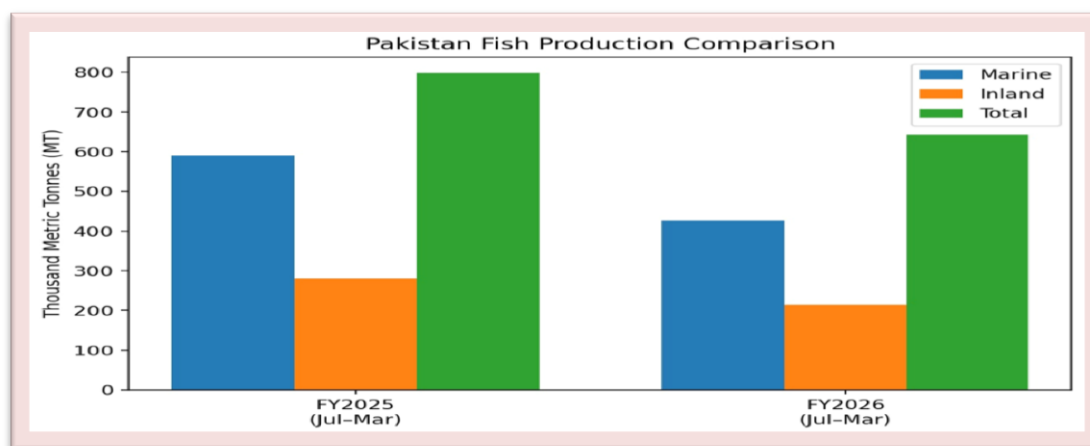
Pakistan's fisheries production from 1950 to 2015



Source: FAO, 2016

Aquaculture is the cultivation of aquatic organisms, considered as crops, such as fish, shrimp or shellfish for food, commercial, or conservation purposes. The fishing sector posted moderate growth rate of 1.66% in fiscal year 2025-26.

Although the contribution of the fisheries sector in GDP is still relatively small, it is very important in strengthening the national economy by contributing export revenues. This sector accounts for 1.29 per cent contribution in agriculture sector and its contribution to GDP is negligible 0.30 per cent. The aquaculture industry and fisheries are a significant source of jobs all over the world in 2018, aquaculture and fishing employed a record of 59.5 million individuals. The number of people employed in aquaculture increased to 20.5 million, and fisheries to 39.0 million, a slight increase from 2016. Almost 20% of the average per capita animal protein intake was obtained from fish by about 3.3 billion people. In 2017, fish consumption in total animal protein use was nearly 17% and 7% of all proteins used, respectively (FAO, 2026).



Source: Pakistan Economy Survey 2025-26

The fisheries sector had a significant drop in production during the first nine months of FY2026 as compared to the corresponding period of FY2025. The total fish production of the period July to March FY2026 was 642.18 thousand MT, which was 156.30 thousand MT lesser than the previous year (July to March FY2025). The marine fisheries production decreased by 163.30 thousand MT (27.7%) from 590.48 thousand MT.

Exports of Fish and Fisheries Products FY 2026 (July–March)		
Countries	Quantity (000 MT)	Value (US\$ million)
EU	1.97	9.1
Non-EU	198.0	396.0
Total	199.9	405.1

 Total Quantity 199.9 (000 MT)	 Total Value 405.1 (US\$ million)	 Major Market Non-EU 198.0 (000 MT)
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Source: Pakistan Economy Survey 2025-26

Fish production from inland fisheries, on the other hand, decreased moderately from 280.00 thousand MT to 215.00 thousand MT with a decrease of 65.00 thousand MT (23.2%). A total of 200 thousand MT of fish and fisheries products were exported out of Pakistan, major buyers are China, Thailand, UAE, Japan and Malaysia, for which the export revenues were estimated about US \$ 405.1 million (Ministry of Finance, 2026).

