

## **Blue Economy of Maritime Nations in South Asia: Challenges and Prospects**

**Fatima Faran**

M.Phil Scholar, Political Science Department, Kinnaird College for Women,  
Lahore, Pakistan.

**Khushboo Ejaz**

Assistant Professor, Political Science Department, Kinnaird College for Women,  
Lahore, Pakistan.

Email: [khushboo.ejaz@kinnaird.edu.pk](mailto:khushboo.ejaz@kinnaird.edu.pk)

### **ABSTRACT**

The blue economy is the development of sustainable economic growth preserving the marine ecosystem. The concept of a blue economy emerged after the UN Rio+20 conference held in Rio de Janeiro in 2012. South Asian maritime nations are facing serious economic problems. They all have excessive oceanic resources and different maritime economy sectors like shipping, coastal tourism, fishing, etc. This research explores the challenges which are associated with these maritime economy sectors of South Asian littoral states. This study also intends to find out the possible options available to earn more through the maritime sectors to improve their current social and economic conditions. A case study design has been used in this research. Interviews have been conducted from maritime experts for this case study. India is the largest South Asian country in terms of population and technological advancements. It is investing a lot in the tourism and shipping sector to become a strong blue nation. Pakistan's blue economy sectors have vast potential, but there is a need to formulate favorable policies and considerable investments to utilize all these resources. Bangladesh is putting positive efforts toward sustainable development in the coastal tourism, fishing, and shipping sectors. Maldives is famous for the best beaches and tourist destinations. Sri Lanka's maritime economy sectors have faced many ups and downs, which affected her blue economy growth. This research concludes that the future of maritime South Asian states is related to the development of the blue economy. All these littoral states should work together and find out strategies for regional development.

**Keywords:** Blue Economy, South Asian Maritime States, Sustainable Developments, Challenges, Prospects

### **Introduction**

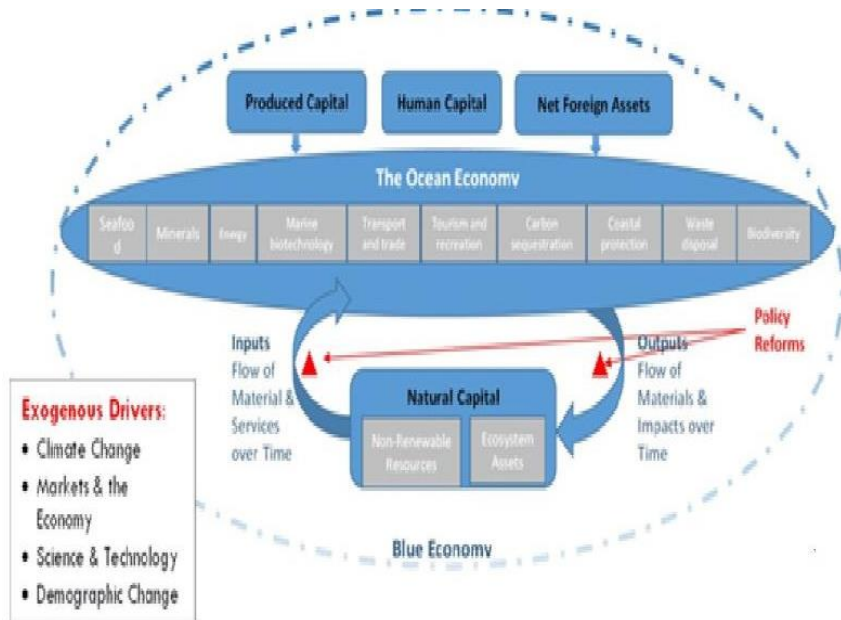
Sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of the ocean ecosystem is called the blue economy (World Bank). The blue economy includes different sectors like shipping, fisheries, coastal tourism, aquaculture, marine biotechnology, shipbuilding and repair, renewable energy, maritime transport, mineral resources, and offshore oil & gas. The 21<sup>st</sup> century is the century of the blue economy.

The South Asian region includes India, Pakistan, Bangladesh, Sri Lanka, Maldives, Nepal, Bhutan, and Afghanistan but only five countries like India, Pakistan, Bangladesh, Sri Lanka, and Maldives are maritime nations. They all have social, political, and economic importance due to the huge population and consider the axis of world trade. This region is facing multilateral socio-economic and political challenges. In this context, the blue economy offers directions to mitigate the problems (Alharthi & Hanif, 2020).

### **Conceptual Framework**

According to World Bank (2017), “the Blue Economy concept seeks to promote economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring environmental sustainability of the oceans and coastal areas. At its core, it refers to decoupling socio-economic development through ocean-related sectors and activities from environmental and ecosystem degradation. An important challenge of the Blue Economy is thus to realize that the sustainable management of ocean resources requires collaboration across nation-states and the public-private sectors, on a global scale”.

