

Educational Opportunities in the Maritime Sector and the Development of the Bangladeshi Economy

Md Zahangir Alam

Department of Maritime Science and Engineering Akademi Laut Malaysia, Batu 78200, Malaysia

Abstract

The concept of a blue economy recognizes the seas and oceans as main drivers for economic development with great potential for innovation and growth. Bangladesh is blessed with an approximately 700 km long coast with nearly 1,18,813 sq. km. of maritime area. Hence it is likely to emerge as an important maritime State. The maritime sector in this country has a huge potential to boost national economic growth and thereby harness the blue economy. To tap the benefits from this sector, among others, there is a need to develop maritime human resources. Competent maritime human resources are considered the backbone of the blue economy and hence the national economic growth. As such Bangladesh needs to emphasize more on developing human resources in this sector through proper maritime education. Collaboration at the national and international level in the area of maritime research and education may be given priority to mitigate the challenges militating against the national economic growth. Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh may play a key role in unlocking the potential of Maritime Education for enhanced national economic growth.

Keywords: Maritime Education, Economic Growth, Blue Economy.

Introduction

Traditionally, Bangladesh is a maritime nation. Her maritime history may be traced back thousands of years. Many nations in the past annexed in this part of Asia to flourish their trade and commerce as well as power. From time immemorial, inhabitants of this region depended on the Bay of Bengal for their livelihood. The scarcity of land resources and the advent of modern technology opened a new era of National Economic Growth (NEG), centred at the blue economy with maritime education as a driving force.

The father of the nation, Bangabandhu Sheikh Mujibur Rahman underscored the importance of endless sea resources and enacted the 'Territorial Waters and Maritime Zones Act 1974' to establish Bangladesh's sovereign rights over the sea and its resources. Through the victory over the maritime boundary disputes with India (2014) and Myanmar (2012) under the dynamic leadership of Prime Minister Sheikh Hasina plots have been set up for rapid NEG through effective maritime education [1].

The term maritime means a large sunshade over the international and inland commercial, naval and fishing fleet; maritime administration, consultancy, education and training; port and shipping operations, trade, ship-building, marine environment conservation, sub-sea extraction, ocean research and so on (Chowdhury, 2010). The human civilisation's dependence and attachment to oceans, seas and rivers are

so spontaneous that it yields a feeling that world means water: blue planet; anyone directly or indirectly attached to it is a maritime human [2].

The vast sea area of Bangladesh has huge economic potential. There is no alternative to unlock these potentials for the NEG of the country. To accomplish this task, we need to master the knowledge about the protection, preservation, exploration and extraction of the oceanic resources [3].

Efforts of maritime human resource development have always been an issue for the government of Bangladesh. Seaman's Training Centre (STC) is one of the first known formal educational institutes primarily dedicated to developing seafarers for the nation (ADB, 1995). In due course of time numbers of institutes and research centres have been established. But none of them was fully maritime in nature and failed to encompass the maritime domain as a whole [4]. To fill up this gap Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU) was established in 2013 with a mission to be the centre of excellence in maritime education (ME).

With this backdrop, the aim of this paper is to examine the potentials of maritime education (ME) in augmenting the national economic growth (NEG) through analysing its problems and prospects and put forward some recommendations. After a short introduction and conceptual discourse, the paper highlights an overview of NEG and ME in Bangladesh, examines challenges and prospects of ME for enhanced NEG, finally the paper highlights the role of BSMRMU and puts forward some recommendations [5].

Conceptual Discourse

The maritime education (ME) is a process of knowing maritime affairs from the sea job to shore shipping management, way forward to the legal, logistics, transport and supply chain management (Hussain, 2014). Chowdhury defined ME as a set of interdependent processes such as teaching, learning, researching and resources that function harmoniously to achieve specified educational objectives. ME programmes prepare human resources for a variety of careers in the maritime industrial and service sectors [6].

NEG is usually brought about by technological innovation and positive external forces. Technological innovation is the outcome of sound education, training and research.

Three foundations for human development (Figure-1) are to live a healthy and creative life, to be knowledgeable, and to have access to resources needed for a decent standard of living (Economic Intelligence Unit, 2015). Human development aims at directly enhancing human abilities through infusing knowledge among others. Education is the more formal and recognised method of infusing knowledge that leads to a long and healthy life and a decent standard of living thus contribute significantly to NEG.

