

Maritime skills development is key to expanding our blue economy



Ahamedul Karim Chowdhury, adjunct faculty at Bangladesh Maritime University, is a maritime, logistics, and supply chain policy analyst.

AHAMEDUL KARIM CHOWDHURY

Bangladesh's maritime sectors, particularly shipbuilding and ship recycling, are entering a phase where future competitiveness will depend less on labour availability and more on skill intensity, safety compliance, and technological capability. While the country continues to benefit from a large and cost-competitive workforce, persistent shortages of certified welders, marine technicians, supervisors, and quality-control personnel are constraining productivity and limiting the industry's ability to move up the value chain. At the same time, a significant proportion of workers in shipyards and recycling facilities still acquire skills informally, often in high-risk environments, resulting in avoidable accidents, inconsistent quality, and reduced operational efficiency.

This disconnect between labour supply and skill readiness is emerging as a structural bottleneck at a time when Bangladesh is seeking to diversify exports, strengthen industrial capacity, and position itself within the blue economy. As policy attention shifts towards employment generation, industrial upgrading, and sustainable growth, the need for a structured and industry-aligned maritime skills ecosystem has become more pronounced. Shipbuilding and ship recycling clearly illustrate this gap: both sectors have demonstrated scale and resilience, but their long-term competitiveness will increasingly depend on the quality of human capital rather than its quantity.

Over the past two decades, Bangladesh's shipbuilding industry has made notable progress, evolving from small coastal vessel construction to exporting oceangoing ships to international markets. Local shipyards have established a presence in segments such as small and medium-sized vessels, supported by competitive labour costs and growing technical capability. The sector employs a substantial workforce and has the potential to benefit from rising global demand for feeder vessels, inland waterway transport, and specialised ships. However, the absence of a structured pipeline of certified and technically trained workers continues to limit productivity improvements and technological upgrading.

The situation is more acute in the ship recycling sector. Bangladesh remains one of the world's leading ship recycling destinations, with yards in Sitakunda playing a critical role in supplying scrap steel to the



Infrastructure development cannot ensure competitiveness without a corresponding investment in human capital.

FILE PHOTO: STAR

domestic economy. Despite its economic importance, the sector faces persistent scrutiny regarding its lack of occupational safety and environmental standards. A significant number of workers enter the industry without formal training, increasing exposure to workplace risks and undermining compliance with emerging global standards.

These challenges are likely to intensify as international regulatory expectations evolve. The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships is gradually gaining traction, and compliance is increasingly influencing the commercial decisions made by shipowners, financiers, and insurers. In parallel, environmental, social, and governance (ESG) considerations are becoming central to global supply chains. In this context, countries

than creating entirely new infrastructure, the initiative could build upon existing technical institutes—particularly those located in or around Chattogram—while integrating academic oversight, industry participation, and internationally recognised certification frameworks.

Such an academy could develop specialised curricula covering both shipbuilding and recycling. In shipbuilding, training modules may include marine engineering fundamentals, advanced welding techniques, computer-aided design (CAD), automation systems, quality assurance, and production management. In ship recycling, programmes should focus on occupational safety, hazardous material handling, environmental compliance, waste management, and emergency response. Aligning certification

with international standards would not only improve domestic productivity but also enhance the global employability of Bangladeshi workers.

An integrated institutional approach would also enable a lifecycle perspective, linking ship design, construction, operation, and dismantling within a single knowledge framework. This would strengthen Bangladesh's positioning within

the same time, the development of certified maritime skills could open opportunities in the global labour market.

Several advanced shipbuilding nations, including South Korea and Japan, are facing labour shortages in technical and production roles due to demographic transitions. Bangladesh has the potential to position itself as a supplier of trained maritime professionals, similar to how the Philippines has successfully developed a global seafaring workforce. Structured training and internationally recognised certification could enable Bangladeshi workers to access higher-value employment opportunities abroad, contributing to remittance growth while strengthening bilateral industrial linkages.

Conversely, the cost of inaction is likely to be significant. Continued reliance on low-cost, low-skilled labour is unlikely to be sustainable in an increasingly technology-driven and compliance-oriented global maritime industry. Without systematic skills development, Bangladesh risks remaining trapped in a low-value segment of the industry, facing increasing competition from more technologically advanced and better-regulated competitors, while also exposing its workforce to preventable risks.

From an implementation perspective, the proposed academy does not require extensive new legislation or large-scale capital investment. Bangladesh Maritime University can provide academic oversight and accreditation, while relevant ministries and the National Skills Development Authority can ensure alignment with national qualifications frameworks. Industry stakeholders can play a direct role in curriculum design and training delivery, ensuring that programmes remain responsive to evolving market needs. This public-academic-industry partnership model would enhance both relevance and long-term sustainability.

Bangladesh has already made substantial investments in maritime infrastructure, including ports, inland waterways, and logistics systems. However, infrastructure development alone cannot ensure competitiveness without a corresponding investment in human capital. The effectiveness of these investments ultimately depends on the availability of skilled professionals capable of operating and managing increasingly complex systems.

At a time when the country is seeking to strengthen its industrial base and expand its participation in the blue economy, prioritising maritime skills development represents a strategic and timely intervention. Establishing a shipbuilding and ship recycling academy would provide a structured mechanism to bridge the gap between labour supply and industry requirements, improve safety and environmental performance, and enhance Bangladesh's position in the global maritime economy.

Climate change demands a new approach to protecting haor farming



Kashmir Reza is president of Poribesh o Haor Unnoyon Sangstha (POHUS). He can be reached at kashmirreza@gmail.com.

