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MARITIME CAMPUS

A QUARTERLY MAGAZINE OF
BANGABANDHU SHEIKH MUJIBUR RAHMAN
MARITIME UNIVERSITY, BANGLADESH

Sustainable Maritime Development and Governance: Challenges and Way Ahead

Exclusive interview of UGC Chairman

Bangabandhu Sheikh Mujibur Rahman as a strategic leader

INFOGRAPHICS

Beyond fish and ships, our oceans provide...

CLIMATE REGULATION

Covering 70% of the earth's surface, the ocean transports heat from the equator to the poles, regulating our climate and weather

THE AIR WE BREATHE

The ocean produces over half of the world's oxygen and store 50 times more carbon dioxide than our atmosphere.

BLUE CARBON

Mangroves, seagrass and salt marshes remove CO_2 from the atmosphere 10 times more than a tropical rainforest - and store 3 to 5 times more carbon, thus decreasing the impacts of climate change.

HOME

The oceans are home to million of Earth's plants and animals - from tiny single-celled organisms to the gargantuan blue whale, the planet's largest living animal.

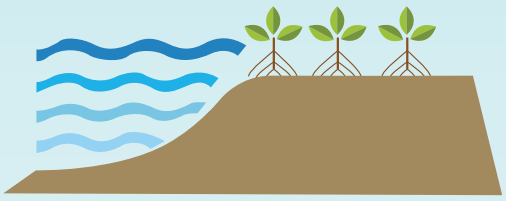
OIL AND GAS

Currently the conventional oil reserves - i.e. those which can be recovered easily using today's technology - are estimated to be a good 157 billion tons. Of this amount, 26% (41 billion tons) is to be found in offshore areas.

NATURAL PROTECTION

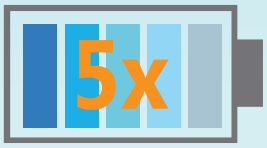
Coral reefs reduce 97% of wave energy, acting as barrier from storms.

SHORELINE PROTECTION



Mangroves, seagrass and coral reefs are natural barriers . . . saving money and reducing impacts of storm surge, erosion and flooding.

OCEAN ENERGY



The ocean can produce thermal energy from the sun's heat, and mechanical energy from the tides and waves. It is estimated that 0.1% of the energy in ocean waves could be capable of supplying the entire world's energy requirements five times over.

OFFSHORE WIND POWER

Higher wind speeds are available offshore compared to on land.

TOURISM AND RECREATION

Swimming, boating, snorkelling, diving, dolphin and whale watching . . . the ocean provides us with so many unique amenities and activities.

INCOME AND JOBS

The worldwide ocean economy is valued at around **USD 1.5 trillion** per year.

MEDICINE

Many medicinal products come from the ocean, including ingredients that help fight infection, cancer, arthritis, heart disease, and Alzheimer's disease.

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Editorial

Maritime mission according to Bangabandhu's maritime vision

The Father of the Nation Bangabandhu Sheikh Mujibur Rahman, the architect of independent Bangladesh, was born on 17 March 1920 in Tungipara village of Gopalganj in the then Bengal Province of British India. This year the nation is celebrating his birth centenary and has been declared as 'Mujib Shoto Borsho' or 'Mujib's Birth Centenary'. In the honour of his memory and contribution for the independence of Bangladesh, Maritime Campus will publish four special articles in a series and the first article has been published in this issue. Through these articles, we will gradually but briefly depict Bangabandhu's life and his unmatched leadership which united the whole nation for a common goal.

History is well-stocked with strategic leaders who were icons of their own generation. It is incumbent on future leaders to make conscious efforts to understand the art of leadership of past strategic leaders by reviewing and studying their leadership styles. In order to shed some light on his leadership, we have included an article that clearly demonstrated Bangabandhu as a strategic leader.

An international seminar entitled "An Outlook for Sustainable Maritime Development and Governance: Challenges and Way Ahead" was organised by BSMRMU Bangladesh at Hotel Intercontinental on 28 November 2010. Hon'ble Planning Minister of the People's Republic of Bangladesh Mr M A Mannan, MP graced the occasion as the Chief Guest. Besides, a good number of maritime experts and academicians from India, Australia, Netherlands, France, Singapore, Philippines, England, Sri Lanka, Switzerland, Malaysia and the host Bangladesh presented their papers at the seminar. Considering the significance, we have conceptualised the lead article that has clearly documented the grand international maritime seminar.

Professor Dr Kazi Shahidullah, the Chairman of the University Grants Commission (UGC), gave an exclusive interview to Maritime Campus magazine recently. As a notable and experienced academician, he spells out UGC's role and the current as well as future scenario of tertiary education in Bangladesh during that interview. For our students and enthusiastic readers, we have published the full interview in this issue.