Policy gap and Challenges

Although Pakistan's maritime resources are vast and the Blue Economy sector is becoming a focus for economic diversification, employment creation, and sustainable development, the country has yet to develop a coherent and effective policy to harness its maritime potential and weak in governance, regulatory enforcement, infrastructure, environmental management, and federal–provincial coordination continue to inhibit the progress of the Blue Economy in Pakistan. Recent studies indicate that the real problem in Pakistan is not the scarcity of maritime resources, rather the lack of integrated governance and implementation mechanism which can help to turn these resources into sustainable economic value (Qureshi et al., 2026). The following key policy gaps are identified and discussed:

- **Legally Binding National Blue Economy Policy**

Pakistan has no finalized blue economy policy rather than a circulated draft for several years. Without formal cabinet approval and legal authority, no binding mandate exist which can force inter-ministerial coordination, dedicated budget line, and accountability mechanism. The policy about blue economy exists in theoretical way as a reference document rather than clear mechanism and operative framework. There is also a lack of an integrated policy framework that contribute as major hurdle in blue economy and ocean economic development (Akhtar, 2024b). Maritime activities governed by

multiple range of sectoral policies and institutions, with limited integration of fisheries, shipping, ports, aquaculture, marine tourism, offshore energy, marine biotechnology, environmental protection, and coastal development. The absence of one comprehensive and efficient Blue Economy framework creates institutional fragmentation, weak long-term planning and reduce sustainable maritime development.

- **Lack of National blue economy measurement framework**

There is no dedicated national Ocean Economy Satellite Account in Pakistan that is compatible with an international guidance framework for ocean accounting, namely the System of National Accounts (SNA) and the UN System of Environmental-Economic Accounting (SEEA) (Partnership, 2022). The country has not yet developed a comprehensive accounting framework to measure the economic value of ocean-related sectors (including fisheries, aquaculture, shipping, ports, marine tourism, etc.) and connect these sectors with condition and value of ocean natural resources such as blue-carbon systems. The OECD has also emphasized the need to build satellite accounts to enhance the ability to measure economic activities in the ocean and to provide better evidence and data for ocean policies (Jolliffe et al., 2021). In the absence of valuation of fisheries, tourism, shipping and blue carbon stocks as baseline value, policymakers will not be able to effectively priorities investment and measure contribution of Blue Economy GDP over time.

- **Human capital and marine science research gap**

Pakistan's marine scientific and human-capital capacity is also relatively small and institutionalized, with limited institutions offering multidisciplinary oceanographic research and academic and postgraduate training programs. Although institutions are providing training in various emerging fields of ocean economy, less institution were present in the commercially important fields like marine biotechnology, ocean renewable energy, marine robotics, advanced ocean observation, blue-carbon science, and marine data analytics. This evokes a human-capital and innovation deficit in the blue economy of Pakistan. Thus, Pakistan requires more interdisciplinary programs, robust national research programs, opportunities for competitive research funding, modern laboratories, ocean-observation infrastructure, and increased cooperation between the universities, government research institutions, industry and international research institutions.

- **Unsustainable environmental governance**

The policy gap is not just in the field of environmental law, but also in its implementation, monitoring, port reception facilities, waste management, and enforcement. Sustainability of the Blue Economy is at risk due to marine pollution, plastic waste, untreated wastewater, oil pollution and coastal degradation (Mingfei et al., 2026). Pakistan's fisheries resources are limited due to overfishing, environmental degradation, limited monitoring and weak fisheries infrastructures. There must be a change from the traditional increment of fish production to the more new concept of ecosystem-based fisheries management. The studies reveal that, aquaculture is one sector in Pakistan which is still under-prepared. While aquaculture offers enormous possibilities for food security, employment, exports and rural/coastal development (Qureshi et al., 2026b). The country need to develop integrated planning, investment, technology, biosecurity research and value-chain development to grow a competitive aquaculture industry.

Apart from these, country now facing enormous challenges in blue economy sector including lack of blue investment and private sector participation, security issues, climate and coastal resilience challenges, Weak Value Addition and Export Oriented Development.

Discussions:

