

OCTOBER 2018, VOL 01, ISSUE 01

# MARITIME CAMPUS

A QUARTERLY MAGAZINE OF BSMRMU



## **Maritime Education and Training** Prospects and Potentials in Bangladesh

**Changing roles to adapt to  
the climate change in Bangladesh**

**New BSMRMU Vice-Chancellor appointed  
Dialogue with the Vice-Chancellor**



# ABOUT THE OCEAN AND THE WORLD

1

The ocean is the **SOURCE OF LIFE AND LIVELIHOOD FOR A GROWING POPULATION**. About 2.9 billion people around the world obtain 20 percent of their protein needs from fish. The earth's climate is strongly influenced by the interaction between atmosphere and the ocean. Without the ocean we would not survive.

2

The ocean is under threat due to a number of factors. The situation results not from a single problem rather from a whole confluence of troubling issues. **WE HAVE OCEAN CRISIS!**

3

The ocean covers 71 percent of the globe. **THE SEAS SUFFER BECAUSE OF CLIMATE CHANGE**. Acidification, warming and rising of sea levels are already altering habitats. The global sea level has risen 20 centimeters over the last hundred years. That figure can reach up to 1 meter by the end of this century.

4

**WE TAKE MORE THAN THE OCEAN CAN GIVE.**

Simply put we are over-exploiting the ocean. One example is overfishing. 90% of the global fish population is maximally exploited or has already been overfished. The resulting decline to biodiversity is particularly troubling.

5

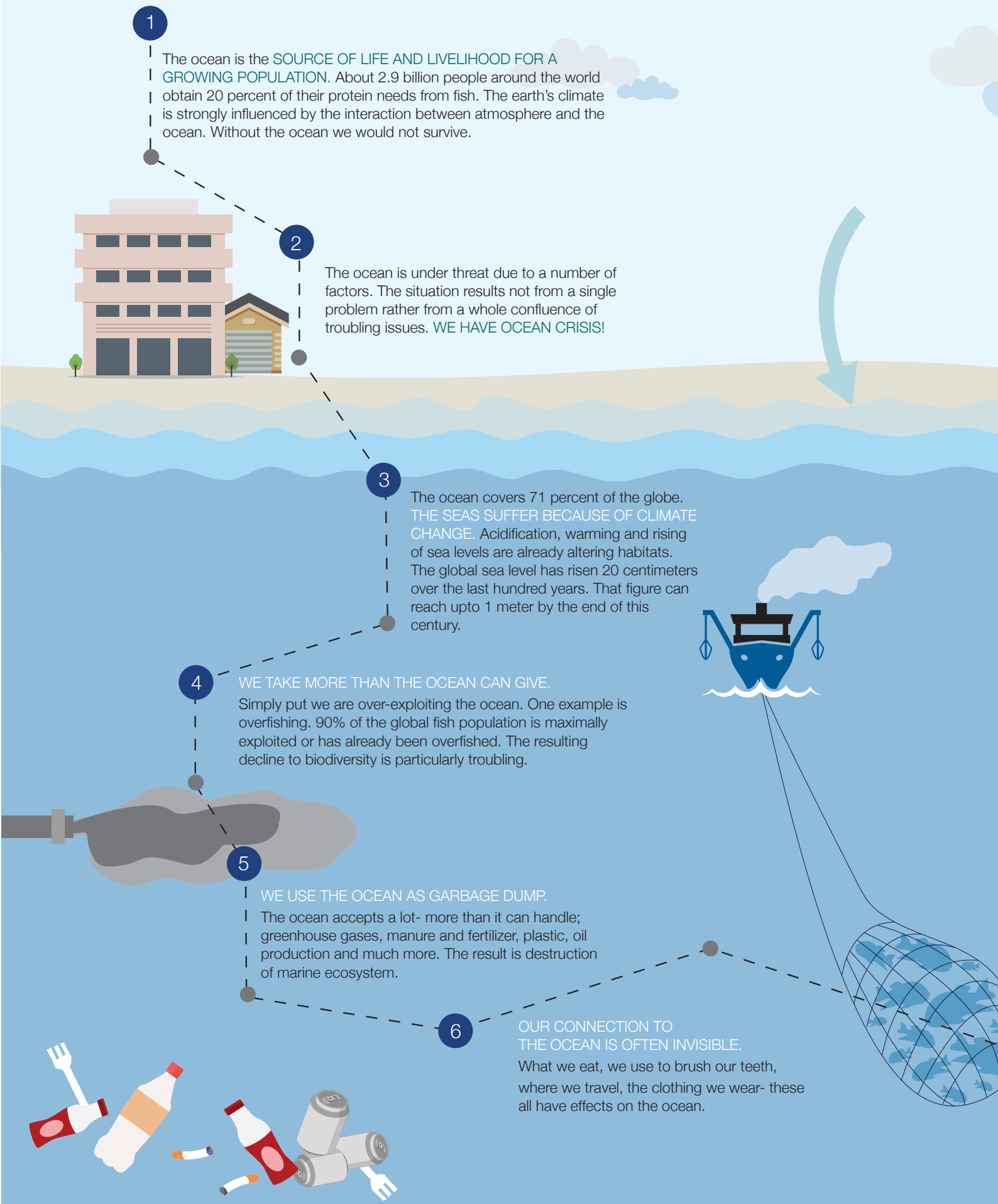
**WE USE THE OCEAN AS GARBAGE DUMP.**

The ocean accepts a lot- more than it can handle; greenhouse gases, manure and fertilizer, plastic, oil production and much more. The result is destruction of marine ecosystem.

6

**OUR CONNECTION TO THE OCEAN IS OFTEN INVISIBLE.**

What we eat, we use to brush our teeth, where we travel, the clothing we wear- these all have effects on the ocean.





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Yet there is still movement in the right direction. The ocean crisis is coming under the spotlight. People around the world are starting to change their behaviour and their consumption. With the 2017 United Nations Ocean conference in New York City, the global community is **BEGINNING TO WORK TOGETHER TO PROTECT THE OCEAN.**

11

The ocean surrounds the world. But **THERE IS NO SUPREME INTERNATIONAL AUTHORITY THAT IS TRULY RESPONSIBLE** for the protection of the entire ocean. The result is fragmented jurisdictions, inadequate laws and thereby loopholes.

10

If we continue doing what we are doing now many people will lose their livelihoods. **THE POOREST ARE THE MOST AFFECTED.** Migration will become the last resort.



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**THERE COULD BE ENOUGH FOR ALL.** A sustainable and just approach to dealing with the ocean's natural resources is possible. The necessary preconditions are conscientious consumption, fair distribution and intelligent fisheries management.

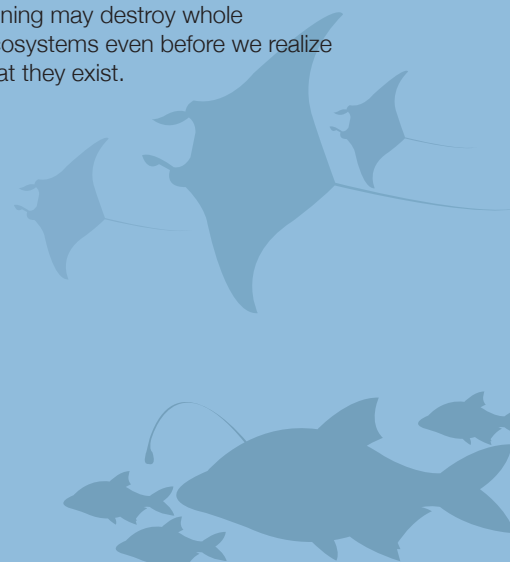


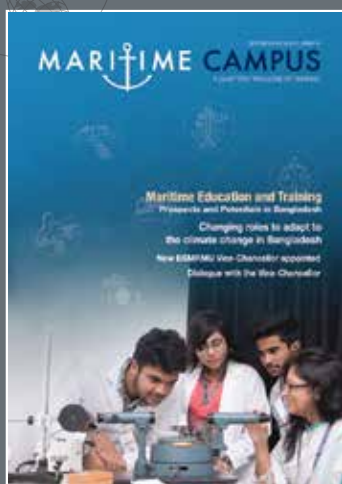
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**THE SECRETS OF THE DEEP SEA.** Many of the secrets are yet to be discovered or explored. Deep sea mining may destroy whole ecosystems even before we realize that they exist.

7

**INDUSTRIALIZATION OF THE OCEAN.** Yet it is just the beginning! The most significant changes are still ahead of us. The demand for natural resources and energy from the deep sea is large and will only grow in the future.





## Notes from the Chief Patron

Hello, the ocean lovers and members of the maritime world home and abroad! Welcome to Maritime Campus, the quarterly regular magazine from Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU), the first ever specialized maritime university in country.

Since the prehistoric age, we are a nation with abundance of maritime affluence and limitless marine potential. Cruising through the ups and downs over thousand years of history, we are once again standing upon the threshold of a new era destined towards glory and success. In this new millennium we have set our goals to realize vision 2041 and elevate the country as a developed nation. At the very moment, Bangladesh is headway with an unprecedented economic development making remarkable feats of achievement in almost every sector of the society. We are a country gifted with plenty of wealthy rivers and a vast blue sea with an unlimited amount of maritime resource and potential in it.

Although beckoning of maritime sector has enormous prospects, the general and especially the youth of the country are still unaware of these golden opportunities. It is time to heed, promote and create a learning environment for higher maritime education with excellence for the aspirants. Exploiting of the maritime resources requires skilled and knowledgeable maritime professionals. We believe BSMRMU will create the necessary awareness and eventual expertise among the youth and the mass in general in a foreseeable future.

In line with that, we took an effort to elaborate on the urgency and prospects of maritime education in Bangladesh in our lead story inside. In addition, you will learn on the current state, future outlook and learning opportunities at the university in my interview. Under the logbook section you will find the eventful and brave history of the maritime past. Besides, we have also featured an essay on the impact of climate change on safety of navigation in our inland waterways in the Academia section. We have a section to cover the maritime career options including all the important and interesting developments of the university campus in a section called Campus Canvas. Besides, the readers will also find local, regional and global maritime news in the other pages.

With the mind to create maritime attachment and awareness among the youth of Bangladesh, we view the creation of Maritime Campus as just the beginning of an ongoing process and we hope it will be a collaborative one. Regularly on its pages through text and images we will mirror the magnitude and diversity, prospect and potential of the maritime realm of Bangladesh and the world. This magazine will be a congregation of maritime think-tanks, researchers, scholars and the policy makers of the country.

We hope you will be in touch with us by giving guidelines, suggestions, and submissions. You can always reach us by emailing at [bsmrmu.edu.org](mailto:bsmrmu.edu.org) or on Twitter and Facebook.

With your support we shall give a voice to the hidden magic of our maritime world. Thank you for being with us and keep coming back to Maritime Campus.

Best wishes,

Rear Admiral M Khaled Iqbal, BSP, ndc, psc  
Vice-Chancellor

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### Maritime Campus

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### LEAD STORY

#### Maritime Education and Training Prospects and Potentials in Bangladesh

Maritime domain has every potential to emerge as one of the most lucrative areas for employment in the country today and in days to come. It has diversified scopes and the extent is limitless. To realize vision 2041 in its true essence and elevate the country into a developed nation, we cannot but look into the untapped maritime magic of our territory.



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#### Seafaring opens new doors of employment in Bangladesh

Europeans are considered as the pioneers of the seafaring profession. Although emerging new carrier options in various sectors have minimized the popularity of the seafaring jobs among the Europeans, these vacancies gradually have been occupied by the developing countries, remarkably by South Asian, Ukrainian, Filipinos, etc.

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The history of maritime shipping stretches back thousands of years to the times of the earliest humans, for as long as there have been people they have wanted to explore what was beyond the seas. Today, maritime shipping is just as important as it has ever been, although the countries benefiting from these trade routes have shifted throughout history.

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#### Bangabandhu: The Architect of Maritime Vision for Bangladesh

Bangabandhu had the foresight to see through the infinite stock of maritime treasure hidden in the vast blue waters lying to the south of the country. To secure our executive rights over this inestimable bounty, he took hands-on initiative and promulgated the 'Territorial and Maritime Zones Act-1974'.

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"To meet the ever-changing demands and requirement of the nation we are continuously upgrading the educational services and facilities and bringing all types of marine professionals on a common platform to share knowledge and conduct research and development works for the advancement of country's maritime sector."

-Rear Admiral M Khaled Iqbal, VC of BSMRMU

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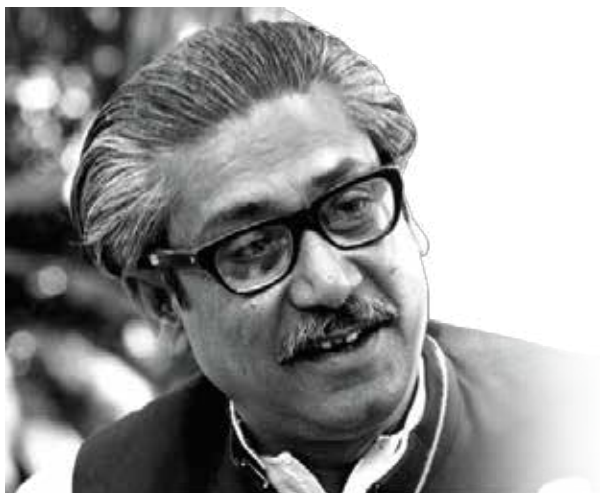
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- Changing roles to adapt to the climate change in Bangladesh
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## Bangabandhu

### The Architect of Maritime Vision for Bangladesh

Bangladesh achieved its independence under the leadership of the great leader, father of the nation Bangabandhu Sheikh Mujibur Rahman.

As a visionary leader, he is the one who first realized the potential of maritime resources of the country and took sincere initiatives to lay out the primary foundation of its future exploitation. Much earlier in 1966, with the maritime significance in his mind, he demanded for the Naval Headquarter to be in the East Pakistan in his historic six-point demand.

The fearless operations undertaken by the naval commandos played a crucial role during the liberation war through the execution of Operation Jackpot that resulted in a complete collapse of the Chattogram port by cutting off the primary supply chain of the enemy line quickening our freedom.