Additionally, the Campus Canvas, Maritime Bangladesh, and Around the World sections will inform you about all the important maritime events and developments happened during the final quarter of 2019.

I would like to express my heart-felt gratitude to the Chief Patron and Hon'ble Vice-Chancellor for his valuable advice and all-out support to bring out this publication into light.

Also, I would like to thank all the departments for the support they have rendered by providing information about their respective activities. Finally, I appreciate the members of the Editorial Board for their remarkable contribution to this magazine.

We would be truly obliged if you send us your feedback and suggest new ideas for further improvement of this magazine. Thank you for being with us all the while, and keep staying with us.

Thanking you

Captain A T G M Sarker, (TAS), psc, BN (retd)
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The operation was conducted at Chattogram port on the first watch of 16 August 1971 midnight. At the beginning of the operation preparations, each naval commando was given a limpet mine, a knife, a pair of swim fins and some dry food. One sten gun for three persons and one transistor are given to the commanders.

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Know your general 'Shipping Industry' terms

We have accumulated general shipping industry terms to make them familiar with the students of BSMRMU and new readers of Maritime Campus. There are many other terms ornamented the shipping industry communication. We have selected frequently used terms and their meanings. These terms are used in all the seaports of the world.

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"To become an icon in the field of MET, BSMRMU should conduct knowledge sharing programmes, research projects and modern science and technology-based teachings on a regular basis. The university should have short term, mid-term and long-term plans to face present and future challenges in our MET sector. I believe, with the prudent leadership of the Vice-Chancellor of BSMRMU, M Khaled Iqbal, the university is in the right direction."

- Professor Dr Kazi Shahidullah
Chairman
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From bacteria to eukaryotes, as well as unique chemical compounds which are of great importance to medicine, nutrition, cosmetics, agriculture, and other industries, ocean has a wide variety of living organisms. In order to harness the potential of the marine environment for human benefit and fundamental biological progress, Biotechnological applications can be used.

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A look into Bangabandhu's early life

Maritime Campus Desk

The quarterly campus magazine of BSMRMU, the Maritime Campus, has taken an initiative to publish 4 articles in 4 issues about the Father of the Nation Bangabandhu Sheikh Mujibur Rahman on the occasion of his birth centenary celebration. In this regard, Bangabandhu's early life, physical and political struggles as a teenager has been portrayed in this article.

The Father of the Nation Bangabandhu Sheikh Mujibur Rahman was born in the village of Tungipara, Gopalganj district and was the third child of Sheikh Lutfar Rahman and Sayera Khatun.

His maternal grandfather had no sons and only had four daughters, thus he married off his youngest daughter Sayera Khatun to his brother's son Sheikh Lutfar Rahman. However, Lutfar Rahman had to leave education to provide food for the wider family. In those days Muslims had a tough time finding jobs. Ultimately, he managed to get a position in the Dewani court (Gopalganj civil court) where he eventually became an employee responsible for record-keeping.

Sheikh Mujib had one brother, Sheikh Naser, and four sisters and his parents used to call him "Khoka" (little boy) out of affection.

Sheikh Mujib began his schooling at Gimadanga Primary School when he was seven years old, and took admission into 'Class III' at Gopalganj Public School. He entered 'Class IV' at Madaripur Islamia High School In 1931, but he was withdrawn from school in 1934, to undergo eye surgery on one of his eyes or risk becoming blind. In Calcutta Medical College Hospital he was admitted for the emergency eye surgery.

The teenager returned to Madaripur but had refrained from studies and sports. Going to political meetings in the evenings was his only diversion. That time Swadeshi Movement had spread to every part of

> *I was scheduled for surgery at 9 am. I was so scared that I tried to run away but did not succeed. I was taken to the operating theatre for surgery on one eye. Within 10 days there was another surgery on the other eye. I eventually recovered but had to wear glasses from then onwards. That is why I have had glasses since 1936. I also had to discontinue studies for a while.*
>
> - **Bangabandhu Sheikh Mujibur Rahman**
> *Oshomapto Attojiboni*

Sheikh Mujib with his political mentor Huseyn Shaheed Suhrawardy (1949)

Madaripur and Gopalganj. Bangabandhu was inspired by Madaripur's Purna Das who was petrifying the British.

Sheikh Mujib finally returned to school but only after four years because of the severity of the surgery and slow recovery. He didn't go back to his old school as his friends had moved far ahead of him in their studies. So, his father admitted him to Gopalganj Missionary School and hired him a private tutor, Kazi Abdul Hamid, and set aside a room in the family house for the tutor.