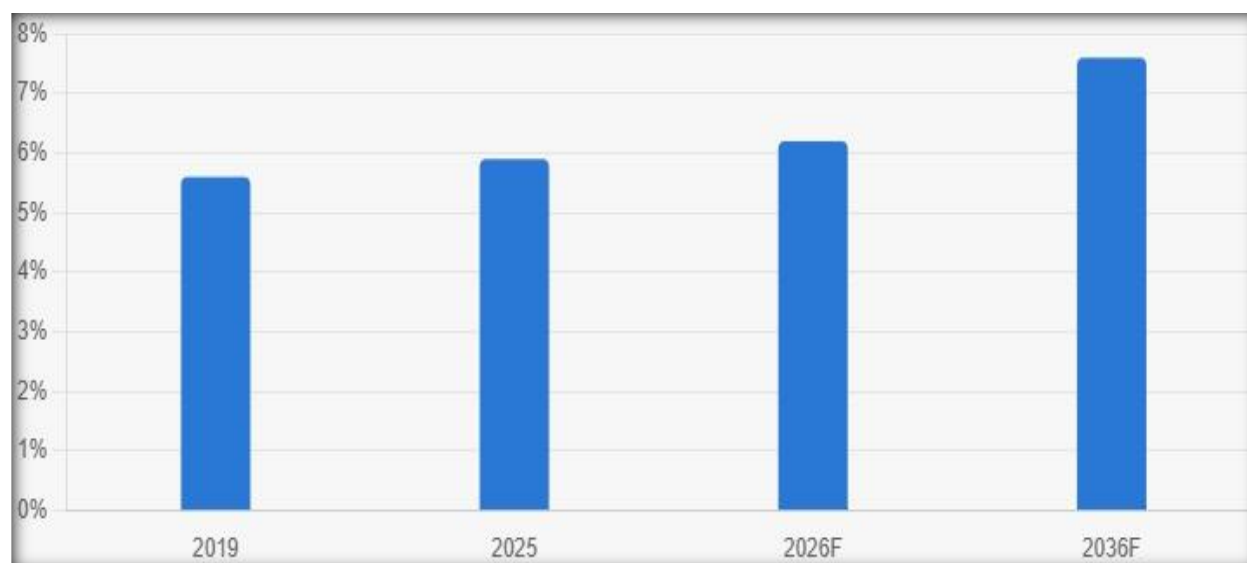
- **Travel and Tourism:**

The total travel and tourism contributions in Pakistan's economy was about PKR 7.0 TN or USD 25 BN in 2025 slightly up of 5.6% in 2019 and expect to rise 6.2% in 2026 and **7.6% by 2036**. In which, the direct contribution was only about PKR 2.2 TN, 1.8% of total GDP. The travel and tourism created jobs of 4.7 million of which direct jobs are only 1.37 million. The foreign tourist spending fell down 4.8% in 2025 and the international spending is only 5.9% while 94.1% is domestic, contributed to the worst globally growth rate economy ranked 164 out of 180 economies (world travel and tourism council , 2026).

According to Hall (2001), nautical tourism is defined as tourism linked to recreational boating and navigation, while Luković (2013), encompasses marine recreational activities such as recreational boating, marinas and charter services, cruising, etc. Nautical tourism where sea and water based

activities are the main source of attraction, can play an important segment of Pakistan's blue economy. Sailing and recreational boating could be one of the most accessible modes of nautical

T&T GDP share of Pakistan economy



Source: Travel and tourism Economic Impact Research, 2026

tourism around Karachi, Gwadar, Ormara and few selected coastal regions of Balochistan. Yacht and sailing clubs might provide short coastal cruises, sunset cruises, sailing instruction, and organize recreational boating. Due to the size of its population and the presence of maritime infrastructure, Karachi might be considered as the initial tourist destination, but Gwadar could be a future destination for higher-value sea tourism. Churna Island off Karachi has a particularly high potential for scuba diving and snorkeling and other appropriate marine sites may be determined along the Makran coast. These activities may draw domestic and international visitors who are keen on marine biodiversity. However, Pakistan is not only to promote mass tourism, it has to create diving rules, certified instructors, diving zones, carrying capacity limits and environmental monitoring.

An advanced opportunity is the development of marina-based tourism. There is no developed system of International standard marinas in Pakistan where people can anchor yachts, get repair and maintenance services, get fuel, eat and spend the night. A timely new marina in Karachi and another marina development in Gwadar area based on the strategy of tourism could be the starting point of a national nautical tourism network. Sport and recreational fishing may be promoted in suitable stretches of the coastal areas of Sindh and Balochistan. Instead of unregulated fishing, Pakistan might consider implementing catch-and-release sport fishing, licensed operators, seasonal restrictions, and species protection measures. Khokhar et al. (2024) found that key factors that positively affect the growth of the Blue Economy include business sustainability, top management support, and enabling innovation structure. Pakistan need to adopt a more realistic strategy to develop a large scale coastal tourism that can be achieved in four phases mentioned below. By adopting these strategy, Pakistan can develop Nautical based tourism to boost economy and national development.