Right after the liberation, Bangabandhu revived the Chattogram port with support from the Russian divers and re-launched our international trade operation. He procured two patrol crafts from India and commenced the voyage of Bangladesh Navy. To further strengthen and empower the maritime infrastructure and logistics of the country,

he established BNS Issa Khan in Chattogram. He also secured five battleships from India and Yugoslavia. Under his supervision five patrol crafts were built in Narayanganj that actually paved the way for future expansion of the ship building industry in country.

The Bangladesh Shipping Corporation (BSC), which was constituted at the directives of Bangabandhu, procured 14 oceangoing ships, including coasters, by December 1974.

Bangabandhu had the foresight to see through the infinite stock of maritime treasure hidden in the vast blue waters lying to the south of the country. To secure our executive rights over this inestimable bounty, he took hands-on initiative and promulgated the 'Territorial and Maritime Zones Act-1974' much earlier than the universal UNCLOS, declared by the United Nations in 1982. To build up and nurture an educated and well trained maritime human resource who would fittingly exploit the maritime potential of the country, he took out all measures to restore the then existing marine academies besides initiating new academies and institutions.

Coming down the legacy, it has been possible for us to resolve territorial maritime demarcation issue with our neighbor Myanmar and India in the most peaceful manner. Thanks to the judicious initiative taken up by Sheikh Hasina, the daughter of Bangabandhu and the current Prime Minister of Bangladesh, the country has effectively established its sovereignty over an area of 1,18,813 square kilometres of territorial water in the Bay of Bengal.



**Photos:**

*Bangabandhu Sheikh Mujibur Rahman handing over the Naval Ensign to Bangladesh Navy on 10 December 1974 at BNS ISSA KHAN (left)*

*Bangabandhu in a visionary gesture during a sea exercise onboard BNS Surma on 10 December 1974 (right)*





Hon'ble President Md. Abdul Hamid meets VC of BSMRMU Rear Admiral M Khaled Iqbal

## BSMRMU VC meets Hon'ble President

Vice-Chancellor of BSMRMU, Rear Admiral M Khaled Iqbal, BSP, ndc, psc called on the Hon'ble President of the People's Republic of Bangladesh and Chancellor of BSMRMU Md. Abdul Hamid on 22nd April 2018 at Bangabhaban.

The Secretary to the Hon'ble President and the Military Secretary to the President were also present at the meeting. Vice Chancellor conveyed wishes to the Hon'ble President on behalf of BSMRMU and presented a crest. The Hon'ble President Md. Abdul Hamid gave a series of important directions for the better progress of BSMRMU's academic activities and for the establishment of the permanent campus in Chattogram. Besides, he expressed his deep optimistic thoughts about the future potential of the university considering the country's blue economy prospects.

## New Vice-Chancellor appointed

Rear Admiral M Khaled Iqbal has been appointed as the Vice-Chancellor of the sole specialized maritime public university of the country, Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh vide a gazette notification from the Ministry of Education on 28th January 2018. Before joining BSMRMU Rear Admiral M Khaled Iqbal served as the Chairman of the Chittagong Port Authority. He joined Bangladesh Navy in January, 1981 and commissioned in Executive Branch on June 01, 1983. He replaced Rear Admiral A S M Abdul Baten, the founder Vice-Chancellor of the University.



Rear Admiral M Khaled Iqbal takes over as Vice Chancellor of BSMRMU



## A brief history of global maritime shipping

Enlighten Vibes Desk

*The history of maritime shipping stretches back thousands of years to the times of the earliest humans, for as long as there have been people they have wanted to explore what was beyond the seas. Today, maritime shipping is just as important as it has ever been, although the countries benefiting from these trade routes have shifted throughout history.*

### **Prehistoric days: circa 45,000 BCE**

It's believed that as many as 45,000 years ago people living in modern-day Australia would have used boats for travelling and to find food resources. While we know very little about how they sailed, it's fascinating to think that even before the rise of civilizations people were using boats.

### **Early trade routes (3rd -2nd century CE)**

The Arabian Sea, with modern day India to its west and Pakistan to the north, became one of the first major marine trade routes for early coastal sailing vessels around 4-5,000 years ago. The primitive vessels that sailed during this period would not have strayed too far from the coast. The need to transport goods over the desert country and the potential risk of bandits attacking the travelling caravans meant that travelling by land was potentially as dangerous as travelling by water.

This area was instrumental in early navigation, in fact, it is believed that the science of navigation started around the river Indus, which has its basin in Pakistan. In the early days of maritime travel, ships were able to find their way across the seas using a mariner's astrolabe. This instrument could predict the position of the sun, moon, planets and stars; the compass wouldn't be invented until the 11th century in China.



During the same period, Romans were also taking advantage of the opportunities that sailing presented. The Romans had large commercial fleets and the best of these vessels were capable of crossing the Mediterranean Sea in around a month. In fact, transporting low-value goods such as grain and construction materials could be achieved at a sixtieth of the price of doing so by land.

The Romans expanded their trade routes in the 1st and 2nd century CE by travelling over the Indian Ocean to South Asia where they were able to trade with the rich Tamil dynasties. The success of these commercial ships was only made possible by the fact that galleys and triremes were on hand to stop any potential ambushes by the hands of pirates. Throughout history, the importance of protecting commercial vessels could not be underestimated.

### The Arab age of discovery (7th-13th century CE)

During this period the Arab Empire began developing trade routes throughout Asia, Africa and Europe. Because only a few rivers in the Islamic regions of the Empire were navigable, travelling by sea was especially important. Rather than keeping close to the coast these advanced Arab vessels, known as qaribs, could cross oceans, thanks to a greater understanding of celestial navigation, drastically reducing the time needed to transport goods.

### Europe's age of discovery (15th-19th century CE)

Several centuries later it was time for Europe's Age of Discovery, as advances in navigation and shipbuilding in north-western Europe allowed an increasing number of voyages across the Atlantic to the Americas. Here new commodities such as tobacco from Virginia and gold and silver from Mexico and Peru were discovered and brought back to Europe.

In turn, many of these goods were brought to Asia to be traded. In fact, in the early 1600s, many European countries such as England, France, Denmark and Portugal created East India Companies. The most successful by far, however, was the Dutch East India Company, which is considered the first truly multinational company.

The Dutch East India Company had a virtual monopoly on spices in the region with a busy port in Batavia (modern-day Jakarta). However, much more important than the transportation of spices was the movement of Europeans, around a million of them between 1602 and 1796 by the Dutch company alone, into Asia. The English

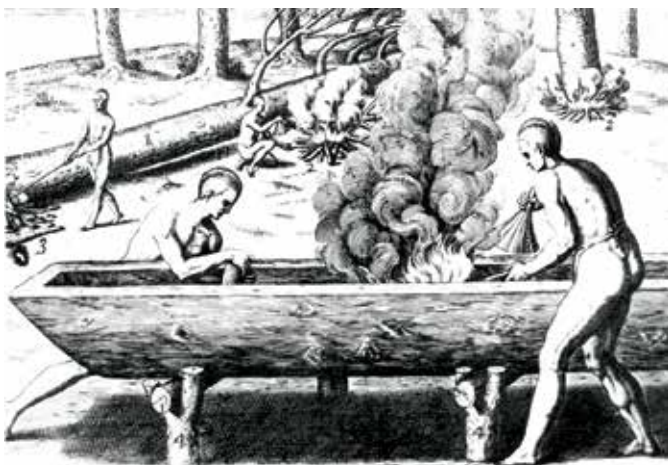


*Late 16th century vessels in the Java Sea: small craft and two mid-sized traders.*



*A fleet of ships entering the Suez Canal at its inauguration, 17 November 1869*

*Drawing of Indians along the Virginia coast making a pirogue-type boat in 1585. National Anthropological Archives, Smithsonian Institute.*



East India Company meanwhile focused its attention on India, trading in goods such as cotton, silk, and tea. The power of the East India Companies and the infrastructure they put in place was a precursor to the colonization that occurred throughout much of the continent.

### Modern age (19th-21st century CE)

In 1869 the Suez Canal was opened, allowing transportation between Europe and Asia without having to sail around Africa. Eventually, the Panama Canal was opened; linking the Atlantic and the Pacific Ocean and halving the time it took for ships to travel between the two options.

These man-made waterways transformed the trade opportunities for many countries and in doing so reduced trade in others. The Panama Canal, for example, enabled the West Coast of America and nations along the Pacific Ocean to increase their trade. Almost 15,000 vessels sailed through the canal in 2008, up from 1,000 when it first opened, showing that maritime is increasingly pertinent in today's 21st century.



## Maritime Education and Training **Prospects and potentials in Bangladesh**

**M Ziauddin Alamgir, Milton Molla**

Maritime community denotes a global community in a real sense. It is a very discrete community of expert people that defines some kind of special relation pertaining to the oceans, seas and major waterways of the globe. The very word maritime relates to a vast range of diversified scopes and opportunities.

Maritime Education and Training (MET) essentially lies at the heart of this global community. It is the source of vital lifeblood that flows through the arteries of this community keeping it alive and thriving. Let us for a moment imagine a ship cruising through the big waves out in the vast sea. Now imagine the people who are actually running the ship, like the captain, the engineers, the crew and the sailors, the

man on the radar, and many other responsible persons who are on hand operating the ship to its destination. Now think about the people who had built this huge ship (like the electrical, mechanical and the marine engineers), and then think about the port it had left behind or the port it is destined to and think about the dozens of different departments and faculties and thousands of people that operate in a port and finally then think about the people who are the customs or obligatory law inspectors, or the decision of policy makers, who decide on courses of maritime trade and prospects. And still there are people who are specialists on seas and oceans and know about its magnetism and can predict on oceanic events and think about the people who are the scientists, underwater





explorers, marine biologists or a thousand others who are in many different ways relatable to this particular ship of our imagination. They all fall into the jurisdiction of the maritime domain and the above-mentioned people are marine professionals. These people are educated, trained and experienced in their own fields.

By simply looking at a ship, sometimes, we might fail to perceive the bigger picture of the immensity of our maritime world. According to the general notion, maritime education implies certain modules of education particularly designed for the seafarers, which in reality is much more than this. Maritime education and training is not just for the sea going ships. It has its physical, technical, scientific, social and legislative aspects as well. In a broader range, the domain of maritime today incorporates issues like naval architecture, marine engineering, maritime finance, maritime security and maritime laws, to name just a few.

According to the marine experts, 'Maritime Education and Training (MET) is an educational system that aims to provide seafarers for merchant vessels. However, in the modern context, when the

development of shipping industry significantly contributes globally, a new outlook to redefine the concept of MET from a broader perspective is needed. Modern scenario, the scopes of MET are broader such as maritime finance, maritime security, and are maritime disciplines in shipping markets like maritime archeology'.

### What is Maritime Education and Training (MET)?

MET covers a wide range of apparently diversified areas and excellence in its learning can open up new doors of opportunities within the robust sphere of the maritime industry. At present, the marine industry in Bangladesh is facing challenges for skilled manpower to fill up the voids in its operational network. It needs a range of diversely educated human resources to be employed to an array of different jobs pertaining to the industry. They have different job responsibilities; yet they offer the opportunities to pursue a unique career in that particular region only.

Let us have a look below that shows a list of vocations and careers one could choose after completion of his/her chosen subject or course of maritime education and training.

- Maritime lawyer
- Marine insurance practitioners
- Ship brokers
- Maritime security and safety practitioners
- Port managers
- Ship breaking
- Ship management
- Freight forwarder
- Marine insurance
- Naval architecture
- Maritime administrators
- Marine engineers
- Marine business managers
- Crew managers
- Marine incident and accident investigators
- Surveying
- Transport and logistics
- Maritime economists
- Maritime journalism
- Ship managers
- People Management
- Ship superintendent
- Harbor master
- Marine environmental managers
- Ship building engineers
- Logistic and distribution management
- Nautical science
- Maritime conventions
- Port design and engineering
- Marketing and business development
- Port project management
- Occupational health and safety
- Communication and information technology
- Marine environmental surveying
- Business planning
- Maritime trade and transport
- International trade
- Competency and people management
- Customer relation

It is agreeably evident from the above that how expanded and diversified are the options that are offered by maritime education.

It is also justifiably expected that through maritime education young people who work on board ships or in other maritime fields would be capable of understanding and recognizing differences well, of making sensible decisions and good choices, of innovating and easily adapting to other settings and of maintaining continuous communication and respecting diversity in the maritime community.





*Female participation is gaining momentum in the maritime sector of the country*

### Existing maritime education backdrop in Bangladesh

Bangladesh, a maritime champion in the South Asia region, has its sovereign authority over an area of 118, 813 square kilometers of territorial water in the Bay of Bengal with 710 kilometers of coastline besides having an extensive network of robust rivers spread across the country. Maritime infrastructures and operations within the country greatly impact our foreign trade. Nearly all of the EXIM trade in country relies on maritime support and port logistics, thus making its ports and maritime infrastructures the lifeline of the country's economy.

As history records, formal education in the maritime sector began with the establishment of STC in 1952 that later turned into National Maritime Institute (NMI). This was followed by Bangladesh Institute of Maritime Technology (BIMT) in 1958 and Bangladesh Marine Academy (BMA) in 1962.

Realizing our maritime potential at a very early stage in our modern history, Father of the Nation, Bangabandhu Sheikh Mujibur Rahman after the independence of Bangladesh undertook the dynamic initiatives to revive the then war-torn maritime sector. He also initiated strengthening of the infrastructure besides reinstating maritime academic and training activities laying the foundation to build up skilled and able human resource that would be capable enough to exploit the immense potential of our maritime realm. After the liberation, Bangladesh Marine Fisheries Academy (BMFA) was established in 1973 with a view to educating mainly the maritime fishing professionals.

Gradually the number of government and private marine academies began to increase. Till the establishment of Bangladesh Navy Hydrographic and Oceanic Center (BNHOC), maritime education in the country was unidimensional which aimed to create seafarer i.e. merchant mariners only.