The blue economy deals with economic activities that focused on trade from rivers to oceans, ensuring environmental sustainability. The economy expands far away from ports and terminals to fishing, coastal tourism, transportation, renewable energy, and marine biotechnology (Hussain et al., 2019).



## **Different Sectors of the Blue Economy of Maritime Nations of South Asia**

Pakistan is an important coastal state, positioned at the center of the Indian Ocean. Pakistan also provides alternative sea access to China, Afghanistan, and, Central Asian states. The country has a 1000 km long coastline and about 240,000sq.km EEZ area. Pakistan's maritime sector is generating only 0.4 % of its GDP, which is very low. The current GMP of Pakistan is just US\$ 1.5 billion as compared to India and Bangladesh's GMP which is US\$ 6billion and 5.6billion respectively (Nawaz, 2021).

India is located in the southern part of Asia. It covers 2 million square kilometers of EEZ area. It has a unique maritime location because the country has 29 coastal states, 1,382 islands, and 199 ports including 12 major ones that handle around 1,400 million tons of cargo each year (Patel,2019).

Bangladesh's location is on the Bay of Bengal to shares a border with India from all sides other than a small border with Burma. The blue economy concept started in Bangladesh after the accommodation of the maritime boundary dispute with Myanmar and India. The country has a sea area of about 12 nautical miles and covers 200 nautical miles of EEZ area and over 354 nautical miles of seabed resources (Roman,2021).

Sri Lanka is present in the middle of the Indian Ocean. It is a small island nation and maritime territory. According to The Maritime Zone Law 1976, Sri Lanka's Exclusive Economic Zone area extended to 200 nautical miles and the coastal area constitute 23% of the land area (Ranasignhe,2017). The Maldives is a landmass of about 1,200 coral islands that covered a 90, 000 km<sup>2</sup> area in the center of the Indian Ocean. The country has an (EEZ) area of 200 nautical miles from the baseline (Adam, 2004).

### **Rationale**

Due to globalization, international trade has increased. But most of the South Asian littoral states has not a vast blue economy, rather than they are densely populated and have rich oceanicresources, which are untapped. There is a need to study problems and challenges faced by South Asian maritime nations.

### **Statement of Problem**

Five out of eight South Asian countries are maritime nations. These nations are facing many challenges in terms of the blue economy.

### **Research Objectives**

- To identify the major sectors in the blue economy of maritime nations in

South Asia

- To highlight the role of the blue economy and the maritime achievements of these South Asian countries
- To analyze the South Asian nation's maritime challenges and suggest the options that are available to get benefits from seas and oceans

## **Research Questions**

- What are the major sectors in the blue economy of maritime nations in South Asia?
- What is the role of the blue economy and are the maritime achievements of these South Asian countries?
- Which challenges the South Asian maritime nations are facing and suggest the options that are available to get benefits from seas and oceans?

## **Literature Review**

### **Blue Economy of South Asian Maritime States**

Asghar (2019) focuses on Pakistan's investment, profits and achievements are gaining from different maritime sectors. A new deep water container port in Karachi, a coal handling terminal, and two regasification terminals all are functioning at Bin Qasim port. Due to this, The Gross Marine Product (GMP) increased in 2019 to USD1526.94 million (242.78 billion PKR).

Khrbey (2019) stated that Pakistan's cargo transportation has been done via Dhows for many years in history. Pakistan imports machinery, motor vehicles, electronic equipment, and general items from UAE, Kuwait, Muscat, and Somalia through Dhows. More than 20 companies had been operating in the past, but now only three trading companies M/s Noor Sons, M/s Al-Faizan, and Lateef Trading Company are interested in Dhows business. Now it's an industry in which thousands of people are engaged. The cities of Karachi like Ibrahim Haideri, Younisabad, Machar Colony, and Gwadar are famous for building boats. Pakistan's boat-building companies have decreased fishing boat demands due to some reasons such as continuous use of over-aged vessels, higher port charges, poor facilities especially washrooms, and no fresh water supply line available at the jetty.

Alam (2019) explained that the fisheries sector is very important for Pakistan's national economy. It employs about 500,000 fishermen directly. Almost 20,000 fish-catching boats are operating in offshore areas of Pakistan. It has the capabilities to export fish valued at US\$ 500 million, which remains unused due to government ignorance and lack of modern techniques. Pakistan ranks third in the shipbreaking industry in the world. In the 1970s Gadani was

### *Blue Economy of Maritime Nations in South Asia: Challenges and Prospects*

one of the most economical and biggest shipbreaking yards in the world. Now Karachi Shipbreaking Company is working at Gadani. It has the competency to achieve 9.8 million by dismantling 100 plus normal-sized vessels. Due to the increasing energy demands, maritime resources could play an important role in generating renewable energy in Pakistan. Pakistan's potential in wave energy is low as compared to solar and tidal energy. The wave energy potential is 10KW per meter and solar energy has a 2.9 million MW potential.