- **Ports potential and development**

The significant commercial ports including Karachi Port, Port Qasim, and Gwadar Port of Pakistan can contribute collectively as the backbone of the country's Blue Economy, but each has a unique strategic role. KPT and Port Qasim are serving as countries' commercial gateways, while Gwadar port has capacity to play long-term role in blue economy in various perspective deep-sea transshipment, regional connectivity, and industrial hub. Research on Gwadar discovers maritime transportation, fisheries, coastal and marine tourism, and offshore resources as key components of its Blue Economy, and the broader research on Pakistan's maritime sector identifies the measures to integrate these sectors rather than develop them in isolation (Khan et al., 2025).

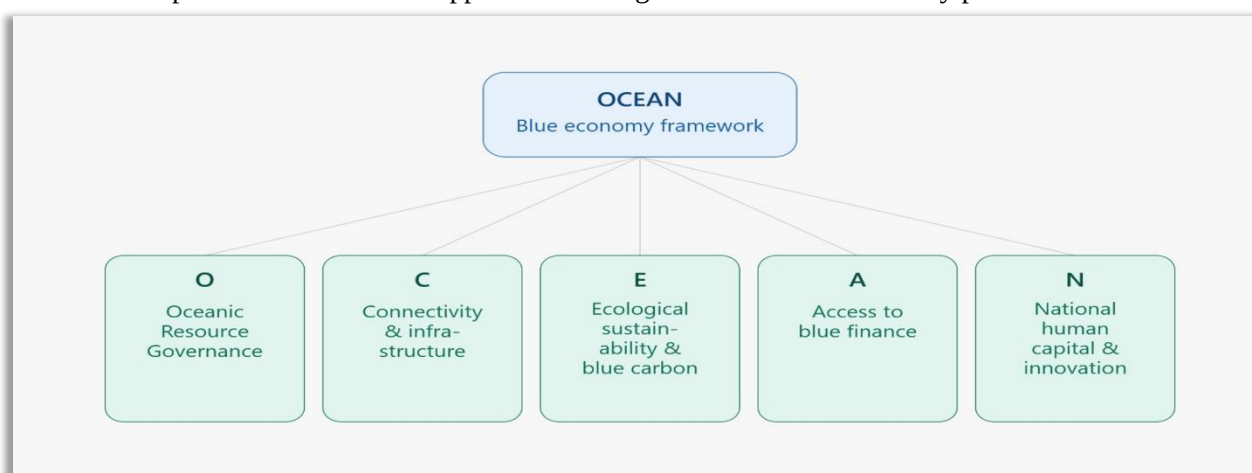


- **International trade and logistics engines**
 Maritime trade networks research indicates that stronger integration into global shipping networks improves countries' access to international markets and trade opportunities (Xu et al., 2020). The foremost important step of Pakistan's ports is to reduce the cost and time of international trade. As a highly dependent economy on imports and exports, Pakistan's ports directly affect the competitiveness of Pakistani products. KPT and Port Qasim need to develop logistics hubs, bulk, liquid-cargo, and more efficient container, on the other hand, Gwadar can gradually contribute as transshipment and regional trade. The strategic importance of Pakistan's ports near Arabian Sea and closely linked to major East–West maritime routes is very important. However, Pakistan need to take step for efficient road and rail links that connect the ports with industrial and agricultural centers. Gwadar port connects Pakistan to Afghanistan, Central Asia, and potentially western China.
 - **From port to the idea of a port-led logistics ecosystem**
 Pakistan needs to shift from the concept of a **port** to the idea of a **port-led logistics ecosystem**. The idea can be implemented by developing inland container depots, dry ports, bonded warehouses, cold chains, distribution centers, freight villages, customs facilities, and multimodal transport connecting **sea + road + rail**. Karachi and Port Qasim need to integrate with Pakistan's industrial and infrastructure and agricultural supply chains, while Gwadar should expand and need to connect with western and Central Asia routes as well as the regional markets. The port performance cannot be judged only by the number of berths or cranes, the entire logistics chain from ship arrival to customs clearance and final delivery determine competitiveness. Recent comparative analysis indicates that compared with leading regional hubs, Pakistani ports are weak and have poor structure in hinterland connectivity and fragmented digital gate processes (PIDF, 2026).
 - **Gwadar as a regional connectivity and transshipment hub**
 The strategic importance of Gwadar, despite the fact that it also facing the challenges, gives it potential to contribute as a gateway for regional trade, transshipment, logistics, and industrial activity. The long-term vision should be to connect Gwadar with Afghanistan, Central Asia, and western China, rather than viewing it merely as a port serving Pakistan's domestic cargo (Sattar et al., 2023). Gwadar has significant untapped potential in Blue Economy and major opportunities exist in maritime transportation. CPEC strategy also highlighted positioning Gwadar as a trade hub connecting Central Asia, the Gulf, and Africa. However, this will remain limited without strong transportation structure, developed road and rail connectivity, water and energy supply, security, efficient customs procedures, and investment participation of government and private-sector sectors.
- Ports can also play a significant role in as industrial and manufacturing clusters and need to expand investments in Special Economic Zones, warehousing, packaging, export-processing zones, ship repair, marine engineering, and value-added manufacturing. Pakistan's ports can also contribute