Bangladesh University of Engineering and Technology (BUET) conducts an undergraduate and postgraduate program on Naval Architecture and Marine Engineering (NAME) designed to produce human resources specially for the ship building industry. Military Institute of Science and Technology (MIST) has also started NAME at the undergraduate level. University of Dhaka (DU) started the postgraduate program in Oceanography in 2013. It also started a bachelor program in the same field in 2014. The country has four



*Looking through the immense potentials of our maritime resources*

vocational maritime institutes in Narayanganj, Sirajgonj, Faridpur and Bagerhat and more in the queue.

Institute of Marine Science and Fisheries (IMSF), University of Chittagong (CU) also conducts an undergraduate and postgraduate program on Marine Science and related discipline. The IMSF has been established in the University of Science and Technology at Noakhali and Patuakhali. The University of Khulna (KU) established a school on Fisheries and Marine Resources Technology (FMRT) in 1991. Shahjalal University of Science and Technology (SUST) has also introduced courses on Oceanography.

However, over the last decade things began to change remarkably and take on a dynamic shape coping with new demand of the present market and policies. Accordingly, to augment higher education and produce the expertise in various marine disciplines through graduating maritime professionals in the maritime domain in country and employ them to exploit the untapped potential of our sea resources, Honorable Prime Minister Sheikh Hasina initiated the establishment of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) in 2013 with the view to bringing together all maritime professionals to a common and collaborative platform, besides imparting world class maritime education to aspiring students. BSMRMU is the third in Asia and 12th maritime university in the whole world. It is also the first specialized university in Bangladesh.

### Prospects and potential in maritime Bangladesh

With a vivid backdrop of maritime resources in country, the leaders in a wise vision took upon huge tasks to enhance the existing capacity and expand the operational areas with the view to exploiting them in

the most fruitful manner. Different maritime nations may have varied types of sectors as their primary maritime interests. Maldives values fisheries and tourism as the core possession in their maritime potential while in Bangladesh sea ports and their functions stand at the heart of its maritime plan. Ports and waterways play as the backbone for executing the major portion of our external and internal trade. In an obvious manner, like Japan, Singapore, China, India and other coastal countries who have dramatically reached outstanding success in recent history mainly exploiting their port and maritime potential, Bangladesh is also resolved to head on in the same direction. To that end, the government has already unleashed a set of new policies and mega-projects pursuing the port led development agenda of the country.

At the moment, colossal development works focusing on maritime interest are underway throughout the country. Besides enhancing capacity of the two existing ports in Chattogram and Mongla, new ones are being constructed to accommodate the ever-increasing trade volume of the country. Capacity and strength of the ports are being boosted in terms of more sustainable infrastructure, incorporating of modern equipment and enhancement of operational efficiency. Construction of over 100 export-oriented economic zones are underway that would principally rely on the ports of the country. To enhance hinterland connectivity construction work of mega projects e.g. Padma Bridge, metro rail and river tunnel projects are running in full swing. Construction of Payra port in Patuakhali and Matarbari Multipurpose Terminal at Maheshkhali would provide access to bigger ships with deep sea port facilities. Automation is being introduced in almost all the sectors concerned with the maritime operation. As such, it is evident a new generation of skilled and educated human resource will be primary requisite if we want to make the best use of these renovations and innovations and thus unlock the enormous maritime prospects and potential.

The next most potential and thriving area in the maritime sector is the fisheries. We have a fisheries academy in country to produce knowledgeable and enlightened human resource for the industry. It is to note that Bangladesh has earned exclusive fishing rights over a huge area in the sea. Now we need a strong support base for the fishing industry to exploit this boon. Besides, under the current norms and ethics of leading international forums we also need to

*Students working with heavy machinery at dockyard*



*Hands on training on board a ship for the learners*

address issues like climate change and pollution on valuable habitats such as mangrove and estuaries that have considerable impacts on marine fisheries' productivity. No doubt, this will require researchers and judicious think-tank who would pursue comprehensive plans for sustainable conservation, management, and exploitation of this immense reserve.

On the other side, the country is gaining speed in the ship building and ship recycling sector. Bangladesh has a thousand-year-old heritage in ship building which is rejuvenating in the new millennium years once again. Ship building enterprises both in the public and private sector are on a fast rise in country empowered by huge incentive offers and support from the government. International market has also shown its keen interest in us and visibly a lucrative market is waiting only on our doorstep. In spite of these enormous possibilities, there still exists a lack of skilled and trained human resource in the sector which is a big hindrance on its way to greater accomplishment.

Blue economy is the other golden door to a sustainable prosperity for the nation. The government has decisions to exploit the resources of the Bay of Bengal in a careful manner without jeopardizing the ecological balance of the sea. It is the biggest bay on earth providing support for about 1.4 billion people living on its coastlines. Blue economy offers an extensive range of options for further explorations in the field. Marine tourism is a prospective sector. In addition, initiatives are underway for further enhancement of coastal shipping.

Another point to ponder, we need to introduce new service sectors, develop logistic and infrastructure to accommodate the existing industrial demand. Fisheries in the sea and coastal aquaculture offer potential means for the provision of food and livelihood as well as respecting the ecological parameters besides creating sustainable employment. In addition, we need to give emphasis and focus on sectors such as oil, gas and mineral mining, marine biotechnology, ocean renewable energy, sea salt production, marine trade, marine tourism, marine surveillance and marine spatial planning. This untapped resource of Blue Economy is the next most important domain where we have huge possibilities yet to explore and exploit.



### Maritime education towards realizing our development vision

The leadership of the country has set development targets projecting long term progress in all sectors on the social, economic and human development index. Prime Minister Sheikh Hasina has urged all countrymen to make the best use of all existing resources and rise up as a developed nation in the world by 2041. It is certain if we could sensibly utilize our maritime potential to its fullest extent we could definitely realize that vision.

### Maritime education focusing on industrial need

However, to unlock and make an intelligent use of these potential there is no other option but to build, train and educate a generation of intelligent and skilled human resource on our own. Be it in areas of ship building or as diversified as underwater marine research, we certainly need to be self-reliant in terms of knowledge and capacity in the very first place.

For a better collaboration we need people who would be technical experts as well as people who would run research work to delve deep into the possibilities of the maritime domain and gift us with new knowledge. We will also need experts who would analyze social impact on maritime sectors and generate smart policy in the hierarchy for an environment friendly and sustainable progress. The key that would unlock this pathway to success is obviously quality maritime education and training.

Nonetheless, we cannot expect the best yield from our maritime context if we just continue to depend on the foreign experts and faculties for the exploration and exploitation of our own resources. We may have foreign support in various manners in the initial level and sustain for the time being but for the long run we have to build up a strong education and knowledge base in the maritime sector in country. The course and curriculum need to be designed to welcome and encourage the young men and women in country to join the future fleet of development.

We should also build platforms for greater collaboration and through them decide upon formulating new policy and planning to enhance and consolidate the maritime education in country. Besides

introducing maritime courses and curriculums that have downright demand in the current industry we should also take measures to promote and implement vocational education and training to include the greater workforce of the country and build them as productive human resources for the nation, who are skilled, qualified and equipped with higher maritime knowledge in respective fields.

Maritime domain has every potential to emerge as one of the most lucrative areas for employment in country today and in days to come. It has diversified scopes and the extent is limitless. To realize vision 2041 in its true essence and elevate the country into a developed nation we cannot but look into the untapped maritime magic of our territory. But the question is, how we go there if initially we do not have the desired human resource capable enough to think, search, research, explore and exploit the dormant possibilities lying at the feet of our map, the endless maritime reality. To build up such an educated and intelligible maritime community we need to think on long term, but begin with what we have at hand right now, like by nurturing and expanding the scopes of existing maritime learning centers and institutions in country. Our mission though should be to build up a sustainable, dynamic and proactive maritime workforce in country for the long term that would be willing to join and celebrate our maritime opportunities. Through a judicious and visionary policy, we can equip us with an empowering knowledge of maritime science, literature and laws and then march on to explore the gifted maritime heritage and resource, which Bangladesh is.

It is time, we open our eyes and gaze over the blue waves, to see and welcome the bright light waiting upon us.

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#### **M Ziauddin Alamgir**

Dean

Faculty of Maritime Governance and Policy

#### **Milton Molla**

Writer, Enlighten Vibes

*The training and education of the human element is paramount for an effective and efficient maritime global industry.*







23 Bangladeshi seafarers join an Ultra Large Container vessel MV Meishan Bridge in Japan on 6th June 2018 at Imabari Shipbuilding Shipyard Japan

## Seafaring opens new doors of employment in Bangladesh

**Dewan Mazharul Islam**

Lecturer

Department of Nautical Science

Seafaring is one of the most ancient professions in the world. Europeans are considered as the pioneers in this field followed by the others. Although emerging carrier options in various sectors of the economic arena have minimized the popularity of the seafaring jobs among the Europeans, these vacancies have been occupied by the developing countries, remarkably by the South Asian, the Ukrainian and the Filipinos. Fewer opportunities in the land based job and high rate of unemployment in comparison to the higher payment in the ship jobs made seafaring popular and an attractive profession to the Bangladeshi people since the British period. During those days, a lot of people joined the foreign flag ships to earn handsome money which brought solvency better than many other professions available at that time.

To produce efficient maritime human resource a 'Mercantile Marine Academy' was established in 1952 by the then East Pakistan Government. It was named as 'Bangladesh Marine Academy' after the independence. In 1989, the National Maritime Institute (NMI) was established to provide training to the seafarers. In 1972, national shipping company 'Bangladesh Shipping Corporation (BSC)' was established, and BSC played a vital role in employing the local seafarers. The experience thus acquired from the BSC helped them to get employment later with various foreign ships.

Bangladesh, being a white-listed country of International Maritime Organization (IMO) for seafaring is providing huge number of seafarers to the world's fleet since the British era. Though the country had a glorious seafaring past, they are facing numerous problems in getting employed these days. Major reasons for this are, complication and leniency to get visa, shrinking number of national fleet vessel, lack of goodwill of Bangladeshi seafarers, low-standard maritime education and training, to name a few.

Seafarers need visas to join the ship from the port where it is located.

It was found that Bangladeshi seafarers are facing difficulties in getting visa of UAE, Singapore which are important hubs for joining the ships. It is a fact that a few numbers of seafarers of Bangladesh have the tendency of desertion from ships for their personal interest and gains.

BSC has few vessels and therefore, it is hard to find the training vessel for the passed-out cadet officers of Marine Academy and National Maritime Institute respectively. On the other hand, the poor quality of Maritime Education and Training (MET) is a big reason for the unemployment of Bangladeshi seafarer. Most of the Maritime training institutions of Bangladesh do not follow the guideline of the International Convention on the Standard of Training, Certification and Watch (STCW). Currently, Bangladesh doesn't have the simulator based education and training facilities for ships and that is a major setback for the local seafarers to get foreign jobs.

Seafaring is a globalized profession, which can minimize the pressure in the local job market and can earn huge remittance that has positive impact on the national development. Bangladesh has a glorious seafaring culture that dates back to the prehistoric ages. However, for the time being it is in an alarming situation for different reasons. Sincere efforts need to be made by the policy makers to overcome the hurdles. In spite of this, lots of seafarers are serving in various foreign flag ships with pride, although the rate of progress comparing to other seafaring nation is negligible.

The current initiative of the government for procurement of new ships is appreciable. At the same time, immediate diplomatic efforts should be taken to solve the visa issue. To make seafarers aware about the bad effects of desertion, maritime institutions may arrange awareness building programs to refrain them. Efforts should also be taken to standardize MET, in which Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) could act as a pivotal player.

## ‘BSMRMU aims to create maritime awareness among the youth of Bangladesh’



*Maritime education lies at the heart of a maritime industry. The maritime industry in Bangladesh, in recent times, has become extremely concerned about human resource. Importantly, maritime training and education of the human element is paramount for an effective and efficient maritime industry. Good news is, with a vision to promote and create a knowledge environment for higher maritime education in the country, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) came into being in 2013. As the first of its type specialized university at home BSMRMU offers a range of facilities, disciplines and curriculums to accommodate varied interests of the young learners gradually nurturing them into world class professionals.*

*In an interview with the Maritime Campus, Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal has explained in details the multifarious prospects and potentials lying in this magical world.*

### **How do you see your institution generating sufficient manpower to tap the opportunity of a promising maritime industry in Bangladesh**

You may know, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh came out as the first ever maritime university of Bangladesh. The university will run 7 faculties and 38 departments related to maritime higher education. MoU with a few reputed Maritime Universities of the world has already been signed for necessary supports to maintain high standard in education system in this university. The university is also planning to include Oceanographic Research Vessel for training of students and research works by the scientists to explore our sea area. We have been working on mutual cooperation with other related universities/institutions. To meet the ever-changing demands and requirements of the nation we are continuously upgrading the educational services and facilities and bringing all types of marine professionals on a common platform to share knowledge and perform research and development works for the advancement of country's maritime sector. We have also created a conducive environment for students to prepare themselves to serve the nation as future planners, policy makers, leaders in maritime sector in coordination with national and international organization including International Maritime



Organization (IMO). Bangladesh is now observing unprecedented economic development whereas blue economy is given utmost importance by the government as an essential tool to achieve the objectives of vision 2041 set by the Honorable Prime Minister, Sheikh Hasina. This will create huge job opportunities in the country in maritime sectors including increasing opportunities in South Asia and ASEAN country. With that view BSMRMU has short mid-term and long-term goals to develop the university facilities and capacities. BSMRMU is currently running 2 Honors and 6 Masters programs and has planned to include other departments in next few years. Though there are now a few hundreds of students in the university, BSMRMU plans to upgrade facilities for 3500 students by 2021 and 6000 students by 2025. However, as a long-term goal, the university will have full capacity of 12000 students including foreign students, making it a global centre of excellence.

**In what ways maritime institutes like BSMRMU can play an obligatory role in creating maritime awareness among the youth and mass of the country?**

Bangladesh owns more than 1,18,813 square kilometres of sea area. We have a zone called 'Territorial Sea' up to a maximum limit of 12 nautical miles and sovereign rights to enjoy 200 nautical miles 'Exclusive Economic Zone' (EEZ), including its seabed resources. Our portion of the sea hosts three potential fishing grounds and contains 475 different species of fish. More than 90 percent of our trade, including 100 percent oil transportation takes place by the sea and Chattogram port is the only major port handling about 92 percent of the total import-export.