In (2019) researcher emphasized that Coastal tourism and water sports can increase the maritime nation's economy only the Maldives is gaining benefits from these sectors. Pakistan's coastal tourism contributes just \$ 0.314bn whereas the capacity is about \$4bn. Pakistan ranked 24<sup>th</sup> worldwide regarding mangroves area, which covered 160,000 hectares area. Pakistan should utilize this mangrove forest for capacity building.

"Blue Economy Policy" (2020) Pakistan's Prime Minister Imran Khan appreciated the Maritime Affairs Ministry for completing the "Blue Economy Policy" for strengthening the shipping sector and employment generation. "The government would control all problems and make its efforts to utilize the potential of the blue economy," said Maritime Affairs Minister Ali Zaidi. He said that "currently, Pakistan's fish and seafood exports are limited to \$450 million only, but it can be enhanced to \$2-2.5 billion if we have a proper deep sea fishing policy." He further included that the deep sea fishing policy has been finalized, it will provide benefits to investors as well as the government, provide support to the fishing communities and show transparency.

In (2021) the study explained that the maritime sector is the base of our national economy. The National Shipping Corporation (NSC) had established in 1963 and 1971 as the golden period for Pakistan's merchant shipping. The fleet strength turns after Bangladesh's separation and stands at 57 from 71. Pakistan National Shipping Corporation has revamped its surplus despite melancholy shipping conditions and earned Rs 2,558.2 million in 2011.

Mehmood (2021) pointed out that the World Bank report on the blue revolution in the country will help to manage the marine resources for social and economic benefits. Balochistan government has provided interest-free loans to the fisheries sector for its progress. Moreover, Pakistan's government under the "Ten Billion Tree Tsunami Project" would plant 43.5 million mangroves to better economic conditions. To determine the oil and gas resources Pakistan's oil companies have started joint drilling near Karachi Indus G-Block. Saudi Arabia has offered to build a 10-billion-dollar oil refinery port in Gwadar. The Saudi Energy Minister Khalid al-Falih says: "Saudi Arabia wants to make Pakistan's economic development stable, through establishing an oil refinery and partnership with Pakistan in the China-Pakistan Economic Corridor."

Dasgupta (2018) highlighted that India has 27 shipyards, 19 are owned by private sectors like ABG shipyard and Bharti shipyard and the remaining have the Indian government. The current shipbuilding capacity of Indian shipyards is about 0.5 million tonnages. India has 235 shipping companies ranked 16<sup>th</sup> in the

world due to the largest merchant shipping fleet with about 997 vessels. The Indian ship-breaking industry's share is 25 percent in the international market. India's Alang shipbreaking is one of the world's largest shipbreaking yards.

Anand (2019) evaluates that today fisheries are important for India's economy. India's blue economy contributes 4% of its GDP. India is the third-largest fish-producing country in the world. 16 million people depend on this sector. In 2018, India's total fish production was 6.24 million metric tons (MMT). Most of the fish comes from the freshwater aquaculture sector. India has used the pond-based fish farming system rather than a cultural system which could increase India's fish production. Currently, some provinces of India have started freshwater fish cage farming. If it deals with properly, it could increase India's fish production.

Kuduvalli (2019) pointed out that Coastal tourism is the center of the blue economy of India. According to the statics, the Indian tourism industry generates 15 lakh crores rupees, creates 42 million jobs, and predicts that this tourism sector will grow to 32.05 lakh crores by 2028. The Indian Government launched the "Swadesh Darshan" scheme in 2015 to promote tourism. Under this scheme, money is being distributed to build tourism infrastructure across the coasts and beaches. In 2016-2017 under this scheme 99.2 crore rupees were given to develop a coastal tourism circuit in Tamil Nadu.

In (2021) the researched showed that the Indian government announced subsidy funding of Rs 1,702.35 crore for Indian shipping companies to motivate exporters. To enhance the capacity, the Indian government is constructing six mega ports in the country under the National Perspective Plan for Sagarmalla. In February 2021, Parliament passed the "Major Ports Authorities Bill 2020" to strengthen its superiority in major port governance. Jawaharlal Nehru Port Trust (JNPT) started a comprehensive solid waste management project in the same month for green port creativity.