as energy hubs by handling LNG and LPG, petroleum storage, offshore energy supply chains, renewable-energy equipment, and potentially green-fuel bunkering. Pakistani ports need to become efficient for alternative marine fuels and cleaner port operations as shipping and maritime trade globally continuously moves toward decarbonization. Pakistani government now also highlighting the potential in policies to modernize all major ports through, digital systems, cleaner cargo equipment and alternative-fuel infrastructure.

Proposed OCEAN framework

On the back of the challenges and policy gaps highlighted above, Pakistan needs to develop a comprehensive and integrated policy framework for a Blue Economy that can harness enormous maritime potential for sustainable development, socio-economic development, job creation, and environmental resilience. The proposed OCEAN framework aims at filling the gaps identified in institutional, regulatory, economic, environmental and capacity aspects by a coordinated multi-sectoral and implementation oriented approach. It is organized around these 5 key pillars:



Policy Recommendations

The recommendations are based on OCEAN framework which can provide a pathway towards blue economy development in Pakistan.

- **Ocean Resource Governance (O)**

The government should introduce the National Blue Economy Act to establish a dedicated Blue Economy Authority, in the short term (1-2 years), with statutory coordination authority to all entities working in the maritime sector, such as the Ministry of Maritime Affairs, maritime sector departments at the provincial level and relevant port authorities, including the Gwadar Port Authority. Authorities need to initiate a pilot National Ocean Accounts initiative to establish a comprehensive measure of the economic value of significant ocean-related sectors (e.g., fisheries, tourism, shipping, and aquaculture) and ocean natural assets (e.g., blue-carbon ecosystems) over the same time frame, consistent with the UN SEEA (System of Environmental-Economic Accounting) and Ocean Accounts principles.



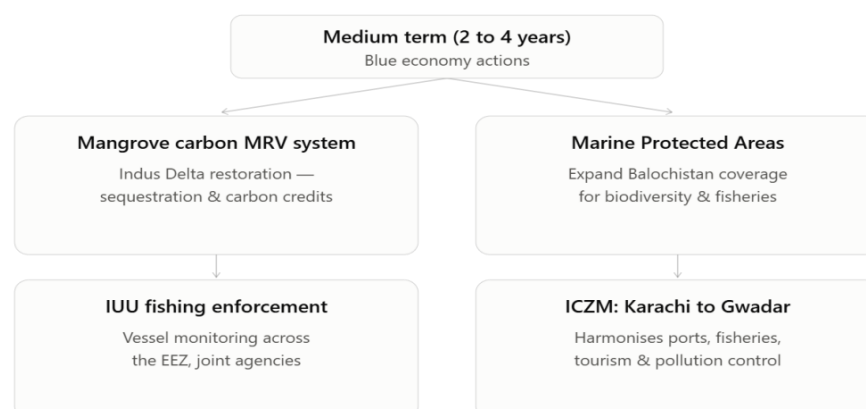
The medium-term (2–4 years) recommendation for Pakistani government is to shift from the current effective open access governance of fisheries in Sindh and Balochistan to a science-based, transferable quota management system with effective monitoring and enforcement based on satellite-based Vessel Monitoring Systems (VMS).

- **Connectivity and infrastructure development (C)**

Before moving into further substantial capacity development, Pakistan needs to invest in the development of hinterland connectivity and logistics infrastructure of Gwadar Port. To overcome the connectivity and demand-side constraints, which has hampered the commercial use of the port, the improvement of road and rail linkages with Makran Coastal Highway, CPEC transport corridors, and major domestic markets would help. Simultaneously, a dedicated logistics corridor for the fish cold chain and processing should be established between Karachi and Gwadar, as well as the coastal areas of Balochistan, allowing for efficient seafood landing, storage, processing and transportation, and promoting value addition and export competitiveness. The Gwadar Free Zone could also be expanded into an industrial zone for the Blue Economy, which would include port and logistics, seafood processing, aquaculture related industries, marine biotechnology, and, in the future, marine renewable-energy technologies production and servicing. This holistic integration would enable the development of Gwadar beyond the confines of a traditional port to establish it as a comprehensive center for maritime trade, fisheries value chain, and emerging industries in the 'Blue Economy.