Our contribution till now is about 4,000 skilled mariners out of 160 million people, which is in no way close to the world's largest producer the Philippines that supplies around 400,000 marine-sector experts. Although this sector has enormous prospects, our youth are still unaware of this golden opportunity. Therefore, we are promoting and creating a learning environment for higher maritime education with excellence through state-of-the-art facilities and gadgets, competent faculty and staff, research-based knowledge etc. We believe that BSMRMU will create necessary awareness among the youth and the people of Bangladesh in a foreseeable future. We have initiated awareness increasing campaign schemes for the students of the university and for the future students in the college. Already we have a strong online presence, several publications including magazines, brochure and prospectus. We are regularly conducting seminar, attending education fairs at home and abroad. We have plans for more awareness campaign through the new media and alternative promotional method to attract the youth of our country. BSMRMU regularly organizes seminars/workshops where students and faculty from various Universities and professions are invited to participate. Quarterly and annual journal and prospectus are distributed to different Institute/Offices. In addition TV/Online programs are also arranged while newspaper articles/supplementary are published for mass awareness.

**The world is going through rapid technological changes; what are the offerings of BSMRMU in this regard?**

Frankly speaking, BSMRMU is committed to provide quality education based on state-of-the-art technological support responsive to the emerging challenges at home and abroad. Therefore, the university has all the modern equipments and technologies to train and educate the students with international standard.



We use the structured and interactive multimedia tools in the classroom. We have self-paced learning schemes and D-space students archive where all the journals, research paper and other newspapers are archived for students use. We also have accessible education that is electronic library and resources. Through UGC UDL system I mean e-resource, our students have the access to e-library, where they can subscribe 5700 e-books, 10500 e-journals from anywhere in the world. We have Library Management Software to manage our international standard Library.

Information Communication Technology provides general-access computing and communications facilities for the entire university community, including a high-speed campus network linked to the Internet, computing labs, and central e-mail services.

It is running a fully automated IMS (Integrated Management System) for managing student data, their registration and to publish their results.

We already have a computer and language lab, physics lab and chemistry lab. Establishment of simulator based physical oceanography lab, chemical oceanography lab, biotechnology lab and mathematics lab are in progress.

**Would you tell us about the existing and forthcoming facilities at BSMRMU that would help students conduct research and development in the sector?**

We already have modern library with quality books. Our students have the access of UGC e-resource facility, international standard computer and language lab, physics lab, chemistry lab and establishment of simulator base, physical oceanography lab, chemical oceanography lab, biotechnology lab and mathematics lab.

We also have a plan to establish simulator based marine Sedimentary & Geological lab, planktology lab, fisheries lab, ecology lab, pollution lab, food and nutrition lab in our permanent campus at Chattogram by 2021. Apart from that, we will have maritime museum and a cultural centre for educating our cultural heritage including the history of father of the nation Bangabandhu Sheikh Mujibur Rahman in our Chattogram campus to the new generation of our country.

Most importantly this university will have an Oceanographic Research Vessel with modern technological instrument to conduct research activities at sea.



## // Interview //

### **How do you see the evolving roles and responsibilities of BSMRMU in addressing the global climate change and its causes?**

We are a contemporary institution. Both the local and global perspective of climate is reshaping rapidly. Under the context, we feel ourselves immensely responsible to educate, aware and play role to influence for eco-complaint practice. We are addressing this not only through our curriculum but also by taking additional initiatives. Presently the faculty of earth and ocean sciences (FEOS) runs our department of environment studies that plays the key role in the university to address the climate change issues.

We have arranged seminars in this regard to meet climate change impacts on Blue Economy while research is being carried out by the students / faculty members on energy efficient shipping, green port, ecotourism, green ship recycling etc. Collaborative research is also undertaken on theses with foreign Universities like University of Strathclyde, Glasgow, UK. Presently, climate change issues are included in the course curriculum of Port and Shipping Management, Oceanography, Offshore Engineering & Naval Architecture, Maritime Science, Maritime Tourism etc.

### **Who might be eligible for studying at BSMRMU?**

Applicants who have passed (B.Sc/B.SS/B.A or Bachelor degree equivalent) examination and fulfil the criteria of admission requirement can apply for admission in BSMRMU for Master's program.

#### **At present the following programmes are open for Masters' Degree**

- Master in Port & Shipping Management (MPSM)
- Master in Maritime Business (MMB)
- LLM Maritime Law (LLM)
- Master in Maritime Science (MMS)
- Master in Marine Biotechnology (MMBT)

Any Bangladeshi and foreign students having required eligibility can study at BSMRMU.

#### **Eligibility**

- Bachelor degree or equivalent in any field.
- Bachelor degree or equivalent in any discipline of science including Bachelor in Maritime Science.
- B.Sc. in Botany, Marine Biology, Oceanography, Zoology, Microbiology, Biochemistry, Biotechnology or Genetic Engineering.

Applicants who have passed HSC/Equivalent examination and fulfil the criteria of admission requirement can apply for the admission in BSMRMU for Honours program.

#### **At present the following programmes are open for undergraduate students**

- BSc in Naval Architecture and Offshore Engineering (NAOE)
- BSc in Oceanography
- LLB (Hons) in Maritime Law
- BBA in Port Management & Logistics

#### **Eligibility for BSc in Naval Architecture and Offshore Engineering (NAOE) and BSc in Oceanography**

- Applicants must have passed HSC/equivalent examination and SSC/equivalent examination from science group with minimum GPA 4.00. Applicants of Oceanography must have Biology in HSC.

- In HSC/equivalent examination, applicants must have obtained minimum 'A' grade in any two subjects from Mathematics, Physics, Chemistry, English and Biology with minimum 'B' grade in rest of the subjects.

- Applicants with GCE must have passed minimum five subjects in O-Level including Mathematics, Physics and Chemistry and minimum two subjects in A-Level including Mathematics and Physics. Applicants of Oceanography must also have Biology in A-Level. However, an applicant having more than two 'C' grades in O-Level and/or more than one 'C' grade in A-Level shall be ineligible for admission.

#### **Eligibility for LLB (Hons) in Maritime Law and BBA in Port Management & Logistics**

- Applicants must have passed HSC/equivalent examination and SSC/equivalent examination from any group with minimum GPA 4.
- In HSC/equivalent examination, applicants must have obtained minimum 'B' grade in all the subjects.
- Applicants with GCE must have passed minimum five subjects in O-Level and minimum two subjects in A-Level. However, an applicant having more than two 'C' grades in O-Level and/or more than one 'C' grade in A-Level shall be ineligible for admission.

#### **What are the opportunities for female students who want to study in BSMRMU?**

Women all over the world are quite parallel with the men in almost every other fields but the maritime sector. Down the line of history women have left their marks even in the face of severe restrictions and limitations. Although very few in numbers, they kept on serving as lighthouse guards and at other times as caretaker of the deck, or the captain's mate. However, even this success record could not encourage the other women of the twenty-first century to follow their footsteps. Today, women's glorious empowerment is happening in all sectors, while only 2 percent of the maritime jobs are occupied by the women. This inadequacy of women is a clear proof of the irreversible discrimination and adversity they usually face in the maritime sector. Since BSMRMU is an institute, providing equal opportunity, we welcome and encourage female students to study in maritime subjects. Since its inception, the rate of admission of female students is good. Ratio of female students is increasing remarkably. At present this ratio is 40%. Secured campus, close-knit community with interesting subjects having tremendous job opportunities have encouraged many of them to choose this university.

#### **What is the strength and uniqueness of BSMRMU? Why is it exclusive than the other maritime institutes in Bangladesh and South Asia?**

BSMRMU is the first and only Specialized Public University of Bangladesh in Maritime sector. The university offers career-focused programs with innovative and specialized courses by creating opportunities for interdisciplinary research and education. English language support, blending of national and international faculties, merit-based scholarship and friendly, close-knit convenient campus all make it an ideal maritime university. The university is designed for today's students with modern facilities, excellent learning and teaching environment, support services and academic and career counselling. And the university outstands with those unique facilities and services. BSMRMU has already signed MoU with 18 national and international universities including strong relationship with

various universities of UK, Hawaii (USA), China, India, Vietnam, Myanmar and Sweden having a huge opportunity of collaboration, research students/faculty exchange programmes and scholarship programmes.

#### **How good-looking is the current and future job market for the maritime professionals of Bangladesh?**

According to Drewry manning report in June 2015, shipping will require an additional 42,500 officers by 2019. While BIMCO/ICS manpower report of the same year forecasts shortage of 1,47,000 seafaring officers by 2025. At present, Bangladesh is capable to produce approximately 700 new seafaring officers out of her marine academies/institutes every year. According to Department of Shipping, as of 30 April 2017, a total of 1,497 cadets passed out from 15 private marine academies/institutes that were in operations. Out of them only 902 passed-out cadets were fortunate to join ships and rest 594 are still waiting for sea training. By contrast, the lone public marine academy produced 806 cadets and 380 of them could join ships for sea training since 2014. So, considering the present infrastructure and employment situation, it is expected that the supply of Bangladeshi seafaring officers will be around 9,000 by 2020 with a capacity to produce more than 500 seafaring officers per annum. The university has taken steps according to the Vision 2021 and Vision 2041 of our Honorable Prime Minister to develop professionals to keep pace with, and to be at par with, the progressive world in maritime related higher education at various levels. Accordingly, this university has set its goal for 2021. To

achieve Sustainable Development Goal (SDG) on Oceans, which is basically on the conservation and sustainable use of the oceans, seas and marine resources for sustainable development, this university will go for full-fledged operation by 2025.

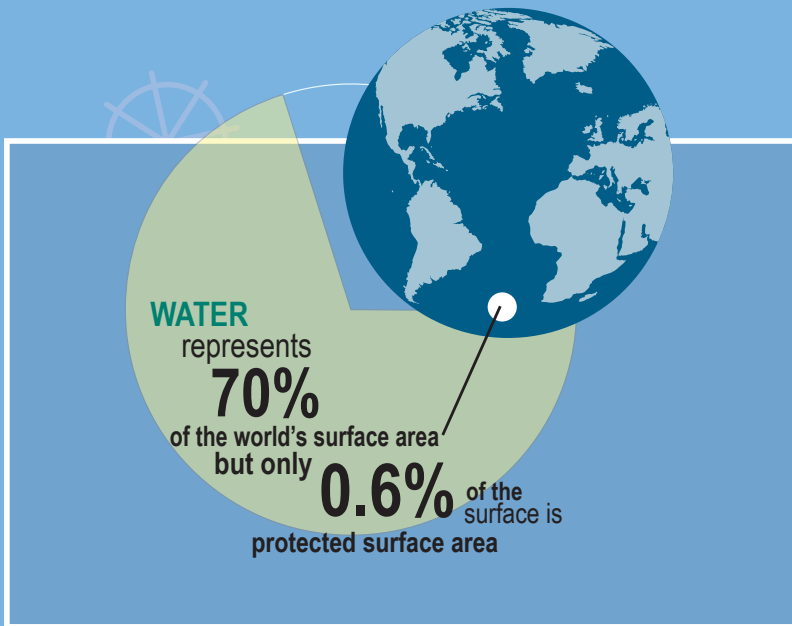
To fulfil this objectives, the university has plans to develop and open 38 departments under 7 Faculties and the students from those departments will have the career prospects and job opportunities in the specific areas, like, Maritime Transportation Industry (Shipping, Coastal Shipping/Feeder Services, Sea Ports, Passenger Ferry Services, Shipbuilding, Ship Recycling Industries), Food and Livelihood (Fishery, Aquaculture, Marine Aquatic Products, Marine Biotechnology), Energy (Oil and Gas, Sea Salt Production, Ocean Renewable Energy, Blue Energy (osmosis) and Biomass, Aggregates Mining (sand, gravel, etc.), Marine Minerals Mining), Tourism (Coastal Tourism, Recreational Water Sports, Yachting and Marinas, Cruise Tourism, Coastal Protection/Artificial Islands/Greening Coastal Belts, Artificial Islands, Greening Coastal Belt/Delta Planning), Maritime Surveillance And Spatial Planning (Human resource, Maritime surveillance, Maritime spatial planning).

#### **Thank you very much for sharing your invaluable planning and ideas with us.**

My greetings and best wishes to you all, as well.



# INFO BYTES



The International Maritime Organization is the key institution of the United Nations for the development of international

**UNCLOS**

The United Nations Convention on the Law of the Sea (UNCLOS) was passed in 1982



The doctrine of Freedom of the Seas persists during the twentieth century; national control also contributed to maritime governance

It is not that life ashore is distasteful to me. But life at sea is better  
*Sir Francis Drake, Sea Captain*

## The Sea

is only the embodiment of a supernatural and wonderful existence

Jules Verne

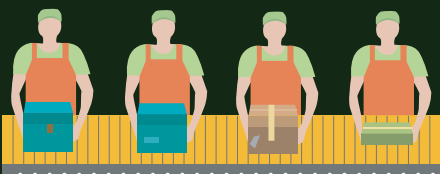


**60%**

of the world's population lives by the sea

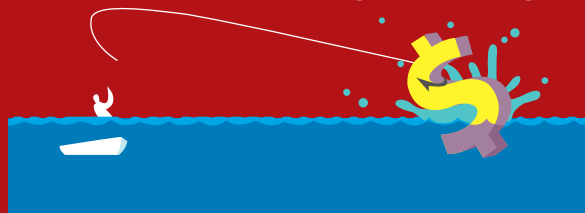
**\$50 billion**

Annual cost of poor management of fisheries



**\$10-23 billion**

Annual cost of illegal fishing





ation (IMO)  
 tions created in 1948  
 l maritime law.

It now has  
**170** STATES parties

**3** ASSOCIATE MEMBERS

on the Law the Sea  
 32

It now has  
**166** STATES parties

**1st** successful international collaborative approach to maritime security and building a framework on ocean law

**Maritime law**

involves from a focus on the regulation or prevention of naval warfare to a structure for secure, safe and environmentally sustainable uses of the oceans



Seas  
 however, naval arms  
 governance

**90%** of World Trade & **65%** of energy supplies are carried by sea

A healthy ocean is vital to our economy and well-being. We need clean and healthy oceans to sustain tourism and fisheries.