Kazi Abdul Hamid was a great philanthropist. He established the Muslim Welfare Association, a society to help poor students in Gopalganj. He enlisted help of his students, including young Sheikh Mujib, to collect alms from all over the Muslim part of the town for this cause. They would go door-to-door every Friday after Jummah and collect the donated rice and sell it and with the money help students, buy books and meet examination and other expenses. Kazi Abdul Hamid also searched all over the town to find houses where these boys could stay, and would pay for their lodging by tutoring the children in the families. Young Mujib also did a lot of work for him. Unfortunately, Kazi Abdul Hamid suddenly died of tuberculosis so Sheikh Mujib took over and looked after it for a long time, aided by another Muslim tutor.

Sheikh Mujib lived in room 24 of Baker Government Hostel while studying at the Islamia College (now Maulana Azad College) in Kolkata (1946). His room has been transformed into a museum to commemorate his memory

Sheikh Mujib played sports a lot. He especially enjoyed playing football, volleyball and hockey as well as he used to play for the school team.

Sheikh Mujib became politically active in 1939 while he was a student at Gopalganj Missionary School. He was barely 20-years-old when he first encountered Sher-e-Bangla A. K. Fazlul Huq, the Chief Minister of Bengal, and more importantly Huseyn Shaheed Suhrawardy, the Minister of Commerce, later chief minister of Bangla, co-founder of Awami League and finally, prime minister of Pakistan, when they visited his hometown Gopalganj for a public meeting. Sheikh Mujib led a group of students to demand that the cracked roof of the school be repaired in preparation of their arrival.

Having passed his Entrance (currently SSC or Secondary School Certificate) Examination from Gopalganj Missionary School in 1942, he enrolled as an intermediate student (Twelfth Grade) at Islamia College (now Maulana Azad College), Kolkata, a well-reputed college affiliated to the University of Calcutta, to study Humanities. He lodged in the Baker Hostel and became active in student politics.

In 1943, young Mujib joined Muslim League and was immediately drawn to Suhrawardy's brand of politics and grew close to the Suhrawardy-Hashim faction led by him. During this period, Sheikh Mujib worked actively for the League's cause of a separate Muslim state of Pakistan and in 1944 participated in the conference of the All Bengal Muslim Students League held in Kushtia where he was elected secretary of the Faridpur District Association, a Kolkata-based organisation of the residents of Faridpur. Two years later, he was elected General Secretary of Islamia College Students Union, and happened to be one of the Muslim politicians working under Huseyn Suhrawardy during the communal riots that broke out in Kolkata in 1946, just before the partition of India.

After partition of India, he enrolled in the University of Dhaka to study law and founded the East Pakistan Muslim Student's League. He become one of the most prominent students political leaders in the province.

Sustainable Maritime Development and Governance: Challenges and Way Ahead

Maritime Campus Desk

Introduction

As the main artery of globalisation linking the world together across continents for millennia, the ocean carries fathomless opportunities for human civilisation. The ocean facilitates trades between countries and continents firming the foundation for social development, economic growth, and poverty reduction. Bangladesh is no exception being situated by the Bay of Bengal (BoB). Its abundance of aquatic and marine resources has not yet been fully tapped in the context of economic growth and sustainable maritime development. Ensuring maritime connectivity and security is paramount for Bangladesh's developmental aspirations which are bounded by gradual progress through the Vision 2021, Sustainable Development Goal 2030, Vision 2041 and finally the Delta Plan 2100.

Considering the gravity of a knowledge-based exploration and exploitation of our sea resources, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh organises international maritime seminars annually to inform and enlighten the students about the present and future trends of the maritime world. As a continuation of this practice, BSMRMU organised an international maritime seminar at Hotel InterContinental, Dhaka on 28 November 2019. The theme of the seminar was 'An Outlook for Sustainable Maritime Development and Governance: Challenges and Way Ahead.' The seminar explored future maritime prospects of Bangladesh in order to achieve the goals and objectives of the Blue Economy. A host of distinguished scholars, eminent maritime experts and professionals from home and abroad presented papers in the seminar. Additionally, the seminar facilitated marine professionals, researchers, policymakers and stakeholders to promote ideas and thought process about future maritime pitfalls and potentials. But above all, it was a great learning and enriching experience for the students which would be hard to grasp within the periphery of a classroom. To inaugurate and encourage the international maritime seminar, Mr M A Mannan, MP, Hon'ble Minister, Ministry of Planning, People's Republic of Bangladesh graced the occasion as the Chief Guest. Additionally, Mr Mohibul Hassan Chowdhoury, MP, Hon'ble Deputy Minister, Ministry of Education and Admiral Aurangzeb Chowdhury, Chief of Naval Staff, Bangladesh Navy enlivened the occasion as Special Guests.