- **Ecological sustainability (E)**

In the medium term, government need to develop a strong Measurement, Reporting and Verification (MRV) mechanism for restoration of mangroves in the Indus Delta to measure carbon sequestration and facilitate the development of credible blue-carbon projects in the voluntary carbon markets.



There is a need to enhance the proportion of the Balochistan coast under Marine Protected Area (MPA) coverage and its efficient management to protect marine biodiversity and sustainable fisheries and tourism along the Balochistan coast. Enforcement assistance of enhanced vessel monitoring and coordinated efforts by the fisheries and maritime security agencies to eradicate illegal, unreported and unregulated (IUU) fishing in the Exclusive Economic Zone (EEZ) of Pakistan. The Integrated Coastal Zone Management (ICZM) approach from Karachi to Gwadar should be adopted for the proper coordination of port development, fisheries, tourism, coastal conservation and pollution control.

- **Access to blue finance investment (A)**

A sustainable Ijarah or Wakala based Blue Sukuk should consider issued by State Bank of Pakistan or the Gwadar Port Authority, and the proceeds should be kept within a dedicated fund for Blue Finance for sustainable modernization of the port, marine infrastructure and restoration of mangrove forests. The model can learn from the blue and green Sukuk success stories from overseas, such as Indonesia and Seychelles, and utilize the current framework of government Sukuk issuance in Pakistan. Authorities should also explore blended-finance options with the World Bank's PROBLUE program and the Islamic Development Bank green facilities and blue financing facilities to mitigate risks to investments and mobilize private investment for early stage projects of the Blue Economy. A specific Blue Economy Public-Private Partnership (PPP) mechanism with harmonized risk sharing and financing mechanism should also be established to promote private funding for maritime and coast infrastructure.

• **National human capital and innovation (N)**

The country needs to build its human capital base for the Blue Economy and create a dedicated funding mechanism in marine sciences, oceanography and marine biotechnology under the aegis of the HEC and increase research capacity in the emerging field. The potential of offshore wind and tidal energy should also be studied in detail by the National Institute of Oceanography, which should be supported for conducting a detailed feasibility study along the coast of Sindh and Balochistan.

Project	Sector	Rationale / notes
Gwadar Deep-Sea Fishing Harbour & Cold-Chain Park	Fisheries	Combines catch landing, processing, and cold storage to raise export value addition.
Indus Delta Blue Carbon Project	Blue Carbon	MRV-backed mangrove restoration monetised via voluntary carbon markets.
Balochistan Coastal Eco-Tourism Corridor (Ormara-Pasni-Jiwani)	Tourism	Beach and eco-tourism infrastructure with strict environmental safeguards; currently near-zero base.
Offshore Wind & Tidal Feasibility Programme	Renewable Energy	First systematic feasibility study for Pakistan's coast.
Gwadar Free Zone Blue Economy Cluster	Multi-sector SEZ	Integrates port services, fish processing, and future marine-renewable manufacturing under one zone.
National Ocean Data & Digital Mapping Centre	Data Infrastructure	Centralised EEZ resource mapping and ocean accounts data platform.
Sustainable Mariculture Park (Sindh coast)	Aquaculture	Shrimp/finfish aquaculture to diversify beyond wild catch; reduces overfishing pressure.
Blue Sukuk-Financed Karachi Coastal Protection & Port Upgrade	Blue Finance / Infrastructure	Pilot Islamic blue financing instrument; directly operationalises Pillar A of the OCEAN Framework.

Vocational and technical education training program should be expanded for coastal communities in aquaculture, cold-chain handling, seafood processing and eco-tourism, which will help to seek alternative livelihoods and decrease the reliance on open-access capture fishing. To implement OCEAN framework, there are several projects, offering a viable path towards implementing the Blue Economy policy into practice.