In 2021, Chattopadhyay pointed out that the Indian government has accepted the project of the Ministry of Earth Sciences (MoES) on the "Deep Ocean Mission", with aimed to find deep ocean resources. The project will be finalized in 5 years with a calculated cost of Rs. 4077 crores in a phase-wise manner. The first phase is the development of technologies for underwater vehicles and robotics to help deep-sea mining. The second phase involves the development of ocean climate advisory services. The third component includes research on deep-sea biodiversity, with the establishment of the latest marine biology station at Goa.

Attri (2018) analyzed that Bangladesh has vast potential to attract tourists. Its major coastal sites are Cox's Bazar beach, Kuakata beach, naval beach, Patenga beach, Haliahar beach, and Parki beach. From 2001-to 2010 the contribution of the tourism sector to the national economy was less than 1%. The Bay of Bengal is the largest one among 64 bays in the world. Surfing,

### ***Blue Economy of Maritime Nations in South Asia: Challenges and Prospects***

recreational fishing and boating, mangrove eco-tourism, evening live concerts, and floating hotels are the provocative options for the country's marine tourism progress.

Alam (2019) elaborated that in 2017-18 Bangladesh's export and import value were USD 78 billion and it is expected that it would be around USD 435 billion in the coming ten years. Its inland water transport network consists of 1000 landing points and 21 inland river ports. Chittagong Port manages about 3 million TEUs annually. According to the Asian Development Bank Bangladesh can expand its GDP by 1% and foreign trade by 20% by making the inland water transport system more systematic. Bangladesh's Department of Shipping has 10,000 inland vessels, 75 coastal vessels, and about 6500 inland ships.

In (2019) the study showed that during 2017 about 7000+ ships were scrapped and Bangladesh ranked 1<sup>st</sup> in scraping ships. This scraped material is used for making different items like lifesaving boats, generators, etc. Bangladesh has about 125 ship-breaking yards that generate 2.4 billion dollars every year. Bangladesh has discovered 26 Tcf (trillion cubic feet) of gas reserves as Sangu and Kutubdia reserves. The largest market of coastal tourism shares 5 percent of world GDP and generates 6 to 7 percent of overall employment. Bangladeshi Hilsa shad is the most valuable species, which generates income for 2.5 million people per year. At present 50-60% of Hilsa catches from Bangladesh, and 15-20% from India's coastal and marine waters.

Sunny et al., (2021) explained that Bangladesh has attained massive success in the fisheries sector since its independence. Capture and aquaculture fisheries help the neglected people to maintain their food supply, poverty reduction and bring down inequality. Bangladesh's fisheries share of its GDP is 3.50% and around 12% of Bangladeshi people are engaged with the fisheries sector, directly and indirectly. The fisheries resources of Bangladesh are divided into inland and marine fisheries. The inland closed water elements include ponds, shrimp/prawn farms, crab farms, pens, and cage culture. In 2018-2019, the inland capture contributed 28.19%, inland culture share was 56.76%, and marine fisheries share was around 15.05% of the country's total fish production. In 2018-2019, inland capture fisheries sharply dropped to 28.19%. That's why different socio-economic and environment-friendly programs were executed to increase inland open waters production, like community-based fisheries management programs and the recovery of the aquatic habitats.

Ranasignhe (2017) emphasized that Sri Lanka's ¼ population depends on coastal and oceanic-based activities. The fisheries sector in Sri Lanka contributes about 1.4% of the country's GDP. Sri Lanka's maritime sector is contributing 2.5% to its national GDP and is expected to increase to 6% by 2030. Sri Lanka's coastal tourism is about 70 percent of the total tourism infrastructure in the country. Colombo is the busiest port of Sri Lanka, more than 2/3<sup>rd</sup> of the global trade is done via the Indian Ocean and Sri Lanka. Sri Lanka also has vast capabilities for generating tidal and wave energy.

Senarate (2017) stated that in 2016 the Sri Lankan government has started

the “Sri Lanka Next” program to encourage the blue economy. Now, the country has been taking different steps to promote the blue economy and working on different projects such as the Construction of a research & information center at niaweli, an off-shore sea mining & beach nourishment project in maravilla, the Construction of a coast protection scheme at kapladay and Construction of two offshore breakwaters at mudukatuw.

The Sri Lanka Tourism Development Authority report highlighted that Sri Lanka was the third-largest tourist destination in 2019. According to the estimation this sector collected nearly \$3.5 billion in 2019 and 570,000 tourists arrived in 2020. The COVID-19 pandemic immobilized this sector but it again opened for foreign tourist arrivals under a “bio bubble” concept. Under this “bio bubble” concept the tourists could move freely within the country after a negative PCR test. Beaches, wildlife parks, ancient ruins, and Buddhist cultural sites are Sri Lanka’s tourist destinations. According to the Travel & Tourism Competitiveness Report of 2019, Sri Lanka ranked 77th out of 141 countries.