Inaugural session

It was a grand and colourful event themed by the maritime atmosphere. It gave the impression that the seminar venue was decorated with maritime elements and handmade marine creatures on a sea blue milieu. Seminar attendees took their seats in a fervent environment and enjoyed the audio-visual presentation on BSMRMU,

which navigated them through the realm of the maritime domain of Bangladesh and beyond.

In his welcome speech, the Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal said, "Better governance in the maritime sector cannot be ensured by one actor alone rather it requires a regional approach. Only when we adopt a united and holistic approach in this regard, we can reap the expected harvest."

The Vice-Chancellor thanked the seminar attendees and recalled the maritime vision of Bangabandhu and the visionary leadership of Hon'ble Prime Minister Sheikh Hasina for her prudent maritime initiatives. He also hoped that the seminar would be a great learning and enriching experience for our students which would be hard to grasp within the periphery of a classroom. He also expressed his heartfelt gratitude to the Hon'ble Chief Guest, Special Guests, former Service Chiefs, learned speakers, media and all the guests from home and abroad for participating the seminar to enrich sustainable maritime development and governance.

Professor Chris Bellamy from the University of Greenwich, UK, a Consultant on Global and Maritime Security and Defence, UK, presented his keynote paper titled, 'Prospects of the Blue Economy and Maritime Development for the Bay of Bengal Littorals'. He described the potentials of the Bay of Bengal for its coastal countries. According to him, the Bay of Bengal is making, and will continue to make an enormous contribution to the 'Blue Economy'. The main ones are energy, using new discoveries and technology, and food, particularly protein and aquaculture. Tourism is already well developed but could be expanded further.

As one of the two special guests, Mohibul Hasan Chowdhoury, MP, Deputy Minister, Ministry of Education, Government of the People's Republic of Bangladesh emphasised on the huge potential of the sea resources in the Bay of Bengal and on the need of an ocean policy to really restrict the misuse or unscrupulous use of maritime resources.

Admiral Aurangzeb Chowdhury, the Chief of Naval Staff, who was the other special guest, said that Bangabandhu emphasised on maritime resources and his daughter Hon'ble Prime Minister Sheikh Hasina also laid emphasis on Blue Economy. He reiterated that due to personal initiative and keen interest of Hon'ble Prime Minister Sheikh Hasina, Bangabandhu Sheikh Mujibur Rahman Maritime

The Vice-Chancellor of BSMRMU, Rear Admiral M Khaled Iqbal is delivering welcome speech at the international maritime seminar

University, Bangladesh came into being in 2013. He also said that since inception, Bangladesh Navy had been providing all-out support to BSMRMU for creating efficient human resources in maritime fields.

In such a cordial setting, the Chief Guest of the seminar the Hon'ble Minister of Planning M A Mannan gave his precious speech. According to the Hon'ble Planning Minister, Bangladesh has the longest natural sea beach in the world and the government is keenly interested in maritime activities. The government under the Hon'ble Prime Minister Sheikh Hasina has taken many projects over the last decade.

"We enhanced our activities in the Blue Economy and also set up BSMRMU, we need cooperation and coordination from local and international communities to face the challenges to sustainable maritime development. We hope the seminar will help in this regard," said the minister.

In the inaugural session, the dignified guests uncovered the Coffee Table Book titled, 'Sailing for Maritime Bangladesh- Journey through the Blues'. It is aimed at contributing to the image building of

The Chief Guest of the seminar the Hon'ble Minister of Planning M A Mannan and the special guest, Admiral Aurangzeb Chowdhury, the Chief of Naval Staff of Bangladesh Navy are seen here with the Vice-Chancellor of BSMRMU and other dignitaries

The Chief Guest of the seminar the Hon'ble Minister of Planning M A Mannan is delivering his valuable speech

Maritime Bangladesh and of BSMRMU at home and abroad as well as encourage potential youth to strive for maritime excellence.

Regional maritime connectivity and security

Session 1 of the international maritime seminar was held under the theme of 'Regional Maritime Connectivity and Security'. As the theme is self-descriptive, it covered the entire domain of maritime connectivity and security. Professor Dr Imtiaz Ahmed, Department of International Relations and Director, Centre for Genocide Studies, University of Dhaka, Bangladesh graced session 1 as the Session Chair. He proposed for the development of a complex connectivity architecture and security paradigm to fit the geographic setting of the BoB surrounding region. He said that in the interest of sustainable development a regional integration through seamless connectivity should be achieved.