Scott Peters, American politician

**WORLD FISH PRODUCTION**



1950  
 20 billion tons



TODAY  
 150 billion tons

**75%** of major global fisheries have been overexploited or already depleted

**50%** Oxygen

**O<sub>2</sub>**

50% Oxygen we breathe is produced by the oceans

**\$2500 billion**

per year come from the **sea** (fishing, underwater research, tourism, maritime transport)



## Changing roles to adapt to the climate change in Bangladesh

**Sudipta Roy**

Undergraduate Student  
Department of Oceanography and Hydrography



*Prime Minister Sheikh Hasina receives the Champion of the Earth accolade; the highest recognition of contribution to the environment, for Bangladesh's far reaching initiatives to address climate change*

Climate change is a topic that has received much media attention recently. This topic often makes public opinion polls and in newspaper headlines. As such, they have spurred intense debate on whether climate change is natural or human-caused and what climate changes are likely to occur in the future.

Climate change in Bangladesh is a pressing issue. According to National Geographic, Bangladesh is one of the most vulnerable nations to the impacts of climate change. Since Bangladesh is located on the tropic of Cancer, she receives fairly direct radiation throughout the year & maintains relatively high temperature.

Bangladesh government has made several strides to address climate change. One of the biggest strengths of Bangladesh for addressing climate change is that there is no political difference between the political parties on the issues and urgency to address climate impacts. In 2005, Bangladesh was the first least developed country to prepare the National Adaptation Program of Action (NAPA) which was eventually revised in 2009 and that documented the urgently needed adaptation actions for the country.

Moreover, Bangladesh is in the process of initiating the National Adaptation Plan (NAP). In 2009 the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) was developed and was published with great international appreciation. BCCSAP has six

thematic areas: Food, security, social protection and health, comprehensive disaster management, infrastructure, research and knowledge management, mitigation and low-carbon development and capacity building and institutional strengthening. Many NGOs in Bangladesh have made major positive contributions to poverty alleviation and the development of rural and urban communities are therefore an important sector for adaptation to climate change.

Bangladesh has some of the world's largest NGOs like BRAC which has nationwide capacity and coverage. Many more local NGOs provide a multitude of services such as microcredit, social mobilization, health, literacy and education, sanitation, water, agriculture, forestry, fisheries, disaster management and advisory technical and consultancy services. In recent years a number of networks of NGOs have been established in various sectors. To enhance its outreach capabilities as well as to strengthen the disaster response capacities of local organizations, disaster Management Unit of CARE Bangladesh picked up partners among local NGOs.

With 18 such partners in 1997, a national network was created under the banner, Network for Information, Response and Preparedness, Activities on Disaster (NIRAPAD). Each of the member organizations of the network has had long experience in disaster

mitigation. NIRAPAD is a network meant to address the people affected by different types of disasters. NIRAPAD scheme is to gather disaster information and disseminate those to wider stake-holder for more response and preparedness. As NIRAPAD means Network for Information, Response and Preparedness Activities on Disaster, its objective lies under the name. NIRAPAD also brings together professionals working in the area of disaster to address local and global disaster concerns. NIRAPAD works with different stakeholders all over Bangladesh. NIRAPAD is an open coalition and established by CARE Bangladesh along with its disaster management partner NGOs.

Adaptation to climate change is a strong government priority, and the Community Based Adaptation Programme partners with the Government of Bangladesh/UNDP/DFID Comprehensive Disaster Management Program (CDMP) to implement projects through the CDMP's local disaster risk reduction fund. CDMP is a flagship collaborate initiative of the Ministry of Disaster Management and Relief, the government of Bangladesh and UNDP with the support of UK Aid, European Union, Australian Aid, Norwegian Embassy and Swedish SIDA.

CDMP is a groundbreaking project that, during its phase one, laid the foundations for institutionalizing risk reduction approach and framework. Phase two is designed to further scale up and mainstream the Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) into all sectors. The Government of Bangladesh has set up a multi-donor trust fund Bangladesh Climate Change Resilience Fund (BCCRF), a 'one-stop' mechanism for large-scale climate change financing in Bangladesh.

Under the BCCRF, the Community Climate Change Project (CCCP) is allocating funds on a competitive basis to Non-Government Organizations (NGOs) to implement community-driven interventions that build resilience to climate change impacts. BCCRF has recognized the long-in dispensable roles of local empowerment and

*Coastal areas are particularly vulnerable to the impact of tropical cyclones*



*At current rates of deforestation rainforests will altogether in a century*

numerous NGOs through its CCCP. Of this amount, US\$10.4 million will focus on competitive grants to NGOs to implement community-driven adaptation to climate change. The remaining funds will be allocated to monitoring, learning and sub-project refinement, through knowledge sharing and dissemination of lessons learned. The BCCRF Governing Council designated the Palli Karma Sahayak Foundation (PKSF) as the responsible agency for this project. The CCCP focuses on the communities hit hardest by current weather extremes: populations who live in coastal areas afflicted by recurring droughts. The target Upazilas have been identified based upon the degree of exposure to climate risk, and level of poverty.

At present, PKSF has assigned 27 CCCP subprojects to competitively selected local NGOs. The projects include raising homes to prevent daily inundation; repairing roads and planting trees to strengthen road embankments; ensuring access to safe freshwater by rainwater harvesting; excavating ponds and performing desalination in water-scarce villages; and adapting agricultural practices to farm drought-resistant or flood-affected areas and in drought-prone areas, with each addressing at least one of the six thematic pillars of the Bangladesh Climate Change Strategic Action Plan (BCCSAP). The project is an innovative approach to reach the climate hit vulnerable communities in hard to reach areas.

Adaptation plans are largely state driven and top-down in approach, while climate change is locally experienced and can only be effectively addressed by engaging local groups and institutions. All adaptation is local, and those local agencies, especially NGOs, being closest to the problem are best suited to creating adaptive capacities within communities.





## My maiden voyage in the sea

**Saif Khan Sunny**

Undergraduate Student

Department of Oceanography and Hydrography

The ocean always attracts me. As a student of Oceanography often we have to go to the ocean or near the ocean. Last year we went to the Bay of Bengal as a part of the Hydrography lab. Though it was a very short time cruise it was adventurous as we were going to the sea for the first time.

We started our journey from Dhaka on 11 December and stayed at Bangladesh Marine Academy, Seafarer's lodge in Chattogram for 6 days. First, we went to BNS Issa Khan naval base for gathering a primary knowledge about the hydrographic instruments with the help of Bangladesh Navy Hydrographic and Oceanographic Center. Then we visited the Hydrographic research vessel BNS Anushandhan. Finally, on December 14 we started on a sea trip with BNS Shaibal from the naval base.

Initially, the EXO Lt Commander Syed Shoeb Mahmud instructed us how to maintain safety on board; besides, he helped us wear and use life-jackets. Afterwards, we passed the Karnaphuli River and started for the sea. Our guide Lt Commander Hasnain briefed us about the various parts of the ship. Our respected Dean Commodore Sheikh Mahmudul Hasan taught us about the ship and its instruments.

As we were going deeper into the sea the water appeared clearer. I had never seen such clear water before. Later, we visited the bridge of the ship. While visiting the bridge I saw many fishing nets set at the sea, and the ship was randomly changing its course of direction. When we reached our destination, we have planned our survey area and measured the water depth with echo sounder with DGPS.

Afterwards, we deployed CTD and side scan sonar and collected different data. We also learnt how to process and analyze the data we had received from the echo sounder and the side scan sonar. Finally, we had to sit for an examination. It was my first exam on board a ship. Then we returned to the base with a memory that is never to perish in my life. I sincerely thank our dean for arranging such an event for us. Through this writing, I also like to thank Bangladesh Navy for their support in making this journey a memorable one.

# Trash truths, truly!

**Md. Atiqur Rahman**

Undergraduate Student  
Department of Oceanography and Hydrography

The ocean remains as one of the vast, mysterious and diverse places on our planet. But as we've learned, it's vulnerable to pollution. Every day our oceans are being threatened by pollution and marine life is suffering at an alarming rate. Ocean pollution affects more than 817 animal species around the world, a figure that has increased 23% in the last 5 years alone.

Over 100,000 marine animals die every year from plastic entanglement and ingestion. Approximately, it is estimated that four billion pounds of trash enter the ocean annually. Research estimates that anywhere from 15 to 51 trillion particles of floating micro plastic are in our oceans, weighing between 205-520 million pounds. This includes plastic microbeads and synthetic fibers, both of which are too small to be filtered out by many waste-water treatment plants. There are 25 trillion pieces of plastic debris in the ocean. Of that, 2,69,000 tons float on the surface, while some four billion plastic microfibers per square kilometer litter the deep sea.

A new study finds that 99% of this plastic is missing. One disturbing possibility, fishes are eating them. If that's the case, "there is potential

for this plastic to enter the global ocean food web," says Carlos Duarte, an oceanographer at the University of Western Australia, Crawley. "And we are part of this food web." If we stick to this trajectory, Earth's oceans will have more plastic in them than fish by 2050, according to the Ocean Conservancy.

Everyone can and should do something to reduce the amount of trash that is littering into the ocean. Here are six ways through which we can make a difference:

1. By reusing the used plastics
2. Recycling
3. Participating in a beach or river clean up
4. Supporting trash bans
5. Avoiding micro beads and
6. Spreading the word







## Seminar held on how to deal with climate change and sustenance of blue economy

BSMRMU, the sole maritime specialized public university of Bangladesh, held a seminar on 'Adaptation Measures to Climate Change and Sustainable Blue Economy for Bangladesh' at Krishibid Institution Auditorium in Dhaka. Md. Sohrab Hossain, Secretary, Secondary and Higher Education Division, Education Ministry graced the occasion as the Chief Guest. Mr. Istiaque Ahmed, former Secretary, Ministry of Forest and Environment and A M M Safiullah, Vice Chancellor of Ahsanullah University of Science and Technology attended the seminar as the special guests. Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal delivered the welcome speech at the seminar.

Dr. A Atiq Rahman, Executive Director (BCAS), Prof. Dr. Kawser Ahmed, Department of Oceanography, DU, World Bank Representative Nadia Sarmin, Phd and Dr. S M Munjurul Hannan Khan, Addl Secretary, MOEF delivered their presentations.

Representatives from different ministries and government organizations, Bangladesh Navy, Coast Guard and different universities, senior officials of various private organizations and the registrar, deans, teachers, students, officers and employees of BSMRMU were also present at the seminar.

In his speech, the Education Secretary focused on the importance of maritime research and education to exploit the potential of the country's Blue economy by adopting climate change. He hoped the BSMRMU will play a key role in this mission, while Professor A M M Safiullah and Mr. Istiaque Ahmed highlighted on the potentials of maritime sector in the country's economy.

Vice-Chancellor of BSMRMU in his speech cited the various development projects undertaken by the present government to explore and enhance maritime resources and highlighted on the present activities and future plans of the university with a view to creating an educated and skilled workforce for the realization of the 'Vision 2041' and implementation of the Blue-Economy agenda of the Honorable Prime Minister.

## Launching of Bangabandhu Corner and Short Course Certificate Award

BSMRMU will be playing an important role in the development of the country by utilizing the maritime resources of Bangladesh, said the Chairman of the University Grants Commission (UGC) Professor Abdul Mannan. He said this while speaking as the Chief Guest on the occasion of the inauguration of the extension of the university campus, new library and archive besides the launching of short course certificates.

Later, the UGC Chairman attended the short course certificate award ceremony at the university auditorium. The courses include supply chain management, freight forwarding, marine insurance and claim. 52 successful trainees from various government and non-government maritime organizations successfully completed the course.

Vice-Chancellor of the University Rear Admiral M Khaled Iqbal gave the welcome speech where he urged everyone to work together to ensure a quality education for the development of an educated and highly skilled human resource for our maritime industry.



## 4th Senate Meeting

BSMRMU organized its 4th annual senate meeting at the conference room of the BSMRMU campus in Dhaka. It is a milestone in the progression of the university, said Vice-Chancellor of the university Rear Admiral M Khaled Iqbal while presided over the meeting.

Various decisions were taken at the meeting on a number of important issues related to the university. The senate started with the welcome speech from the Honorable Vice-Chancellor of the





university. The senate members expressed their deep satisfaction at the progress of the university within such a short time. The revised budget for fiscal year 2017-2018 and the budget for the fiscal year 2018-2019 were presented and approved at the meeting. The 4th Annual Report of the university (July 2017-June 2018) was also presented before the senate.

### MoU signed with UK Nautical Institute



A Memorandum of Understanding (MoU) was signed with the Nautical Institute, London on 25th September

2018. BSMRMU Vice-Chancellor Rear Admiral M Khaled Iqbal and Captain John Lloyd RD MBA FNI, Chief Executive Officer, The Nautical Institute signed the MoU on behalf of their respective organization.

### MoU signed with the University of Strathclyde



A Memorandum of Understanding (MoU) was signed with the University of Strathclyde on 28th September 2018. BSMRMU

Vice-Chancellor Rear Admiral M Khaled Iqbal and Professor Atilla Incecik, Associate Principal & Executive Dean of Engineering, University of Strathclyde signed the MoU on behalf of their respective organization.

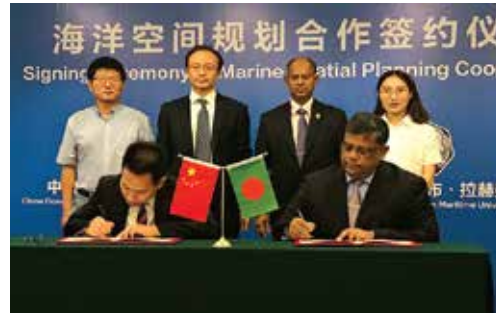
### Orientation for Masters Program at BSMRMU

BSMRMU arranged an orientation program for the Masters courses for students. The Vice-Chancellor Rear Admiral M Khaled Iqbal graced the occasion as the Chief Guest that the programme was presided over by the Dean of the Faculty of Maritime Governance and Policy (FMGP) Commodore M Ziauddin Alamgir.