Ministry of Economic Development (2020) report evaluate that fish is one of the main export of the Maldives. This sector contributes 6.7 percent of total employment, with 97 percent of the men dominating employment in the industry. Since 2015 the quantity of fish caught in the country has been increasing, 10.8 percent in 2017, and 5.5 percent in 2018. Mainly yellow fin tuna, skipjack tuna, and big eye tuna fish types are caught and exported. In 2019, fish export value was higher, worth \$ 21.8 million. COVID-19 crisis directly hit the fish exports and fish purchases. The value of fish exports declined by 46 percent in 2020, the volume of fish exports also dropped immediately in April 2020.

In 2021, the research showed that the Maldives tourism industry begin with only two island resorts but after the infrastructure development and successful implementation of the Maldives tourism plans, the tourist arrival grew to incredible numbers. From 2002- to 2017 the tourism sector contributed 27.5% to Maldives’s GDP. The First Tourism Master Plan (1983-1992) was based on a sustainable tourism development approach. The Second Tourism Master Plan 1995 motivated partnerships, and promote marketing. The Third Tourism Master Plan (2007-2011) was focused on public share investment. The Fourth Tourism Master Plan (2013-2017) involves public-private stakeholders and its planning. The Maldives has upgraded its economy and status due to tourism. Now, it has the best social index in South Asia and sky-high earnings of US \$15,665.50.

## **Challenges**

Siddiqui (2021) explained that Pakistan’s 90% of trade by volume is done through the sea. Pakistan’s land borders trade with China, Afghanistan, India, and Iran is done by trucking and rail. COVID-19 had poorly disturbed the cargo distributed chain around the world and increased the freight charges for cargo



### ***Blue Economy of Maritime Nations in South Asia: Challenges and Prospects***

containers from China to Pakistan. Last year Pakistan pay \$5-6 billion in international freight dues. The situation emerged due to a limited number of ships and the number of containers for global trade.

In 2018, the study portrayed that the Indian coastal trade has remained static for some years and accounts for just 40 million tons of cargo, due to heavily relying on the roads, and rail transport rather than coastal shipping. This is because the shipping industry has a shortage of manpower, high transportation costs, and over-aged vessels.

Shameem (2012) researched that Bangladesh's, restraint generates serious tension regarding the effects of dangerous substances in the Chittagong coastal zone. Most of the shipbreaking yards do not have any retentions to prevent marine resources from pollution, nor the use of technology for environmental safety management and disposed of risky wastes stuff. Wastes of the scrap material and oily substances are directly drained into the Bay of Bengal, which is harmful to marine water biodiversity.

In 2021, Prasad highlighted that Sri Lanka's natural environment and biodiversity are affected due to oil spills, marine mishaps, and ballast water removal. This could also pose a threat to food safety, trade and cargo transit, coastal livelihood, and tourism. Sri Lanka is blessed with a huge amount of untapped natural resources such as oil reserves and fisheries. The security issues of piracy, illegal and unregulated fishing, illegal entry into the territorial sea, illegal narcotics, irregular migration of arms, and drug smuggling all could affect Colombo's plans for the blue economy.

Asian Development Bank (2015) report showed that the Maldives blue economy is also facing challenges due to its small market and small population the delivery of public service is very costly. The Maldives' location although not as remote as some Pacific countries is one factor that makes imports and exports more costly. The Maldives should consider a sub-regional approach to diminish the size and dispersed land area challenges.

### **Prospects**

In 2020, Dawar pointed out that CPEC China Pakistan Economic Corridor is the lifeline for Pakistan's traditional economy and it could be birth to Pakistan's blue economy. Pakistan under the CPEC can transform its relations with China based on the "Blue Partnership" and this development has already been started with the development of Gwadar Port.

In 2021, the study portrayed that Pakistan has multifarious natural, religious, and cultural tourism resources. To promote tourism, Pakistan must develop different marine tourism projects like recreational fishing, windsurfing, harboring, harbor cruises, maritime museum, and many more. The stakeholder's sage culture should be encouraged by giving those incentives for the high-profits, relaxation in the documentation process, and security guarantees. They should also offer a friendly environment to local communities and international

visitors for profit generation and foreign exchange earnings.

Smith (2017) highlighted that healthy oceans and seas can help in poverty elevation, create employment opportunities, raise the living standards of the poor, and are more important for a sustainable coastal future. Many SIDS and coastal LDCs economies are dependent on ocean-related resources. Small island developing states and coastal least developed countries lack the capabilities, skills, and financial support to enhance their blue economy in a better way.

