

From Waves to Wealth: Harnessing the Blue Economy Potential in Bangladesh Marine Fisheries

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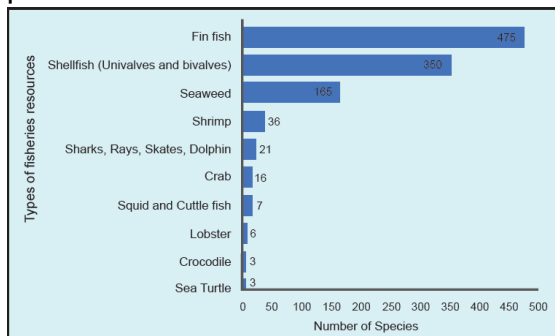


The term "Blue Economy" emerged in Bangladesh after the peaceful demarcation of maritime boundaries with Myanmar and India, respectively, in 2012 and 2014. The Ministry of Fisheries and Livestock (MoFL) has identified 26 potential sectors of the blue economy. Among these sectors, marine fisheries is the most productive, dynamic, and partially developed area with tremendous potential for future growth in Bangladesh's agricultural economy. The country's marine waters are estimated to have a potential annual fish production of over 4.0 million metric tons, providing a substantial opportunity for fisheries development. The marine fisheries sector is essential to the country's economy, generating employment opportunities for millions of people, particularly in coastal areas with limited alternative livelihood options.

There are so many diversifications of other species regarding marine fisheries and fish. Seaweeds have immense medicinal value and are also a delicious food source. They can be cultivated in suitable areas along the coastal belts of Bangladesh, providing both domestic consumption and export opportunities. Seaweed cultivation requires low inputs and can employ coastal communities. Shellfish farming, including oyster cultivation, can contribute to coastal defense and provide habitat for various marine species. Oysters are ecosystem engineers and can modify their habitats, reducing hydrodynamic stress and influencing sediment dynamics. They also offer food security and livelihood opportunities for coastal communities.

Additionally, sea turtles play vital roles in maintaining the health of oceans and have economic and ecological

importance. Crab farming, particularly the mud crab species, has gained attention due to high market demand. Several species of crabs are found in the Bay of Bengal, and efforts are being made to develop crab culture techniques and hatchery seed production in Bangladesh. Shrimp culture is a major sector in Bangladesh's marine fisheries. EU and USA account for a significant portion of shrimp exports destination for Bangladesh. Tiger shrimp are predominantly cultivated in specific coastal districts, and there have been efforts to improve production through the domestication of brood stocks, the production of healthy shrimp seeds, and the adoption of good aquaculture practices.



With a growing global demand for seafood, Bangladesh can potentially increase its export earnings from marine fisheries. High-value fish species such as shrimp, prawns, and various types of fish are sought after in international markets. Bangladesh can tap into this lucrative market and enhance its foreign exchange earnings by capitalizing on sustainable fishing practices and adhering to international quality standards. Alongside marine capture fisheries, the country has also witnessed significant progress in aquaculture. By adopting modern techniques and sustainable practices, Bangladesh can further expand its

aquaculture industry, contributing to overall fish production and reducing the pressure on marine resources.

Comparing the fisheries production across different sectors in the last 20 years, the inland fisheries growth rate in 2021-2022 was 8.37%, the inland aquaculture growth rate was 12.35%, while the marine production growth rate was only 3.49%. Data represents that the growth rate of the marine sector is low compared to the other fisheries sector, while the country proudly contains the 64th largest maritime ecosystems. If we compare sector-wise contribution, the country's marine fish production contribution is only 15% of the country's total fish production.

Sector	Year 2001-2002	The year 2021-2022	Growth Rate (in 20 Years)
Inland	4052701	1,475,039	8.37%
Capture	1321631	688,435	4.50%
Culture	2731070	786,604	12.35%
Marine	706030	415,420	3.49%
Total	4758731	1,890,459	12.09%

Table 1: Fisheries Growth Rate in Last 20 Years in Bangladesh

It is noteworthy to highlight that the marine area of our country is nearly equivalent to its land area. After careful consideration, we realize that only a tiny portion of the land is used to culture or capture fisheries. In contrast, the marine sector, which encompasses nearly the entirety of our country's marine expanse, is predominantly dedicated to fisheries. Therefore, marine production should experience a significantly higher increase compared to other fisheries sectors.