As a part of expansion program of educational activities of the university, new courses e.g. Master in Maritime Science, Master in Maritime Tourism and Hospitality Management, and Master in Marine Biotechnology were introduced.

The treasurer, registrar, teachers, officers and staff of the university were also present at the program.

### MoU signed with China Oceanic Development Foundation



A Memorandum of Understanding (MoU) was signed on Marine Spatial Planning Cooperation with the China Oceanic Development Foundation on 14th July 2018.

### Celebration of Independence Day at BSMRMU

Reflecting the spirit of the Independence Day at all levels of national life, the Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal on 26th March 2018 urged everyone to contribute from their respective positions to uphold the developing status of the country.

He said this on the occasion of the celebration of the Independence Day and National Day 2018. The day was celebrated in a festive manner at the BSMRMU campus. The students of the university performed poetry recitation, group songs on liberation and performed choreography in observance of the day.

### 16th Syndicate Meeting



16th syndicate meeting of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) was held on 19th April 2018 at the conference room of its campus in Dhaka. The meeting was presided over by Vice-Chancellor Rear Admiral M Khaled Iqbal and attended by the other syndicate members of the university.

Various important matters, related to the growth and development of the university, were discussed and decisions taken unanimously at the meeting.

### 19th Academic Council Meeting

BSMRMU organized its 19th Academic Council Meeting on 17th May, 2018. The meeting was presided over by Vice-Chancellor of the University Rear Admiral M Khaled Iqbal and attended by the other



academic council members. Earlier, the 17th and the 18th Academic Council Meeting were held respectively on 20th February and 29th March this year.

Various academic matters both internal and external related to the university were discussed and decisions were made on several important matters of concern.

## Exchange of views with local leaders to discuss BSMRMU future plans

BSMRMU organized an exchange of views meeting on 9th May 2018, ensuring the participation of local leaders at Kalurghat Heavy Industrial Area (Near Haji Saber Ahmed Container Yard), Chattogram with a view to discussing the future plans and prospects of the University. The meeting was presided over by the Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal. Honorable Mayor of Chattogram City Corporation, A J M Nasir Uddin graced the occasion as the Chief Guest and Mayeen Uddin Khan Badal, MP, Chattogram-8 attended as a special guest and key speaker. Registrar, along with teachers and officers of BSMRMU and local dignitaries participated in the meeting.

## Giving a warm hand to the homeless



BSMRMU distributed warm clothes among the underprivileged and homeless people at its campus on 16th January 2018. A total of 100-120 warm clothes and blankets were distributed among the poor and homeless people.

The then

Vice-Chancellor of the University, Rear Admiral A S M Abdul Baten, BSP, ndc, psc inaugurated the program as the Chief Guest. The treasurer, Registrar, Deans of the Faculties, students, teachers and officers were also present in the program.

## Orientation of the 1st batch of NAOE and Oceanography

On 7th January 2018, Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU) arranged an orientation program for the 1st batch of BSc in Naval Architecture and Offshore

Engineering (NAOE) and 2nd Batch of BSc in Oceanography at its temporary campus in capital. The Dean of the Faculty of Engineering and Technology (FET) Commodore M Ziauddin Alamgir graced the occasion as the Chief Guest. Faculty members, officers, new students and their guardians attended the program.

## Overseas Study Tour in Chennai, India

As part of curriculum, Faculty of Maritime Governance and Policy (FMGP), BSMRMU arranged an Overseas Study Tour (OST) from 19-22nd March 2018 at Indian Maritime University (IMU), Chennai Port & IIT Madras as well as some other places of historical importance. The first batch of LLM Maritime Law and Master in Port & Shipping Management Programs, and faculties participated in the tour that was led by Commodore M Ziauddin Alamgir. The aim of the OST was to acquaint the faculty and students first hand with the roles and activities of Indian Maritime Organizations and their legal system.

## Martyrs' Day and International Mother Language Day observed



On 21st February 2018, the Martyrs' Day and International Mother Language Day was observed by BSMRMU. Vice-Chancellor of the University Rear Admiral M

Khaled Iqbal paid homage to the language martyrs at the Central Shaheed Minar. He was accompanied by the registrar, deans, faculty members, officers, staff and students of the university. This was followed by an essay competition and a discussion session held to mark the honor and significance of the day.

## Pohela Boishakh Celebration at BSMRMU

Vice-Chancellor of BSMRMU called on everyone to work in harmony to achieve the developed country status by 2041 upholding the spirit and enthusiasm of the Pohela Boishakh 1425 at all levels of our national life.

To make merriment of the day a lovely cultural program was organized by the University Cultural Club. In addition, the participants and guests were offered with different traditional Bengali dishes to savor the day.

## BSMRMU students receive recognition in SAUFEST

Four students of BSMRMU participated in various events to uphold the social and cultural expressions of the South Asian countries at the 11th South Asian University Festival (SAUFEST) held on March 2, 2018 at the Ganpat University of Gujarat, India. In music, 2nd batch student of Master in Port and Shipping Management Sajjad Zaman Anik, in dancing and elocution, Sabrina Hasan of LLM Maritime Law, in poster making, Sushmita Chakrabarti of LLM Maritime 2nd batch and in a special music event, 1st batch student of Master in Maritime Business Tulip Sen Gupta participated and received certificates of recognition.



## Moot Court held to enhance the knowledge of maritime law



BSMRMU organized a 'Moot Court' at its campus on 20th January 2018 with a view to enhancing the practical experience of the Maritime Law students of the university. Justice of the Admiralty Bench of the Supreme Court of Bangladesh, Justice A F M Abdur Rahman conducted the moot court.

## Seminar on Ship breaking and Chartering Practice held

A workshop on 'Ship Breaking and Chartering Practice, the general market update and possible trend' was organized by Faculty of Shipping Administration of BSMRMU at its campus on 1st February 2017.

Dean, FSA Cdre M Ziauddin Alamgir graced the occasion as the Chief Guest and Nelly Akhmedzhanova, Director, Progress, Hongkong conducted the workshop as the resource person. Faculty members and students of MPSM-1 & MPSM-2 also participated in the workshop.

## BSMRMU observes Bangabandhu's Birth Anniversary and National Children's Day



To materialize the dream of Sonar Bangla of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman, the Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal urged all personnel to work together and contribute to the best of their ability. He said this on the occasion of 'The 98th Birth Anniversary of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman and the National Children's Day-2018' on 17th March 2018. A documentary on the life of the father of the nation was screened on the occasion. Besides, best compositions of a writing competition were read out on the biography of Bangabandhu Sheikh Mujibur Rahman and a group-based national anthem competition was held to mark the day.

## BSMRMU observes National Mourning Day

BSMRMU observed the 43rd Death Anniversary of the Father of The Nation and the National Mourning Day 2018 at its campus in Dhaka. The university organized essay and poetry writing competition on the life of Bangabandhu Sheikh Mujibur Rahman, documentary show and hamd-naat competition in observance of the day.

The program began with a documentary show on the life of the Father of the Nation. Later, the Chief Guest distributed prizes among the winners of the competitions. The Vice-Chancellor of the university Rear Admiral M Khaled Iqbal graced the occasion as the Chief Guest. Faculty members, students, officers and staff of the university were also present on the occasion.

## Workshop on 'Thesis Report Writing'

A workshop on 'Thesis Report Writing' was organized by the Faculty of Shipping Administration of BSMRMU at its temporary campus on 31st May 2018. Prof. Dr. Baqee, University of Dhaka, Cdre M Ziauddin Alamgir, (L), NGP, fdc, psc, BN, Dean, FSA and Dr. Mamun Habib, Associate Professor, BRAC University conducted the workshop as resource persons. Faculty members and students of MPSM-3, LLM-3 & MMB-1 participated in the workshop.

## MoU signed between BSMRMU and NSTU

BSMRMU signed MoU with Noakhali Science and Technology University (NSTU) with a view to extending the academic activities and to increase the quality of research facilities. The signing ceremony was held on 8th May 2018 at the Vice-Chancellor's office of NSTU. Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal and Vice-Chancellor of NSTU Professor Dr. M Wahiduzzaman signed the MoU. Registrar of the BSMRMU A Z M Jalal Uddin, Pro-VC of NSTU, Registrar of NSTU Prof. Md. Mominul Haque, Dean of FGS and FEOS of BSMRMU Sheikh Mahmudul Hasan, along with other faculty members and officers attended the ceremony.

## Internal Study Tour (IST) practically acquaints students with industry roles

To further enhance the academic experience, the second batch of students of Master in Port & Shipping Management, LLM in Maritime Law and Master in Maritime Business visited different maritime organizations including the Chittagong Port Authority, Chittagong Dry Dock Ltd, Bangladesh Shipping Corporation, Karnaphuli Ship Builders Ltd and Bangladesh Navy from 13th May to 15th May, 2018. The aim of the tour was to acquaint students with the practical roles and activities of these maritime organizations. It provided the students an excellent opportunity to interact with the maritime industry and learn more of its environment.

## Colors in the sky!

## BSMRMU Annual Picnic 2018 held in Savar

BSMRMU arranged a daylong Annual Picnic 2018 at the 'Military Firm' in Savar, Dhaka on 17th February, 2018.

Vice-Chancellor of the university Rear Admiral M. Khaled Iqbal and his spouse graced the occasion as the Chief Guest and the Special Guest. Registrar, dean, faculty members, students, officers and staff of the university attended the picnic.



# The Mystery of Circle & Pi

**Parvin Akther**

Lecturer

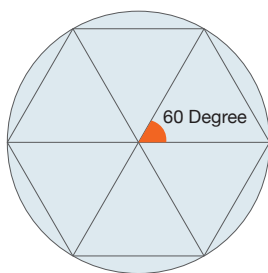
Department of Mathematics

*A circle is a simple geometrical shape and pi ( $\pi$ ) is one of the most fascinating mathematical constants. There is a noteworthy relation between circle and pi. The pi is a ratio between the circumference and diameter of the circle. No matter how big or small the circle is, the ratio is always the same constant. Circle and pi are known since before the age of recorded history. That's why, there are some interesting questions about them. This article is about the answers of such two questions- 'Why does a circle have 360 degrees?', 'How did we get the value of pi?'*

## Why does a circle have 360 degrees?

We all know that a circle has 360 degrees. But, why 360? Is it a random number or there is a reason for choosing this number? Since we don't have any recorded history, so there is no certain answer to this question. However, there are some leading theories-

- 1) It is related to the fact that 360 is approximately the number of days in a year. Many ancient civilizations like Sumerian and Babylonian had 360-day calendars.
- 2) The Sumerians and the Babylonians used a base-60 number system called the sexagesimal system. They knew about equilateral triangles (which have identical angles and sides) and decided that each of the angles of an equilateral triangle would be 60 degrees. If we arranged six equilateral triangles in a certain way with the edge of one aligned on top of the edge of the next, the last one would end up meeting back up with the first. So, we get  $6 \times 60 = 360$  degrees.



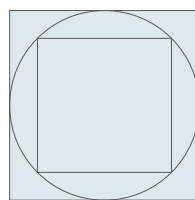
- 3) 360 is a highly composite number. It has 24 divisors, which makes the number very convenient to deal with. We can evenly divide a circle into 2, 3, 4, 5, 6, 8, 9, 10, and so on.

## How did we get the value of pi?

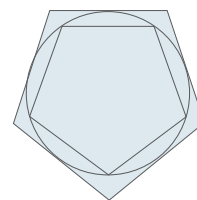
Pi ( $\pi$ ) is a famous irrational number. We cannot write down a simple fraction that equals pi. The popular approximation of  $22/7 = 3.1428571429$  is close but not accurate. Pi has a long story about its value. From ancient Babylonia to the present day of supercomputers, mathematicians have been striving to calculate the mysterious number.

The earliest textual evidence of pi dates back to 1900 BC; both the Babylonians and the Egyptians had a rough idea of the value. The Babylonians estimated pi to be about  $25/8$  (3.125), while the Egyptians estimated it to be about  $256/81$  (roughly 3.16).

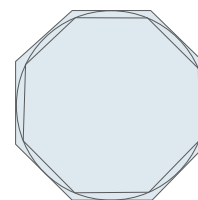
The first man to really make an impact in the calculation of pi was Greek, Archimedes of Syracuse. Archimedes approximated the area of a circle by using the Pythagorean Theorem. He used 96-sided polygons to come up with a value that fell between  $223/71$  and  $22/7$ . Chinese mathematician Zhu Chongzhi (AD 429-500) used a similar method to approximate the value of pi, using a 12,288-sided polygon. His best approximation was  $355/113$ .



n = 4



n = 5



n = 8

There are many well-known techniques for calculating pi including infinite series expansion, and y-cruncher method (a computer program). The most accurate calculation of pi before the advent of the computer was by D. F. Ferguson, who calculated pi to 620 digits in 1945 by using a desk calculator. Peter Trueb used a supercomputer to nab the current world record of 22,459,157,718,361 digits which takes 105 days.

Every year, math enthusiasts celebrate Pi Day on March 14, because the date spells the first three digits (3.14 - 3rd month and 14th day) of pi. But a handful of people take their admiration further, by reciting tens of thousands of digits of pi from memory. Rajveer Meena set the Guinness record of most pi digits memorized when he recited 70,000 digits in 9 hours, 7 minutes, on March 21, 2015.

Who knows what the future will hold for the magical number pi?

## Offshore Engineering to unlock energy resources in Bangladesh

**Mohammad Saidee Hasan**

Lecturer

Department of Offshore Engineering



Offshore engineering is important in the search for energy resources in context of Blue Economy. Offshore engineering is the engineering discipline that deals with the design and construction of structures intended to work in a stationary position in the ocean environment. The majority of offshore structures are used in the Oil and Gas industry.

There is no denying that Bangladesh is currently dependent on onshore fields for gas output, with production hovering around 2,700 mmcf/d against a demand for over 3,300 mmcf/d. The shortfall has resulted in the rationing of the fuel to industries, power plants and fertilizer factories as well as the suspension of new-piped gas connections to commercial and household consumers.