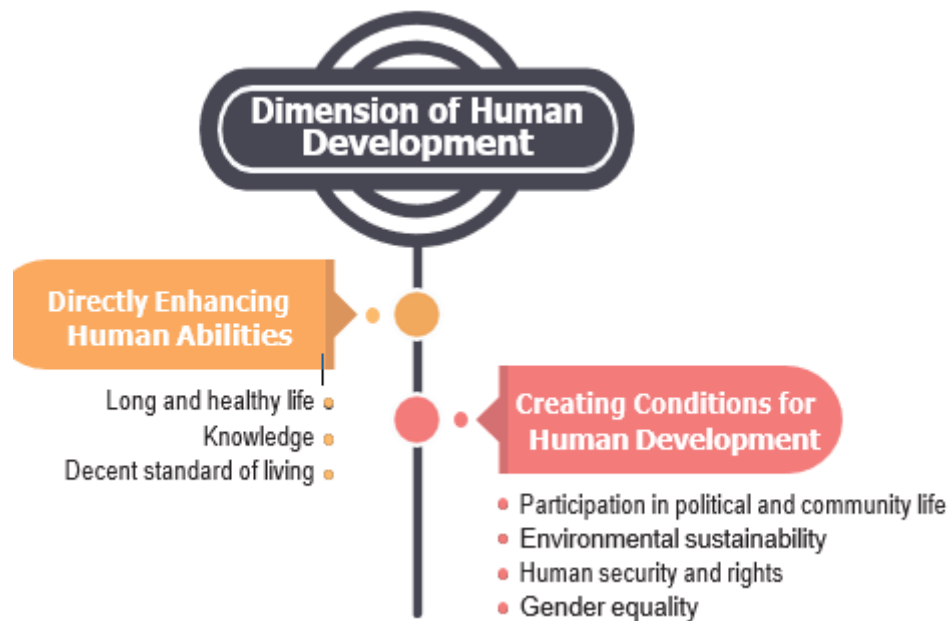


Figure-1: Dimension of Human Development

To the extent that greater freedom and capabilities improve economic performance, human development has an important effect on growth. Similarly, to the extent that increased incomes, increases the range of choices and capabilities enjoyed by households and governments, economic growth enhances human development. Hence education has a direct relationship with NEG (UNCTAD, 2014). The same is true in the case of ME.

Overview of Economic Growth and Maritime Education in Bangladesh

In the last decade, Bangladesh has recorded NEG rates above 5% mainly due to the development of microcredit and garment industry. The market-based economy of Bangladesh is the 46th largest in the world in nominal terms, and 33rd largest by purchasing power parity; it is classified among the next eleven emerging market economies and a frontier market. According to the IMF, Bangladesh's economy was the second fastest growing major economy of 2016, with a rate of 7.1%. Figure-2 shows the national economic growth of Bangladesh from 2007 to 2016.

Since 2004, Bangladesh averaged a NEG of 6.5%, that has been largely driven by its exports of readymade garments, remittances and the domestic agricultural sector. The country has also pursued export-oriented industrialisation and developed self-sufficient industries in pharmaceuticals, steel and food processing. Bangladesh's telecommunication industry has witnessed rapid growth over the years. However, though ocean as a common heritage of humankind, represent in many respects the final frontier for humanity and its quest for sustainable development. Bangladesh is yet to explore the potential of oceanic resources to the full extent [7].

The ocean economy has emerged as a significant potential driver of sustainable economic growth in different parts of the world. China's ocean economy contributed 10% of GDP, in 2014, employing 9 million people (World Ocean Review, 2015). The US valued its ocean economy at 1.8% of GDP in 2010. Estimates for Indonesia are about 20% of GDP, a similar