However, several factors affect marine fish production in Bangladesh. Overfishing poses a significant threat to marine fisheries in Bangladesh. The

increasing demand for fish and unsustainable fishing practices have led to the depletion of fish stocks and ecosystem degradation. IUU (Illegal, Unreported, and Unregulated) fishing remains a pressing challenge in Bangladesh. It undermines efforts to conserve fish stocks, threatens marine biodiversity, and hampers the livelihoods of legitimate fishers.

Besides, Bangladesh is highly vulnerable to the adverse impacts of climate change, including sea-level rise, increased water temperature, and changes in oceanic currents. These factors affect marine ecosystems and habitats, leading to fish distribution and abundance shifts. The fishing communities are also vulnerable to extreme weather events, affecting their livelihoods. Pollution from various sources, including industrial discharge, sewage, and agricultural runoff, threatens marine ecosystems. Contamination of coastal waters and destruction of critical habitats such as mangroves and coral reefs disrupt the balance of marine ecosystems, impacting fish populations. Project delay and uncontrolled tourism are also imposing a threat to marine habitats.

Urgent measures are required to enforce effective fisheries management, including implementing fishing quotas, promoting responsible fishing practices, and establishing marine protected areas. Adaptation strategies, such as introducing climate-resilient fishing techniques and improving early warning systems, are crucial to mitigate the impacts of climate change on marine fisheries. Strengthening pollution control measures, promoting sustainable land

use practices, and restoring degraded habitats are essential for the long-term sustainability of marine fisheries. Collaboration, capacity building, and resource mobilization are crucial for sustainable development and preserving natural resources and biodiversity in Bangladesh. Expanding the fishing horizon to unexploited zones, adopting new fishing gears and techniques, and discovering new fisheries can enhance production and sustainability. Stock assessment, value addition, and reducing post-harvest losses are essential factors. Last, the existing policy gap and strengthening law enforcement require further attention.

Bangladesh's Marine Fisheries Act 2020 aimed to upgrade fisheries regulation in the country's marine waters by replacing the outdated Marine Fisheries Ordinance 1983. However, a significant part of the Act replicates the provisions of the old ordinance. The Act can have its provisions improved to incorporate internationally recognized fisheries management principles, while also not ignoring Bangladesh's international obligations. Additionally, the law could address the capacity development of government agencies or emphasize community engagement. Consequently, Bangladesh can incorporate sustainability and collaborative governance principles into its marine fisheries sector.

By the way, Bangladesh's national plan of action to eradicate IUU fishing holds immense significance in the present era. It addresses a critical environmental concern, as IUU fishing threatens marine ecosystems, biodiversity, and the sustainability of

fish stocks. The plan helps protect the livelihoods of millions dependent on fisheries, ensuring economic stability. By combating IUU fishing, Bangladesh can enhance its food security, as fish is a vital protein source for the nation. Additionally, the plan contributes to international cooperation, fostering responsible fishing practices and promoting sustainable development goals. Overall, the national plan of action plays a pivotal role in safeguarding marine resources, supporting the economy, and ensuring sustainable fishing practices in Bangladesh.

Furthermore, the Government of Bangladesh addresses climate change in the marine sector through a comprehensive strategy and legal framework. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009 includes specific initiatives for the marine sector. The government has implemented laws and regulations to combat climate change, such as the Bangladesh Environment Conservation Act 1995 and the Coastal Zone Policy 2005. These laws aim to protect coastal areas, prevent pollution, and regulate industrial activities near the coast. Additionally, Bangladesh has established the Climate Change Trust Fund, which provides financial support for climate change adaptation and mitigation projects, including those related to the marine sector. The government's approach includes a combination of policy measures, legal instruments, and financial mechanisms to effectively address climate change in the marine sector.

Earnestly, there is a vast scope for the potential transformation of marine fisheries in Bangladesh into a lucrative industry. Bangladesh's marine fisheries sector has significant economic development potential and plays a crucial role in the country's blue economy. However, it has experienced slower growth compared to other fisheries sectors in recent years due to various challenges.

Effective fisheries management measures and responsible practices are essential to overcome these challenges and promote sustainable development. This includes implementing fishing quotas, promoting sustainable fishing techniques, establishing marine protected areas, and strengthening pollution control measures. Collaboration, capacity building, and resource mobilization are vital for sustainable development and preserving biodiversity. Addressing policy gaps and strengthening law enforcement are crucial steps to ensure responsible practices. Bangladesh can unlock the wealth hidden within its marine waters by adopting holistic approaches and collaborative governance. This will not only enhance food security and protect livelihoods but also support economic stability and safeguard marine resources for future generations, thus harnessing the full potential of the blue economy.

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