The settlement of maritime boundary dispute between Myanmar and Bangladesh by the international court in 2012 was a landmark event for both the countries that were engaged in disputes on oil and gas exploration issues near their mutual maritime boundaries. Following the settlement of maritime boundary, Myanmar redesigned its offshore blocks.

According to Professor Badrul Imam, Department of Geology, University of Dhaka the geologic processes that created the large gas pool in the Rakhine basin should theoretically also be at work in the adjacent Bangladesh offshore blocks. A logical conclusion is that the Bangladesh offshore blocks SS-9, SS-10, SS-11 and SS-12 hold the most prospects for gas. In addition, the other eastern offshore blocks have high probability of containing hydrocarbon.

Among 26 offshore blocks, of which 11 are shallow sea blocks and 15 are deep sea blocks, Bangladesh has activated only 3 shallow sea and 2 deep sea blocks under Production Sharing Contract (PSC) with IOCs. These 5 blocks are held by US based Conoco Phillips, Australian Santos, Singapore based Kris energy and ONGC (Oil and Natural Gas Corporation Limited).

Apart from oil and gas exploration, offshore engineers can take part in building offshore terminals and deep-sea ports. In order to boost the economy of the country, Bangladesh is already working on building Sonadia deep-sea port and Matarbari deep sea port, terminal for liquefied natural gas (LNG).

FSRU (floating storage and regasification unit) is a special type of ship used for storing and degasifying the LNG and supplying it on shore. Student studying Naval Architecture and Offshore Engineering program can take part in constructing these type of vessels in Bangladesh.

In order to develop expertise and adequate skilled work force, Bangladesh should also make it mandatory, that IOCs which are awarded shallow offshore block must have a Bangladeshi company (BAPEX, for example) as partner. Feasibility study, geophysical study, detail engineering design and in most case construction of structures are mainly done by foreign experts, and only workers for operation and maintenance phase are taken from Bangladesh. We should mandate the foreign companies to utilize our graduates alongside their employees so that they could get the opportunities for practical experiences. Bangladesh can build up its offshore exploration capability in this way.

A good news for Bangladesh is that recently Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh has opened Offshore Engineering Department, having 30 students in their 1st batch. Graduates from this department will be able to develop their career as offshore engineer, naval architects, structural engineer, subsea engineer, drilling engineer, marine engineer, systems engineer and project manager in the relevant discipline. In their challenging career, they will need to design, plan and manage the construction, installation, operation and maintenance of ships, offshore platforms and subsea systems.



## Are you prepared for speaking Maritime English?

**Raju Ahmmed**

Lecturer

Department of English

Learning and being able to speak maritime English is a necessary requirement for the graduates and cadets of maritime universities and academies for their employment. So, what do we understand by the term Maritime English (ME)?

ME is the language used at sea or port by the seafarers, cruise ship staff and offshore workers. This communication can be on board, ship to ship or ship to shore. In fact, Maritime English is the simplified version of English which is characterized by a great many specific features on the phonological, morphological, lexical and syntax level.

The purpose of learning and teaching Maritime English is to make the officers more efficient in communication skills as they work with multinational and multilingual crew. It is often seen that the failure to communicate correctly leads to accidents at sea. Therefore, the seafarers have to acquaint themselves with Standard Marine Communication Phrases (SMCP developed by the International Maritime Organization) which covers the most important safety-related fields of verbal shore-to-ship (and vice-versa), ship-to-ship and on-board communications. The used language in these communications needs to be precise, simple and unambiguous, so as to avoid confusion and human error. The ultimate purpose of ME is to assist safe navigation and standardize the language used at sea and port.

Maritime English has certain branches namely 'English for Navigation and Maritime Communications', 'English for Maritime Commerce', 'English for Maritime Law', 'English for Marine Engineering' and

'English for Shipbuilding'. The curiosity may arise that how Maritime English (ME) differs from General English (GE). Maritime English is a part of English for Specific Purpose (ESP) which has certain jargons and sentence patterns. For example, the word 'bulkheads' means walls, 'headway' means forward and 'sternway' means backward. In general English we can deliver a sentence like 'May I enter the fairway?'. However, in maritime English the correct sentence pattern will be 'QUESTION. Do I have permission to enter the fairway?'. First, the purpose of the sentence is mentioned and then the message is delivered. Similarly, a distress message begins with 'Mayday', an emergency message with 'Pan-Pan' and a request message begins with the word request e.g. 'Request. I require medical assistance'.

Maritime students and cadets need to learn maritime English. However, how can they learn ME? As maritime English originates from General English, having a good command over General English is a prerequisite for learning ME. Moreover, a large number of resources are available online to master maritime English. Among them SeaTalk (<http://www.seatalk.pro/>) is a very resourceful website containing free materials both for the maritime students and teachers. Besides, the students can visit the website of International Maritime Organization (IMO) <http://www.imo.org> to get the latest news of the maritime sector. Being acquainted with Maritime English and the latest maritime news will certainly prepare the students and cadets for the vast number of working opportunities both at home and abroad.



## Floating Bridges: wonder on the water

**Ahnaf Rahman**

Lecturer

Department of Naval Architecture and Ocean Engineering

Floating bridges are used for crossing very deep and wide lakes. A floating bridge is a bridge that floats on water, resting on top of barges or boat like pontoons, which supports the bridge's deck and its dynamic loads. It is basically a beam on an elastic foundation and supports. Vertical loads are resisted by the buoyancy, whereas the transverse and longitudinal loads are resisted by a system of mooring lines or structural elements.

Floating bridges have been in use from ancient times. 4,000 years ago, the first floating bridges were boat bridges, which were used in many battles. Even today, military floating bridges, which are of temporary type, are being used to transport soldiers, vehicles and ammunition. In 1874, a mobile wooden pontoon railroad bridge was built across the Mississippi River in Wisconsin, which was rebuilt regularly but finally abandoned. The Brookfield Floating Bridge, which is a 98 m long wooden bridge, is still in operation in Brookfield, Vermont. In 1912, the old Galata Bridge, which consisted of fifty steel pontoons at a water depth of 41 m, was built across the Golden Horn, Istanbul. It burnt down in 1992.

The selection of a floating bridge is based on a number of technical and economic reasons which can be summarized as follows:

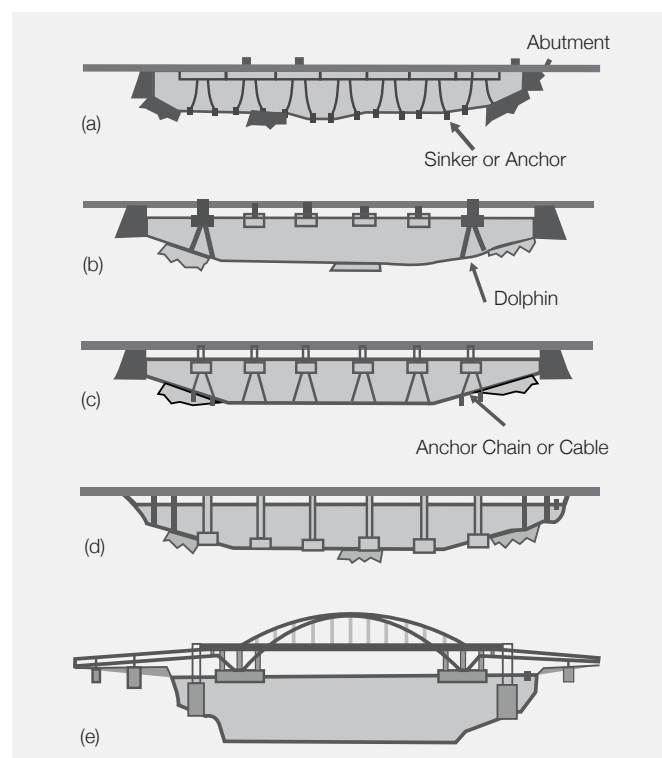
1. At deeper water depths where the construction of a fixed foundation is very expensive and may be an inadequate design.
2. In regions with very soft mud lines, where there is no possibility of fixed foundation construction or there is unacceptable loading capacity, a floating bridge would be a more rational design.
3. In ports with high tidal levels, where large differences between the structure level and fixed quay elevation are exposed.
4. In earthquake regions, where by using a fixed foundation, an extreme dynamic response is expected.
5. In temporary projects, where the structure is not needed after a period of time.

For a site where the width of water is 2-5 km and the depth is 30-60 m, with the soft bottom extending another 30-60 m, a floating bridge

is three to five times cheaper to construct than a long span fixed bridge, tube or tunnel.

Floating bridges, namely continuous pontoon type and separate pontoon type, are generally expected to be in service life for 75-100 years with low cost maintenance cycle.

Various types of floating bridges are shown in the figure below



(a) continuous pontoon bridge; (b) separated pontoon bridge; (c) semi-submerged foundation; (d) bridges with gravity foundation; (e) long-spanned separated foundation

### Bangladesh nominated IORA VC, Chair for two terms



The Committee of Senior Officials (CSO) of Indian Ocean Rim Association (IORA) has nominated Bangladesh as the Vice Chairman of IORA for the period of 2019-21 and eventually as the Chairman for the period of 2021-23. Head of Bangladesh delegation and Secretary (Maritime Affairs Unit) of the Ministry of Foreign Affairs

Rear Admiral Md Khurshed Alam flagged the proposal of Bangladesh to become the Vice Chair of IORA for 2019-21.

The issue came up for discussion during the eighth bi-annual meeting of Committee of Senior Officials (CSO) of IORA held on July 30-31 in Durban, South Africa. All the member States of IORA unanimously supported Bangladesh's proposal. This year's CSO meeting was hosted by the government of South Africa, the Chair of IORA.

The meeting was attended by delegations from its 21 Member States which included current Vice Chair UAE, Australia, India, Indonesia, South Africa, Sri Lanka, Malaysia, Mauritius, Thailand, and Singapore among others. The meeting was also attended by 7 Dialogue Partners of the Association.

### Bangladesh ranks 3rd in the world in inland fish production



In FY18, Bangladesh earned BDT 4,500 crore by exporting around 69,000 metric tons of fish and fish products. Bangladesh has been ranked third in the world in terms

of inland fish production in 2018, according to a report by the Food and Agriculture Organization (FAO).

After ranking fifth last year, the country now only trails behind China and India, ranked first and second, respectively. The information was disclosed by Fisheries and Livestock Minister Narayan Chandra Chanda at a press briefing at the Secretariat on Wednesday.

The press briefing was organized on the occasion of National Fisheries Week-2018. Citing records of the Bangladesh Economic Review, the Fisheries and Livestock minister said the fisheries sector contributed 3.57 percent to the national GDP in FY18.



### Daewoo foresees gas reserve in Bangladesh offshore

Bangladesh has discovered prospects of a big deep-sea gas reserve after the resolution of its maritime boundary dispute with Myanmar and India. A 2D seismic survey along the Myanmar border has revealed that Bangladesh could have a minimum of five prospective structures in the Bay of Bengal in Block D-12.

The operator of the block, the South Korean conglomerate Daewoo Corporation, on 7th August officially informed Petrobangla about the finding and expressed its interest in doing a 3D seismic survey in the block, which is located along the Myanmar gas block-AD 7.

Daewoo and its Australian partner, Woodside Energy, also operate Myanmar's AD-7 which was discovered in 2016. This raises very high hopes for the nation as we see a good prospect in the block. But until we hit the gas nobody can tell you anything confirmatory, noted a Petrobangla official. Daewoo will be paid USD 6.50 for every thousand cubic feet of natural gas it will own under the PSC, according to the contract.

To meet domestic demand, Bangladesh is importing costly LNG from the international market. If the country finds huge reserves in the Bay of Bengal, it could save a huge amount of money.

## PHP brings in Bangladesh's first green vessel to scrap



PHP Family brought in the country's first green vessel, certified to contain no material hazardous to health, to scrap in its ship breaking yard in Sitakunda. Local conglomerate PHP spent BDT 100 crore to purchase the vessel, Ore Vitoria, from Brazilian iron ore mining company Vale.

PHP started breaking the ship down in its yard, a process that will take about five months to complete, said Zahirul Islam, managing director of the yard. Ore Vitoria weighs about 27,000 tons and was built in 1989 by Vale, he said. The yard and the vessel were certified as green under the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.

The Hong Kong Convention aims at ensuring that ships when being recycled, do not pose any health and environmental risk. It also provides ship recycling plans, which ship breakers should follow to avoid such risks. PHP's yard is the first in Bangladesh to achieve a green certificate, which is given when a yard complies with certain standards set with inputs from International Maritime Organization's member states and non-governmental organizations.

## Bangladesh's VAT repeal sets stage for more feeder services



With the Bangladesh government's recent withdrawal of the 15 percent value-added tax (VAT) on ocean vessel purchases, Bangladeshi shippers are likely to get new feeder services soon, with the feeder ships owned by local business groups. The total effective tax on ocean-going vessel businesses were almost 27 percent—something that discouraged business executives from investing in the sector. According to officials, the effective high tax rate also discouraged many vessel owners from registering their vessels in Bangladesh.

Once local businesses had significant shares in the container feeder service but it waned gradually. Since the government has withdrawn the VAT, now they will feel interested again, Bangladesh Oceangoing Shipowners' Association president Azam J. Chowdhury told JOC.com. The VAT withdrawal will have very positive impact on the feeder service, he added.

## CMA CGM restarts Chattogram feeder service

With Bangladesh's container-based trade continuing to grow at a rapid rate, CMA CGM plans to reintroduce its feeder service to and from Chattogram. In April 2015, CMA CGM suspended its Chattogram feeder service amid massive congestion at the port.

The business was not satisfactory then. So, we suspended the feeder service temporarily, said Wahid Alam, general manager of APL (Bangladesh) Private Ltd, a subsidiary of CMA CGM in Bangladesh. CMA CGM purchased APL in February 2017. But now I am hopeful of a reintroduction of the service.

The service, if added, would complement existing feeder services by other ocean carriers. In March, Hyundai Merchant Marine introduced a new direct feeder service from South Korea, with calls at China ports before reaching Chattogram. HMM's new service has reduced container transport time to 14 days from the prior 25 days.