Along these projects, shrimp aquaculture project also need to be implement. The saline groundwater areas of Pakistan contain millions of acres of land unsuitable for conventional agriculture, millions of smallholder fish farmers struggling in carp low margin fisheries and hydraulic conditions for high value inland shrimp aquaculture. Government need to develop a project that transform structurally weak freshwater fish production systems (on saline and brackish land) into bio secure, digitally managed and export-driven shrimp production. It can be implemented through a three-partner consortium specifically designed to have a systemic and lasting impact, rooted in local academic and extension capacity, engaged with global supply chains, supported by the latest in digital infrastructure and organized for national replication. The project needs to put in action first on small level to proof the concept and then later can be developed in to full scale. The idea will not only expand the small level business but also promote digital use, women empowerment in rural areas and further lead to small scale farmer business development. This project had already been proposed by the Pakistan Climate-Resilient Aquaculture Consortium and need to implement for aquaculture development. These initiatives will perform practical instrument and tools for realizing the potential of Pakistan's Blue Economy into real economic benefits.

Conclusion:

The estimated potential of Pakistan blue economy around US\$100 billion while the current contribution of maritime resources and related activities is around US\$1 billion. The Blue Economical potential of Pakistan is not a mere dream, it is as good as other countries including Indonesia, Korea who have advanced significantly in implementing it. There is no resource limits, rather institutional fragmentation, lack of a formal mandate, poorly developed blue finance tools and a limited data/research base, all of which can be tackled with conscious policy decisions rather than new physical discoveries. The OCEAN Framework suggested here is a sequence of reforms such that the investments in the following domains are not sequential but synergistic and complement one another: governance, infrastructure, ecological, financial, and human-capital investments, with Pakistan's Islamic finance market infrastructure having the potential to provide a genuine and underutilized comparative advantage especially in the blue finance segment. This difference in the rhetoric of Blue

Economy and its contribution to GDP has been standing for about 20 years, making the current blue economy policy available on par with its rhetoric in terms of legislation as the initial step, non-negotiable, is needed to close this gap.

Recommendations:

Based on the OCEAN framework, here are some recommendations to overcome the Blue Economy challenges in Pakistan.

- **Develop a Comprehensive National Blue Economy Policy (O)**

Make the circulated draft a policy with a budget line, designate lead agencies and make for Parliament's annual reporting, to make it an operational framework, and not a reference document.

- **Federal-Provincial Co-ordination and Marine Spatial Planning (O)**

Establish a National Blue Economy Council comprising members from Sindh and Balochistan; Develop a marine spatial plan for EEZ which will include a marine spatial framework of zone for fisheries, shipping, energy production, tourism and conservation, with Karachi–Indus Delta and Gwadar–Jiwani pilots.

- **Port Efficiency and Digitalization (C)**

Release the performance indicators for Karachi and Port Qasim on an annual basis (for turnaround, dwell time, gate time) and integrate the Pakistan Single Window, customs, terminal systems and booking of trucks and rail in one port community system to eliminate fragmented gate processes.

- **Indus Delta Flows and Pollution Control**

Ensure minimum environmental flows downstream of Kotri to facilitate mangrove restoration and mandate effluent treatment, MARPOL compliant port reception facilities and a national plan on marine litter.

- **Blue Finance Taxonomy and Project Preparation (A)**

Determine what activities can be considered as "blue", so as not to have the Blue Sukuk project "blue washed" and create a project preparation facility to make the proposed projects bankable.

- **Islamic Blue-Finance Instruments (A)**

Increase mapping of Shariah-compliant tools to blue sectors: Ijarah (vessels and cold chain equipment), Salam (pre-harvest aquaculture finance), micro-Takaful (finance for fishers and farmers), and Cash Waqf (mangrove restoration).

- **Evidence-Based Fisheries Recovery**

The marine production declined by 27.7% during July–March FY26. Order an independent diagnosis of cause; provide for regular stock assessments and e-logbooks; and implement spawning season closures with compensation for livelihood and gear reform.

- **Coastal and nautical tourism**

Implement the four-phase roadmap as a national scale plan; conduct license for diving, boating, sport fishing operators, and introduce Public-Private Partnership with a Karachi marina pilot.

- **Research, Skills and Ocean Literacy (N)**

Create a National Institute of Oceanography-based blue economy research centre, increase certified skills training in the maritime and aquaculture sectors and integrate ocean literacy in curricula to overcome sea blindness.

- **Maritime Domain Awareness**

Create a single operational picture of Pakistan Maritime Security Agency, Navy, fisheries, customs and port security to enable IUU monitoring, maritime and port security.

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