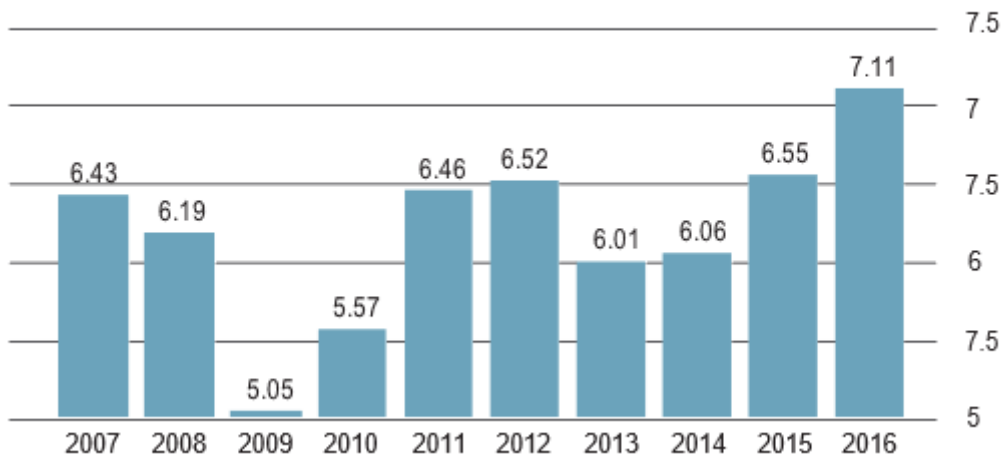


Figure-2: National Economic Growth of Bangladesh (2007-2016)

ratio could be found in other low-middle-income countries with large ocean territories. Unfortunately, in such a mighty industry, the position of Bangladesh is really small. The port sector is doing good. In capturing and culturing fishes, the position of Bangladesh in the world was 4th and 5th respectively in 2012; however, it is the figure of inland water only. In the case of sea fishing, the position is still very insignificant. Fossil fuel exploration is also not up to the mark though it has been discussed long that the Bay of Bengal is a huge source of natural resources [8].

In Bangladesh, the ocean economy issue has come into the discussion just after the settlement of maritime boundary delimitation dispute with Myanmar and India. This settlement awarded the country a territorial sea covering about 118,000 square kilometres and an Exclusive Economic Zone extending out to 200 nautical miles (Alam, 2014). Exploration of marine resources in this new settled maritime area offers Bangladesh the opportunity to utilise marine resources effectively for sustainable NEG. This warrants a bunch of competent maritime professional in diverse fields.

Till recent past, Bangladesh perceived seafarer as the only maritime professional which hindered the development of multi-skill maritime professional (Kabir, 2014). A close look into the component of ocean economy indicates that the diversity of maritime profession includes legal practitioners, environmentalists, mariners, engineers, oceanographers, hydrographers, researchers, academicians and many more [9].

Table-1 indicates that the main activities of the ocean economy are harvesting living resources, extraction of non-living resources and commerce and trade. Among these activities other than fishing to some extent, shipping and port services, Bangladesh lacks everywhere mainly due to inadequate ME.

Table-1: Component of Ocean Economy

Activities	Ocean Service	Existing Industries	Emerging Industries	Drivers
Harvesting living resources	Seafood	Fisheries	Aquaculture	Food security
	Marine biotechnology		Pharmaceutical chemicals	Health care
Extraction of non-	Minerals	Seabed mining	Deep seabed mining	Mineral

living resources	Energy	Oil and gas	Renewable	Green energy
	Freshwater		Desalination	Freshwater
Commerce and Trade	Maritime transport	Shipping		Seaborne trade
		Port services		
	Tourism	Tourism	Eco-tourism	Global tourism

Nevertheless, the ME in Bangladesh started in 1952 through the establishment of National Maritime Institute (NMI). It is one of the most modern institutes of “IMO white listed institute” in Bangladesh. It conducts pre-sea training for the ships’ ratings. Seafarers produced by NMI earn huge foreign currency and thus contribute significantly to NEG. On the other hand, Bangladesh Marine Academy (BMA) (1962), conducts pre-sea training for the seafarer in nautical and engineering discipline. Presently, BMA conducts 4 years’ Bachelor of Maritime Science programme under the umbrella of BSMRMU (Alamgir, 2017). Administrative control of BMA is vested with Ministry of Shipping while academic affiliation is with BSMRMU. The Government has also approved four more marine academies yet to start their function. In addition, there are 18 private marine academies in Bangladesh. However, at present only 4/5 academies are in operation now. These academies very often fail to maintain standard education [10].

Bangladesh Marine Fishery Academy (1973) aims to create skilled manpower for judicious exploitation and harvesting of marine fisheries resources. Since its inception academy is exploring and pooling the seafaring talents of the country and is training them to become a navigator, engineer and fish processing technologist.