Ceylon (2020) emphasized that Sri Lanka is considered a favorable maritime state due to its strategic location in the Indian Ocean. A large number of maritime cargo passes through the Port of Colombo and provides global and regional connectivity to the country with the rest of the world. With port infrastructure development there is a need to promote maritime-related secondary services that would encourage investors. The ancillary resources include marine lubricants, slop disposal facility, offshore supplies, ship repair, and shipbuilding services to cruise ships. The foreign revenue could be generated more by working together, to improve infrastructure and market development.

## **Research Methodology**

For this study, a qualitative research approach has been used. A case study research design has been used for gathering and analyzing data.

Purposive sampling has been carried out to finalize the respondents from the maritime sectors. Experts in Maritime and Blue Economy were the participants of this research.

While collecting the data both primary and secondary methods are used. The primary source of data collection for this study was the telephonic and physical interviews and secondary data was gathered through articles, journals, government documents, conference papers, books, etc.

## **Major Findings and Analysis**

### **Strengths of South Asian Maritime Nations' Blue Economy**

#### **Coastal and Marine Tourism**

Coastal and marine tourism is the strength of maritime South Asian states because they have several beautiful places that could be tourist attractions. The current condition of the tourism sector of India, Maldives, Bangladesh, and Sri Lanka is much better than those of Pakistan. Pakistan's tourism industry is still in critical condition due to poor social conditions, the government's failure to implement policies, continuous political problems, and lack of investments. If these maritime South Asian states want to uplift this sector they should formulate maritime tourism development policies, modify the visa policies for

## ***Blue Economy of Maritime Nations in South Asia: Challenges and Prospects***

foreign tourists, protect the rights of local communities, control human and drug trafficking and also save the environment.

### **Marine Fisheries Sector**

South Asian maritime nations have several fish varieties and most of the coastal communities are dependent on this sector. The fisheries sector is also the strength of these maritime South Asian states but understanding and utilizing this potential is very important. These maritime South Asian states can generate more economy via fishing for this they should control unreported and unregulated fishing, use the latest fishing technologies, and save the aquatic environment.

### **Ship-Breaking Sector**

The shipbreaking industry has moved towards the developing countries due to low cost and affordable labor. Alang, Chittagong, and Gadani are the major shipbreaking centers in India, Bangladesh, and Pakistan. More than 90 percent of the developed world vessels are dismantled in these developing countries of South Asia. So, it's the strength of these maritime South Asian states. By knowing the importance and strength of this sector the South Asian maritime nations should make financial investment partnerships, establish appropriate monitoring authorities, not deduct the wages of the employees, stop the use of child labor, and use the capital-intensive technique as compared to labor-intensive technique because, in a labor-intensive technique, more labor is required and earns less profit but in a capital-intensive technique, less labor earns more profit.

### **Ship-Building Industry**

The shipbuilding industry is now moving towards Asian countries just because of low labor costs and also these maritime South Asian countries are building vessels according to international standards. The shipbuilding industry is the strength of the South Asian maritime nations and they should improve their shipbuilding industry by introducing the latest technologies, constructing vessels with no environmental harm, and employing a skilled workforce.

### **Renewable Energy Resources**

The South Asian littoral states have vast renewable energy resources like solar, wind, and hydro energy. If these renewable energy resources are fully utilized, then these countries dependence on fossil fuels and coal could be minimized and this will help to control the electricity prices for households.

## **Recreational and Small-Scale Economic Activities**

Small-scale recreational activities are very important for these South Asian maritime developing states because through these economic activities they could boost the blue economy. The handicraft products (jewelry, poetry, and statues), boating, water sports, and small extraction of resources such as salt extraction are small-scale recreational activities.

## **Water Desalination Process**

All these South Asian states are blessed with oceans and seas as well as they have the water scarcity issue, so they can use seas and oceans water to wipe out the water crisis. Desalination is a process in which excess salt and other minerals are removed from seas and oceans water to make it suitable for human consumption.

## **Non-Living Resources Extraction**

The maritime South Asian states sea bed has a variety of non-living resources like methane, hydrocarbon, other minerals, and gases. To explore the sea-bed resources these South Asian maritime countries should focus on technological advancement and control human-made pollution because it's a vital option for blue economy growth.

## **Challenges Faced by South Asian Maritime Nations to Enhance Blue Economy**

### **A. Cultural and Religious Impediments**

Cultural and religious barriers especially in Pakistan are responsible for pushing back the tourism sector development. India allows all cultural activities openly and put massive development in this sector. Pakistani people should change their mindset they should move towards liberalism for transforming its coastal tourism.

### **Ports and Shipping**

Ports are assumed important for the economic growth of any country. But despite all the progress, the South Asian ports and shipping industry fails to meet the growing demand of this sector. To earn more blue economy and fulfill the demands of the current scenario all these maritime South Asian states should encourage the ports competition, encourage private sector partnerships, stop piracy, and control carbon emissions and oil spilling.