### Direct shipping from Chattogram to South Korea, Morocco and South Africa



Direct shipping between South Korea and Chattogram port commenced from the 24th March, 2018. This initiative was led by the Korean shipping company 'Hyundai Merchant Marine'. This initiative will

reduce the operational cost by 40 per cent and the commuting time at least by 15 days. At present, two container ships are planned to operate per week which will eventually be increased to five. This new scheme will travel from Chattogram to Busan via Singapore and Kaoshiung port of Taiwan. And on the return leg it will travel via Ningbo and Shanghai of China and Singapore. In the fiscal year of 2016-17, Bangladesh exported around USD 240 million and imported around 1.5 Billion USD from South Korea. There is a specialized EPZ for Youngone Group of Korea next to Chattogram port and besides that, more than 150 multinational organizations from South Korea invested in various EPZ of Bangladesh.

On the other hand, Government took initiatives to launch direct shipping service from Chattogram port to Durban, Cape Town of South Africa and Tangier port of Morocco. Shipping Minister Shajahan Khan informed the news on a press briefing from his office to share the experience of his visit to different ports in South Africa and Morocco. Shipping Minister stated that these steps are taken to further increase the capability of Chattogram port. Moreover, this will facilitate the local entrepreneurs to export and import at a lower cost and will expand the trade opportunity of the local RMG sector.

### Blue Economy Authority legislation underway

Prime Minister Sheikh Hasina has said that the legislation is underway for the formation of Blue Economy Authority. She said, 'After the conquest of the sea, the Blue Economy cell of the Department of Energy and Mineral Resources has been formed to strengthen Blue Economy activities. The legislation is underway for the formation of Blue Economy Authority. With the potential of Blue Economy, including energy, mineral and fisheries resources, the determination for economic development will continue.'

She further said, 'Because of these two rulings, Bangladesh has achieved 1,18,813 square kilometres of sea area in the Bay of Bengal, which is equal to 81 per cent of the mainland area. Surrounded by the sea area of Bangladesh, we have identified the ocean economy or the Blue Economy as a new field of possibilities. The range of the ocean economy or the blue economy is huge.'

It is worth to mention that a Blue Economy Cell was formed by the government in February last year. 17 different ministries and 12 organizations are already involved with the Blue Economy initiative of the government.



### Four marine academies and seamen training institutes to be constructed in the country

Shipping Minister Shajahan Khan on 5 February 2018 told at a parliament session that the government has taken several initiatives to increase revenues from river ports of the country. To develop skilled manpower in maritime sector construction of new marine academy and navigational training institute are already underway.

Construction of four marine academies are on the final stage. They will be located at Pabna, Barishal, Sylhet and Rangpur to train more marine cadets.

Shipping Minister mentioned that several initiatives have been taken over the last eight years to enrich human resources. He also mentioned that the Government is also considering to establish Sailors Training Institute in each division.

It is to note that, two training centres are already opened in Barishal and Madaripur and in 2013 Government has established the first specialised maritime university Bangabandhu Sheikh Mujibur Rahman Maritime University.

## MPA Singapore Underscores Maritime Workforce Development



The Maritime and Port Authority of Singapore (MPA) has put the talent development high on the agenda at Singapore Maritime Week 2018.

The MPA has signed a Memorandum of Understanding (MoU) with the Singapore Shipping Association (SSA), Singapore Maritime Employers Federation (SMEF), Singapore Maritime Officers' Union (SMOU) and Singapore Organisation of Seamen (SOS) aimed at developing human capital for the seafaring sector.

The collaboration will focus on identifying new competencies and skills required to operate the next generation of ships, enhancing the current training syllabus and developing Singapore as a maritime training hub.

"The face of ports, shipping and the maritime industry is changing with the advent of automation, new technologies and business models. This MoU reflects a strong commitment by the government, industry and unions working together to identify the skill gaps, and to train and upskill the maritime workforce for the future economy," Andrew Tan, Chief Executive, MPA, said.

A new Specialist Diploma course in Maritime Superintendency was launched at the forum. The course, which will begin its first intake in October 2018, was developed by a working group comprising representatives from DNV GL, MPA, Marine Engineers, Ngee Ann Polytechnic, Singapore Maritime Foundation (SMF), Singapore Polytechnic, Singapore Shipping Association (SSA) and Society of Naval Architects & Marine Engineers Singapore (SNAMES).

The course provides participants with the relevant knowledge and technical skills to plan and coordinate operations from shore. It will facilitate the sea-to-shore transition for experienced seafarers and career conversion for midcareerists from relevant fields such as mechanical engineering. Graduates will be awarded a nationally-recognized Specialist Diploma by Singapore Polytechnic, MPA Singapore said.

"Graduates today expect well-structured career progression pathways and wage growth. They look forward to working in an environment which is flexible and where they have control over their own development. Companies that can successfully navigate these changes and learn how to tap into the potential of these different workforce segments will stand a better chance of attracting the best talents," Tan added.

The 13th edition of the Singapore Maritime Week (SMW), themed "Positioning for Future Growth – Driving Connectivity, Innovation and Talent", was observed from 21st to 29th April, 2018. A highlight at the SMW 2018 exhibition is The Next Generation Port in the Making, an exclusive feature on the upcoming Tuas Port.

## Hiring rules to be women-friendly

The Director General of Shipping is planning to liberalise recruitment rules to make it possible for mid-career women seafarers to rise up the hierarchy. "We are reviewing the recruitment rules to ensure that women have an equal opportunity to not only be on ships, but also to enter shore jobs as high positions in government," Malini Shankar, Director General of Shipping said. Among 3,000, the women seafarers constitute 0.6 per cent of the overall headcount in the sector in the country, she said.

## Ports of LA and Antwerp Hold Joint "Hackathon"



In October 2018, the Port of Los Angeles and the Port of Antwerp will simultaneously host an international "hackathon" to generate new ideas and technology solutions for port operations.

The competition will be open to entry for teams from around the world, and challenge subjects will include inter-port information sharing, mobility, safety and security. The results will be presented to a jury of experts on the final day, and winners' ideas could be further developed through a business and academic follow-up track.

"Ports must continue to incorporate the latest and most promising technologies in order to remain competitive," said Gene Seroka, executive director of the Port of Los Angeles.

The event will be the third hosted by Port of LA, but it will be the first to occur simultaneously in two locations. The other partners in the event include the ports of Hamburg, Busan, Shenzhen, Rotterdam, Barcelona, Montreal, Singapore and Felixtowe, along with Panama Maritime and the Indonesia Port Corporation. Together, these partners form the chain PORT initiative, a collaboration of leading ports launched in 2015 to digitally connect ports worldwide, share best practices and boost efficiency.



### Asian Cruise Market Continues Blooming

2017 was another year of exceptional growth for Asian cruise market, according to Cruise Lines International Association's (CLIA) latest report on Asia Cruise Trends.

Asian sourced cruise passenger numbers hit record high in 2017 with 4.052 million taking an ocean cruise, up by 20.6 percent. Asia accounted for about 15 percent of total global ocean passenger volume in 2017.

Speaking of the number of deployed ships, there has been 80 percent growth since 2013, when only 43 ships cruised in Asia.

"After another year of exceptional growth which saw Asia outperform other established markets, it's clear that cruising is continuing to grow in popularity as cruise lines continue to deploy significant capacity in the region, including brand new, large cruise ships purpose-built for Asian consumers. 2018 is expected to deliver another year of growth as Asian travellers increasingly recognise cruising as an easy, relaxing, and great value for money way to travel," Joel Katz Managing, Director for CLIA Australasia & Asia, said.

The report further shows that 2018 will see 38 cruise brands deployed, against 35 in 2017. More ships are also bound for Asian waters in 2018, with 78 ships are scheduled to be deployed in Asia, up from 66 in 2017, with 17 of them year round.

There is also a tendency toward deployment of bigger cruise ships with the capacity to accommodate 3,500 passengers as well as small upscale ships in the region. Nevertheless, the scheduled number of cruise calls for 2018 is slightly down from the planned calls in 2017 but are maintaining an upward 5-year trend.

Destination markets seeing the most calls are Japan (2,601), Mainland China (1,012), and Thailand (581) in 2018. Top ports in the region are Shanghai (416), Singapore (374), Taipei (322), and Hong Kong (249).

### OSM to boost maritime education in Mozambique



OSM Maritime Group says it is aiming to make the shipping industry accessible to all as part of its involvement in the UN Global Compact (UNGC) initiative. The ship management company has signed an MOU to re-launch the Mozambican Higher School of Nautical Sciences. It is actively

working to increase the number of females in its global pool of 11,000 qualified seafarers.

OSM is one of the first companies in the ship management segment to join the UNGC. The Norwegian business has now submitted an initial report detailing its desire to set new industry standards with a focus on the four key UNGC areas of Human Rights, Labor, Environmental Protection and Anti-Corruption.

As 'quality education' is a UN Sustainable Development Goal prioritized by OSM, the Mozambican project is, according to CEO Geir Sekkesaeter, a perfect fit.

### World Maritime University celebrates 35th anniversary

Alongside the 70th anniversary of the IMO, the World Maritime University (WMU) is celebrating its 35 years of glory and success in 2018. WMU has made a major contribution to global maritime education, research and capacity building with 4,654 WMU alumni from 167 countries to date.

In the early 1980s, the IMO identified a shortage of well-qualified, highly educated maritime experts, particularly in developing countries. In order to support member States with high-caliber education in the maritime field, WMU was officially established by the IMO on May 1, 1983 and inaugurated on July 4, 1983 with the financial support of the Swedish government, the City of Malmo, the United Nations Development Program and private donations.



### India establishes centre of maritime excellence

A new Center of Excellence in Maritime and Ship Building (CEMS) is being set up by India's Ministry of Shipping in collaboration with Siemens and the Indian Register of Shipping (IRS). CEMS will have campuses at Vishakhapatnam and Mumbai, and will provide industry-relevant skill development, equipping students with employable engineering and technical capabilities. CEMS is being set up to meet the domestic need for skills in various port and maritime sectors, including ship design, manufacturing and operating as well as maintenance, repair and overhaul work. It aims to become a leading regional training centre in South Asia, attracting students from neighbouring countries including Sri Lanka, Bangladesh, Thailand, Malaysia and Indonesia.

## India urges ASEAN to strengthen Indo-Pacific maritime cooperation



India urged members of the Association of Southeast Asian Nations to strengthen regional maritime cooperation at an international conference that began on 19th July 2018.

India's interests in the Indo-Pacific were 'vast' and its engagement 'deep,' said External Affairs Minister Sushma Swaraj at the ministerial session of the two-day Delhi Dialogue. 'Our vision, in one word, is SAGAR which stands for, 'Security and Growth for All in the Region.' Swaraj was speaking at the 10th

edition of the annual meeting, an event held to discuss political, security, economic and socio-cultural engagement between India and the 10 ASEAN member states.

In his keynote speech at the Shangri-La Dialogue in Singapore last month, Indian Prime Minister Narendra Modi said that his government's vision for the Indo-Pacific was that of 'a free, open, inclusive region.'

'Southeast Asia is at its centre,' he told those gathered. 'That is the vision that will always guide India, as we seek to cooperate for architecture for peace and security.' Modi had not long returned from his first visit to Indonesia, where he and President Joko Widodo upgraded bilateral relations to a comprehensive strategic partnership.

Swaraj reiterated calls for a rules-based order that took into account the needs of all, irrespective of size and strength. 'There is an imperative needed to eschew protectionism, nationalism and avoid a return to great power rivalries,' she said. Singaporean Foreign Minister Vivian Balakrishna seconded her comments.

## Polar explorer Amundsen's ship 'Maud' returns home to Norway after a century



Maud, the ship that Norwegian explorer Roald Amundsen tried to reach the North Pole with, returned to Norway after nearly a century.

Named for Queen Maud of Norway, she was built for Amundsen's second expedition to the Arctic and launched in June 1916. In the summer of 1918, Amundsen departed Norway. His ambition was to sail into the High North and deliberately get stuck in the ice so the ship could function as a floating scientific research station as she drifted across the

North Pole. Maud spent several years in the Arctic ice without reaching the North Pole.

After two winters and three summers in the Northeast Passage, the Maud expedition arrived at Nome, Alaska, in July 1920. A new attempt to sail further north from the Bering Strait resulted in yet another wintering in the ice without the Maud having reached far enough North into the East-West current. She returned to Seattle in August 1921 where Amundsen left the expedition. The ship had been laying at the bottom from 1930 until 2016, when it was brought to the surface by the activists of the Maud project.

The wreck of Maud was dragged into the docks in the city of Bergen in early August after a month-and-a-half-long journey across the Atlantic from the harbor in Greenland where it has been resting since it was raised two years ago. 'It feels absolutely fantastic to know that Maud is finally back in Norway after nearly 100 years,' said Jan Wangaard, who led the 'Maud returns home' project. 'It brings joy to our hearts to see Maud, still proud after all these years, see her old homeland once again.'



## Hapag-Lloyd runs Germany's largest maritime training program

Sixty-one young men and women began their three-year apprenticeship at Hapag-Lloyd. While some of them spent the lion's share of this time on container ships, the on-shore apprentices cycled through various national and international departments, which allowed them to familiarize themselves with the company from a range of perspectives.

'Qualified and motivated employees are a decisive factor in a dynamic sector like container shipping,' said Joachim Schlotfeldt, Chief Personnel and Global Procurement Officer (CPO) at Hapag-Lloyd. 'We offer excellent prospects and development opportunities to the young talents in a more globally oriented industry than almost any other. In fact, many of our successful captains and managers today first started their careers at Hapag-Lloyd with an apprenticeship,' he added.

In the marine division, twenty five young individuals (including seven women) began their apprenticeship. They were being prepared to pursue certification as a ship mechanic, nautical officer or technical officer.

With a total of 235 apprentices and dual-track students, Hapag-Lloyd continues to be Germany's largest provider of training in the shipping industry. Once apprentices complete their training program, their chances of securing future employment with the company are very good: Historically, up to 90 percent of all apprenticeship graduates have subsequently been offered permanent job positions at Hapag-Lloyd.





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