The Bangladesh Navy (BN) Hydrographic and Oceanographic Centre conducts two types of courses: Basic Hydrographic and Survey Recorder. These courses are designed for navy personnel only. Besides, BN also trains personnel in coastal security, navigation, engineering, naval warfare and logistics management and thus contribute to ME in Bangladesh.

Bangladesh University of Engineering and Technology and Military Institute of Science and Technology conduct undergraduate and postgraduate programmes on Naval Architecture and Marine Engineering. These programmes are designed to produce human resources to contribute various maritime sectors especially shipbuilding industries. Dhaka University started the postgraduate programme in Oceanography in 2013. Patuakhali, Noakhali and Shah Jalal University of Science and Technology have also introduced courses on Oceanography. The University of Chittagong, conducts undergraduate and postgraduate programmes on Marine Science and related disciplines.

BSMRMU only specialised university in the maritime field presently conducts five master programmes and three undergraduate programmes. With a motto “We strive for Maritime Excellence” the university is designed to have seven faculties, 38 departments and four institutes under her umbrella. Within its short span of a journey, the university has established collaboration with a number of universities and organisations both at home and abroad. As a young member, the university is facing challenges in finding qualified faculties.

On the vocational side, Bangladesh Institute of Marine Technology educates and trains the technicians for shipbuilding and repair industries. The institute conducts four years’ diploma courses in Marine and Shipbuilding Technology. They also conduct two years’ trade courses on marine diesel, fabrication, shipbuilding, welding and mechanical draftsman. Port Authorities of Bangladesh and Bangladesh Inland Water Transport Authority (BIWTA) also conducts some in-house courses pertaining to the maritime field.

Challenges of Militating against ME and NEG in Bangladesh

Lack of Synergy between ME Institutes: The main institutes responsible for ME in Bangladesh are BSMRMU, BMA and BMFA. Administrative controls of these three institutes are vested with three ministries. The BMA is loosely connected with BSMRMU. The plan to collaborate BMFA with BSMRMU is under consideration. As such, there exists a lack of synergy between them. This lack of synergy poses a great challenge for effective ME in Bangladesh and deaccelerate the NEG. The absence of separate ministry for maritime affairs has augmented the problems further [11].

Maritime Domain Blindness: Though the father of the nation Bangabandhu Sheikh Mujibur Rahman realised the importance of maritime domain as early as 1974, after his assassination till 1990, policymakers remained totally blind to this area. As such sea in particular and maritime domain, in general, did not get due attention. However, the present government of Sheikh Hasina attached paramount importance to maritime affairs. But most of the policymakers are still maritime domain blind. As such maritime awareness drive by BN often fails to obtain the desired result. Moreover, the sea blindness of general mass very often discourages ME and poses challenges against NEG [12].

The Absence of Central Controlling Body: Till now there is no single controlling body for MET in Bangladesh. To bring all maritime educationists to a common platform, Government of India established Indian Institute of Maritime Studies on 6th June 2002 placing four government-run maritime institutions within the domain of this institute. In 2008 Indian Maritime University was set up as central university intended to play a key role in the development of trained human resource for the maritime sector. This impacted positively on ME and NEG in India. The absence of a centre controlling body is thus a great challenge militating against unlocking the potential of ME for NEG in Bangladesh.

Shortage of Qualified Faculties: The blue economy agenda includes maritime education in tertiary level. One of the visual outputs of this drive is the establishment of BSMRMU. However, due to the shortage of qualified faculties, it is suffering difficulties to run the programmes. Due to policy restrictions, BSMRMU is unable to offer an attractive entry-level compensation package for qualified teachers and trainers. Therefore, it faces difficulties to enrol qualified faculty members at these initial phases of the establishment. Shortage of qualified faculties is detrimental to the sustainability of ME and NEG in Bangladesh [13].

Insufficient Capacity of National Fleet: Seafarers are normally expected to complete the shipboard training on-board ships of their own national carrier. At present Bangladesh Shipping Corporation has only 5 vessels and in the process of procuring 6 more. In addition, the private sector in Bangladesh currently owns a total of 54 ocean-going merchant ships. In all these ships about 280 cadets can get their initial training on-board. Since 2013 about 700 to 800 cadets from both public and private marine academies require shipboard training per year on completion of their pre-sea training. Therefore, graduates from both private and public marine academies are facing serious problems to complete their sea training for employment. Moreover, BMA still has to acquire dedicated training ship. This causes an unnecessary delay for the seafarers to get job and nation is deprived of remittance decelerating the NEG.