## **Options Available for South Asian Maritime Nations to Enhance Blue Economy**

### **Blue Tag Labeling**

“Blue Tag” labeling is an important option for the shipping sector’s development. If South Asian maritime nations want to standardize their shipping sector they should construct ships according to international standards. The Blue Tag scheme deals with sustainable developments, which are linked with environmentally safety aspects. Currently, the South Asian maritime states are focusing to adopt these two technologies which are compulsory to move your ships internationally.

### **Role of SAARC in the Blue Economy**

Due to the involvement of other maritime nations in this region, the security threat arises there, so to cope with these security risks the SAARC state’s coordination is very important. By sharing the political and economic information these SAARC states could improve their maritime output and enhance the blue economy.

### **Inland Water Transport System**

The inland water transport system is another adaptable, cost-effective, and environment-friendly option to boost the blue economy. Effective use of waterways to transport cargo can minimize transport costs, fuel utilization, road blockage, and vehicle emissions. The South Asian maritime nations could advance the blue economy by promoting government and private investments in this sector, employment generation and safely removing the harmful materials from the bottom of seas, lakes, and rivers.

### **Cosmopolitanism**

The term cosmopolitanism is the idea to share benefits of economy and sea resources with other countries to develop economies and social standards. The South Asian maritime nation has vast sea resources and less economic growth. So, by using this concept they can share their economies and sea resources to better economic conditions and for social well-being.

### **Developing Special Economic Zones in Coastal Areas**

Special economic zones should be developed in coastal areas of South Asia to maximize the profit from seas and exclusive economic zones.

## **Conclusion**

This research shows that the idea of the blue economy is not a new one but now it has become an emerging subject with aims to ensure sustainable development in different blue economy sectors like coastal tourism, marine fisheries, shipping, renewable energy, etc. The study focuses on the developments and current challenges of the South Asian littoral states related to the blue economy sectors. It also proposes different solutions by adopting them these South Asian maritime countries could earn more blue economy.

The maritime nations of South Asia like Pakistan, India, Bangladesh, Sri Lanka, and the Maldives have rich oceanic resources but the utilization of these resources is not enough. India's blue economy growth in many sectors is comparatively better than its regional countries. India is investing a lot in the coastal tourism and shipping sector. The marine fisheries sector is also becoming a point of concern for the Indian government. They started different projects and schemes to become a strong blue nation like Sagarmalla Project, Swadesh Darshan Scheme, and Deep Ocean Mission Project.

Despite having rich mineral resources, marine animal varieties, and beautiful places for tourism, Pakistan's blue economy is sluggish. Pakistan's past and current political situations, lack of communication, gaps among government and institutions, insufficiency regarding blue economy policies, and self-centered thoughts are the major factors of Pakistan's economic crisis.

After India, Bangladesh brings advancement in its blue economy sectors with the aim of sustainable development. They introduced Five-Year Plan Strategy Paper (2016-2020), and the Sustainable Fisheries Development Plan (2016-2025) for the blue economy in coastal tourism and marine fishery sectors. Bangladesh is also working to control marine and environmental pollution, which is a big challenge in the current time frame. Despite having a small population and area Maldives' blue economy stands 3<sup>rd</sup> in comparison with these five maritime nations of South Asia.

The development and up-gradation of these maritime South Asian states towards a blue economy are stagnant due to many challenges which these maritime nations are facing like failure to implement policies, less economic investments, poor condition of coastal communities, human and drug trafficking, aquatic and land-based pollution. If these maritime nations want to become blue nations, they should cooperate to cope with all these challenges which are a big hurdle in the progress of the blue economy of maritime nations of South Asia.

## **Recommendations**

- All South Asian maritime nations should adopt reliable and affordable renewable energy resources like (sun, wind, sea, and biomass) to fulfill the energy demands.