KASHMIR REZA

Every year, farmers in the haor wait anxiously for the harvest season. A flash of lightning in the sky or a cover of dark clouds can send waves of panic through them during March and April. Flash floods threaten crops just weeks before harvest. Despite large public investments for crop protection dams, uncertainty persists. At the same time, these dams are increasingly criticised for their negative impact on the haor ecosystem. This recurring vulnerability raises an important question: are crop protection dams really the most effective solution for safeguarding haor agriculture?

Elderly residents of the haor recall a different past when once there were no crop protection dams and farmers relied on local knowledge, seasonal adjustments, and small earthen barriers built by the community. After Bangladesh's independence, more structured embankments began to appear. With the establishment of a haor development board in 1974, public financing for embankment construction began. Large-scale construction expanded in the 1990s.

Then, the devastating flash floods of 2017 marked another turning point. Massive crop losses triggered protests across the haor region, and demands emerged that construction should be shifted away from contractors and handed over to local farmers. Following these protests, the Kabita Nitimala 2017 was revised and Project Implementation Committees (PICs), largely composed of local stakeholders, were assigned responsibility for embankment construction.

Haor agriculture depends heavily on a single crop, Boro rice, grown during the dry season. Nearly 30 percent of Bangladesh's

total Boro rice comes from haor areas, making crop protection a national priority. To protect this crop, submersible embankments are constructed every year.

In Sunamganj alone, Boro cultivation covers more than 223,500 hectares, while around 602 kilometres of embankments have been built this cycle. The Bangladesh Water Development Board allotted about Tk 148 crore for the construction. These projects are implemented through PICs involving local farmers and stakeholders. Yet, despite this investment, farmers continue to face crop losses and uncertainty.

The need for crop protection dams cannot be ignored. Haor areas remain highly vulnerable to flash floods originating from upstream hills and heavy rainfall. These floods often arrive just before harvest, destroying crops and pushing farmers into debt. The 2017 disaster still remains fresh in people's memory. For millions who depend on a single annual crop, embankments provide at least some sense of security.

However, these dams often fail to deliver reliable protection. Construction delays, poor-quality work, weak monitoring, and premature rainfall frequently undermine their effectiveness. In many cases, embankments remain incomplete even after construction deadlines have passed. Others develop cracks soon after construction. In recent years, heavy rainfall and hailstorms have damaged crops before harvesting could begin in several haor areas. These recurring failures suggest that the problem is not merely technical but also institutional, involving governance, planning, and accountability.

Given these realities, a broader, combined

approach is necessary as dams alone cannot protect haor agriculture.

Flash floods in the haor region are becoming more frequent due to climate change and geographical realities. Ensuring the smooth flow of floodwater from the northeastern region to the sea is crucial. Dredging rivers within the haor basin could help improve drainage capacity. In addition, downstream rivers up to Bhairab and the

before the floods arrive. In that case, reliance on crop protection dams would be reduced significantly. Developing these varieties is important, but ensuring seed availability afterwards and raising awareness about them among farmers is equally crucial.

Heavy rainfall in the Meghalaya hills remains a major trigger for flash floods in the haor region. Improving weather forecasting and early warning systems

increases vulnerability. Therefore, haor dwellers could put more emphasis on fish production. At the same time, fishermen's rights to the wetlands have to be ensured. Cultivating dry-season vegetables on elevated land, investing in fisheries, livestock, and floating agriculture could also help spread the risk. Mechanised and faster harvesting technologies could also help farmers harvest crops quickly before floods arrive.

PICs for dam construction should be formed based on members' eligibility and proximity, not political considerations. Farmers who depend directly on these embankments should have a stronger role in planning and monitoring.

Crop protection dams create some unintended consequences. Soil for embankment construction is often collected by cutting highland vegetation (locally known as *kanda*) within the haor, which can affect the local ecosystem. Meanwhile, suitable soil sources are becoming more and more scarce. Poorly designed embankments obstruct water's natural flow, leading to waterlogging in some areas and increased flood pressure in others. They may also disrupt fish migration routes, affecting biodiversity and fisheries.

Research-based, long-term planning should complement infrastructure development in the haor regions. Timely construction and independent quality monitoring of dams must be ensured. Early maturing rice varieties, crop diversification, improved forecasting, and restoration of natural drainage systems should be prioritised. Most importantly, the active involvement of local communities should be ensured through transparent governance mechanisms.

Crop protection dams are and will remain necessary. But they cannot be the only solution. Repeated failures and increasing negative impacts on haor ecology demand a broader, more integrated approach. Rethinking haor crop protection through ecological, technological, and nature-based strategies can help ensure sustainable livelihoods and long-term food security in Bangladesh's fragile wetland ecosystem.



PHOTO: MINTU DESHWARA

A farmer harvests half-ripe paddy in Hakaluki Haor of Moulvibazar on April 6, 2026, as heavy rains and upstream water submerged Boro on thousands of hectares.

Meghna basin may also require dredging to ensure proper water flow. Meanwhile, climate change has shifted the timing of floods. Earlier, floods used to arrive in late April. Now, they sometimes occur in late March. This demands early harvesting strategies. Currently, most haor rice varieties take 150 to 160 days to mature. If shorter duration varieties of around 120 days become widely available, farmers could harvest the crops

could help farmers make timely decisions. Restoring canals, wetlands, and natural drainage systems could also increase water-holding capacity and reduce sudden pressure on embankments. The government's canal excavation programme, if properly implemented, could play a beneficial role for haor areas.

Crop diversification is another important measure. Dependence on a single crop