Prospects of Maritime Education and National Economic Growth in Bangladesh

Victory Over Maritime Boundary Dispute with Myanmar and India: The victory has reaffirmed Bangladesh's legislative right over Exclusive Economic Zone (EEZ) and continental shelf and thus opened windows of opportunities for the exploration of sea resources. Two historical verdicts have established a legitimate right on about 1,18,813 square kilometres of territories at the sea. This

undisputed sea area with two important neighbours is expected to generate international and regional cooperation in maritime economic activities. Enhanced international and regional cooperation in trade and resource development would foster maritime industries and offshore activities in Bangladesh. As the maritime industry and offshore activities advances, the required knowledge to cope with the demand also increases, thus ME has become a priority. The verdicts would act as a positive catalyst to convince the government for enhanced budget allocation to ME and could encourage enhanced capacity building in the maritime sector and contribute to the NEG [14].

The Establishment of BSMRMU: In accordance to its act, BSMRMU is mandated to provide undergraduate and post-graduate studies in all maritime disciplines including maritime strategy, maritime security, shipbuilding engineering, ocean science, maritime legislature etc. Additionally, it will award professional degrees along with vocational maritime diplomas and short courses, that would provide jobs for thousands on-board national and international flag carriers. The BSMRMU has bright prospects to act as a central body for all levels of ME and as a coordinating body among maritime security organisations like BN, Bangladesh Coastguard, public and private universities, marine academies, institutions etc. (Azad, 2015). Thus BSMRMU is in a position to unlock the potentials of ME for enhanced NEG in Bangladesh.

The Establishment of Maritime Affairs Unit: After winning 118,813 sq. km territorial waters and an EEZ in international arbitrations over the past last few years, the government is now set to form a permanent MAU under MOFA to ensure their maintenance and proper use. This unit shows great prospects to become a full ministry to oversee the maritime activities including ME in Bangladesh and thus augment NEG.

Establishment of BORI: Linkage between academic institutes, research centres and industries is prerequisite for sustainable NEG. This linkage is mostly absent in the maritime domain. BORI can establish the missing linkage and enhance research in the maritime sectors. Thus, the establishment of BORI shows a great prospect for the ME in Bangladesh. This in turn likely to contribute significantly to overall blue economy initiatives of the present democratic government and enhance NEG of Bangladesh [15].

Strategy to Mitigate the Challenges Militating against ME for NEG of Bangladesh

Establishment of Separate Ministry for Maritime Affairs: Synergy plays a vital role in optimising the efforts of different stakeholders and controlling agencies. Presently the ME is being controlled by the ministry of education, the ministry of shipping, the ministry of fishery & livestock, the ministry of science & technology and to some extent ministry of defence. This hindered ME over years. Very often requirements of different ministries are conflicting. Establishment of a separate ministry would foster ME and enhance NEG.

Acceleration of Maritime Domain Awareness Drive: The maritime domain awareness is defined by IMO as the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment. Achieving awareness requires that what is seen is properly understood and that visibility and understanding are shared as widely as possible among members of the maritime community. The inclusion of maritime studies in secondary and higher secondary level could enrich the maritime knowledge and unlock the potential of ME for sustainable NEG.

Declaring BSMRMU as Central Body for MET: The cohesion among the universities, academies,

institutes offering the course and carry out researches in maritime field is a precondition for effective ME. It could otherwise be better to merge all existing maritime educational and research institutes together to form a single entity like India. However, in the present context, declaring BSMRMU as the central body of MET could foster ME and enhance NEG in Bangladesh.

Introduction of Special Package for Faculties of BSMRMU: The role of competent faculties in any universities need no elaborations. The two-fold problem has been observed in enrolling faculties in BSMRMU: the unwillingness of senior faculties of public universities and government policy for appointment of faculties in respect of experience and pay scale. Introduction of special package for the BSMRMU faculties could attract experienced teacher both from home and abroad and thus contribute towards the enhancement of ME and NEG in Bangladesh.