### ***Blue Economy of Maritime Nations in South Asia: Challenges and Prospects***

- They should formulate proper environmental management and planning commission to provide the evidence base data related to environmental condition progress.
- Governments should adopt effective and sustainable inland water transportation planning models for socio-economic and environmental progression. Because inland water transportation is a cost-effective way for trade.
- These maritime nations should be self-sufficient in manufacturing the new ships because when these countries import cargo from other countries, they have to pay excessive freight charges, which is a burden on developing countries.
- Aquaculture in Asia offers huge potential for employment generation, fulfilling the protein demands and it's a high-value commodity for the blue economy. All these maritime nations should put investments in this sector.
- South Asian maritime nations discard a huge number of fish every year due to weak supply chain processes and infrastructure. They should improve the infrastructure and supply chain process to safely transport the fish to its destination.
- These South Asian countries' governments need to provide smart solutions for improving and monitoring port infrastructure, enhancing cargo handling, automating customs clearance, and adopting environment-friendly steps to minimize the use of energy and keep away from oil spills.
- India is the third biggest emitter of carbon dioxide in the world. It needs to develop infrastructure for clean-coal-based technologies and try to use better quality imported coal.
- There is a need to allocate a huge budget for infrastructure development to control man-made pollution, and to build tourism spots to promote the tourism sector in these maritime South Asian countries.
- Ship recycling is the most important and economy-generated sector of South Asian maritime nations. They dismantle the ships outside the beaches, they should make sure the proper treatment of waste because the leakage of hazardous materials is dangerous for human and marine lives.
- All South Asian littoral states should develop their ports and beaches for trade and tourism enhancement.
- Human development and coastal areas should be increased by developing state-of-the-art schools, hospitals, universities, and technical training centers.

### **Limitations**

- Interviews of maritime experts from other South Asian countries could not be conducted.
- All interviews were not face-to-face. Few telephonic interviews have been carried out due to Covid-19 restrictions.

## References

- Alharti, & Hanif, M. A. (2020, January). Impact of Blue Economy factors on Economic Growth in the SAARC Countries. *Maritime Business Review*, 5(3), 254-256. Retrieved from <http://www.emerald.com/insight/2397-3757.htm>
- Adam, M. S. (2004, November). Country Review: Maldives. Marine Research Centre, Maldives.
- Asghar, A. P. (2019, February). Rethinking our Oceans: Investing in the Blue Economy. *Global Village Space*.
- Alam, M. A. (2019). Prospects of Maritime Economy for Pakistan. Maritime Study Forum. Islamabad. Retrieved from [www.maritimestudyforum.org](http://www.maritimestudyforum.org)
- Anand, V. (2019). The Fish Farming Industry of India. *The Indian Times*
- Alam, R. A. (2019). Blue Economy –Development of Sea Resources for Bangladesh. Ministry of Foreign Affairs.
- Attri, V. (2018). The Role of Marine Tourism in IORA: The Pathways Ahead. The Indian Ocean Rim Association University of Mauritius. Durban.
- “Blue Economy Policy,” (2020, August). New Blue Economy Policy to Help Save Foreign Exchange, Hopes PM. *The Dawn*.
- Ceylon, H. (2020). Challenges in Developing Sri Lanka as a Maritime Hub. *Ceylon Today*.
- Dasgupta, S. (2018). Indian Shipping Industry – an Ocean of Opportunities. *55th National Maritime Day Celebration Conference* (pp. 7-10). Kolkata: Indian Maritime University.
- Khrbey, S. A. (2019). Dhows in Doldrums: A Spotlight on an Informal Segment of Pakistan’s Maritime Economy. *NIMA POLICY PAPER* (pp. 3-9). Islamabad: National Institute of Maritime Affairs.
- Kuduvalli, A. (2019). The Growth of Tourism and the Blue Economy in India. *Equations*.
- Mehmood, A. (2021). Blue Growth Initiatives By Pakistan: Moving Towards A Sustainable Future. *Centre for Strategic and Contemporary Research*.
- Nawaz, S. (2021). Blue Economy: The Wave of Future for Pakistan. *Jahangir’s World Times*. 15-17
- Patel, R.P. (2019). Blue Economy Vision 2025. Retrieved from FICCI Task Force.
- Roman, M. R. (2021, February). Blue Economy: A New Future for Bangladesh. *The International*
- Ranasignhe, D. (2017). Strategic Importance of Blue Economy to Sri Lanka and Challenges. 3-5. *Journal of Scientific & Engineering Research*, 12(2), 510-512. Retrieved from <http://www.IJSER.org>
- Sunny et al. (2021). Fisheries in the Context of Attaining Sustainable Development Goals (SDGs) in Bangladesh: COVID-19 Impacts and Future Prospects. 13(7). Retrieved from <https://doi.org/10.3390/su13179912>
- Senaratne, A. (2017, June). Oceans and Sri Lanka’s future: Towards a Blue Economy. *Daily FT Be Empowered*. Retrieved from <http://www.ips.lk/talkingeconomics>
- Sahu, A. (2022). Sri Lanka’s Hambantota Port Starts MGO Bunkering to essay Strategic Role. *Daily News*
- Siddique, S. (2021). Freight rates jump up to 700%. *The Dawn*
- Shameem, K. A. (2012). The Role of the Ship Breaking Industry in Bangladesh and its Future with Special Emphasis on Capacity Building through Training and Education. *World Maritime University Dissertation*, 29-31.
- Smith, S. (2017). The Potential of the Blue Economy: Increasing long-term Benefits of the Sustainable Use of Marine Resources for SIDS and Coastal LDCs. World Bank.