Acquisition of Training Ship by BMA: A dedicated training ship could ensure timely completion of sea time for seafarer and foster maritime research. Most of the Maritime Universities like Shanghai Maritime University has dedicated training ship. This has reduced the waiting time for a seafarer to a great extent and ensured the quality of education. The acquisition of a dedicated training ship by BMA could unlock the potential of ME and augment NEG in Bangladesh.

Role of Bangabandhu Sheikh Mujibur Rahman Maritime University

Major Driver of Economic Growth: The role of education as a major driver of economic growth is well established. This role has further been enhanced due to changes in technology, globalisation and demographic impact. To remain competitive in light of these changes, Bangladesh needs to improve productivity and adopt innovative spirit. Higher educational institutes have the capacity, knowledge, and research necessary to achieve these goals. BSMRMU can play this vital role and unlock the potential of ME for enhanced NEG in Bangladesh.

Visible Leadership: Worldwide higher education has historically included economic growth as a part of its core mission. In this respect, BSMRMU may provide strong and visible leadership designed to create quality workforce by growing, training and attracting the finest talent that can support existing maritime business and industry. It can also disseminate research and promote technology transfer in the maritime field through active roles in national, regional and international initiatives.

Economic and Social Research: Research and application-based technology are needed to create sustainable economic growth. BSMRMU may conduct economic and social research and enhance NEG of Bangladesh. Through facilitating technology transfer of basic and applied research BSMRMU may contribute to the commercialisation of the new improved product and even creating new maritime industries and thus enhance NEG.

Services to Stakeholders: The BSMRMU can be valuable to stakeholders by identifying employee skills gaps and providing customised training, technical assistance, customised research and data, conference and meeting facilities among others.

Policy Formulation: The importance of think tank in any fields are recognised worldwide for formulating policy guidelines for enhancement of NEG. BSMRMU may launch a nationwide talent hunt to constitute a ‘maritime think-tank’ and form a national forum with maritime experts, administrators, professional bodies, stakeholders, NGOs, professors, scientists, researchers, environmentalists, journalists and others relevant to the sector to formulate a maritime policy and planning concept on national perspective and ocean economy.

Sustainable Development Goal: Sustainable Development Goal (SDG) 14 underscored the importance

of data collection in maritime fields to achieve targets of 2030 agenda. The BSMRMU is well placed to initiate measures to carry out study, fact-finding, consultation, information and data collection, analysis, research to identify potentials and opportunities along with the risk and threats of the prevention, protection, exploitation and exploration of maritime resources.

Maritime Domain Awareness Drive: Maritime Domain Awareness (MDA) is the key for successful implementation of any economic drive centred at ocean economy. BSMRMU may conduct training, seminars, symposium, and workshop to impart necessary training, education and knowledge relevant to maritime policy, planning and governance to the personals involved with the sector to bring them to a common platform.

Conclusion and Recommendations

Well-trained, skilled and educated human resources are the driving force of the development of an economy, who can participate in the globalisation of business and the accompanying technological revolution. Dynamic and sustainable development is not possible without a skilled workforce. Having assessed the need of world market and local industry, it is found that appropriate ME is essential for sustainable NEG.

A large eligible population places Bangladesh in a suitable position to produce skilled human resources in almost any sector imaginable. A thrust in blue economic growth may come from a large army of skilled coastal and offshore engineers, navigators, merchant mariners, fisheries technologists, biotechnologists, legal experts etc. and in a variety of other professions.

Bangladesh has enormous potential for seafaring job opportunities from its private and public marine academies provided it can arrange on-board practical training facilities for its would be seafarer and also can remain in the white list following The International Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STCW)-95 as amended in 2010. Nevertheless, exploration and exploitation of vast sea resources show a promising future for maritime legal experts, offshore and ocean engineers as well as maritime logisticians. A unified centrally controlled ME can unlock its potential and contribute to NEG of Bangladesh.

Being the only specialised university in maritime field BSMRMU may vital role in unlocking the potentials of ME for enhanced NEG through providing visible leadership to create a quality workforce, carrying out economic and social research in the maritime field. It can also promote maritime domain awareness (MDA), launch maritime talent hunt programme and effectively contribute to attaining sustainable development goals (SDG)-14.

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