In the session 1, Admiral (retd) Professor Jayanath Colombage, Pathfinder Foundation, Colombo, Sri Lanka, presented the keynote speech with the title, "BIMSTEC at the Crossroads: Connectivity, Security and Sustainable Development". In his keynote speech, Professor Colombage gave us hope about the BIMSTEC and said that it is based on the common maritime domain and can better serve the connectivity aspects and intertwined maritime economy around the Bay of Bengal.

Professor Lailufar Yasmin, Department of International Relations, University of Dhaka, Bangladesh presented her paper which had put lights on the maritime security of the Bay of Bengal. BoB has many security challenges including piracy, terrorism, illicit trade, marine pollution, human trafficking, greenhouse gas emissions, poaching, sabotage, gun-running and internal security disturbances. In her paper, titled "Maritime Crime and Security: Bay of Bengal (BoB) Perspective", she detailed out these issues and affirmed that mitigation of these threats or crimes is a pre-requisite for stability and sustainable growth in the BoB.

Economic Affairs Officer of UN Conference on Trade and Development, Switzerland, Hassiba Benamara, in her paper titled, "Emerging Trends in Maritime Logistics and Connectivity" clearly proposed that it is necessary to examine the emerging trends in the maritime logistics scenario and how those may impact in the overall maritime business of the countries like Bangladesh. Since Bangladesh has been moving fast as an emerging maritime nation, it is the time that the country should focus on the development of maritime logistics and communication commensurate the world's trend.

The last speaker of the session 1 was Mr Biju Ninan Oommen who was a Senior Port and Maritime Transport Specialist, The World Bank, Singapore. 'Port and Shipping Management: Global Perspective' was the title of his paper. He said that the high GDP performing countries like Bangladesh should not trail back in port and shipping management. He also emphasised on the experiences of successful countries worldwide in particularly Singapore and other North and South-East Asian countries, which can be replicated to improve the situation in Bangladesh.

The Vice-Chancellor of BSMRMU, Rear Admiral M Khaled Iqbal handed over the seminar souvenir to Mohibul Hasan Chowdhoury, MP, Deputy Minister, Ministry of Education, Government of the People's Republic of Bangladesh

Ocean health and governance

'Ocean Health and Governance' was the central theme of session 2. The session was chaired by Rear Admiral Kazi Sarwar Hossain, NBP, OSP, BCGMS, ndc, psc (retd). The vision of the session was to develop sustainable ocean governance in the Bay of Bengal through ecological, economic and social balance. Three prominent speakers presented their papers on ocean health and governance.

Session 2 started with the Keynote Speaker, Professor Andrew Serdy, Department of Public International Law and Ocean Governance Southampton University, UK. He presented his paper titled, 'Impact of Maritime Law and UNCLOS III on Ocean

Governance', through which he discussed thoroughly the aspects of ocean governance. He focused on the foundation of rules, institutions, processes, agreements, and arrangements based on which economic activities are undertaken at sea. According to him, the Maritime Governance aspects should be studied in light of the Maritime Laws and UNCLOS III to examine relevant impacts.

In his paper, titled 'The Importance of Maintaining Ocean Health and Biodiversity and the Consequences for Maritime Security' Mr Peter Cook as a Director of PCA Maritime Limited, East Melbourne, Victoria, Australia advocated for sustainable ocean use to protect marine biodiversity and to support sustainable development objectives. His paper opened a window of greater understanding of the importance of maintaining ocean health and biodiversity.

Blue Economy, impacting many sectors, provides a framework to design incentives for better integration. Through ocean governance, effective Blue Economy policies can be implemented in a balanced manner. In this connection, Dr Pierre Failler, Professor, Department of Economics and Finance, Portsmouth University, UK presented his paper titled, 'Ocean Governance: A Corner Stone for an Effective Implementation of Blue Economy Policies' in which he clearly portrayed that for a sustainable Blue Economy there is no alternative to efficient ocean governance.

The Vice-Chancellor of BSMRMU, Rear Admiral M Khaled Iqbal handed over the crest to the special guest, Admiral Aurangzeb Chowdhury, the Chief of Naval Staff as a seminar memorabilia

Maritime technology and harnessing ocean resources

Blue Economy is ushering in a new paradigm of the ocean and sea-based sustainable development without jeopardising the ocean health. Therefore, the chair of session 3, Professor Dr Aftab Alam Khan, BSMRMU, Bangladesh put a special focus on the use of maritime technology in order to harness the resources of the ocean with an intention to promote a sustainable balance between economic growth and ocean health. The central theme of the session 3 was 'Maritime Technology and Harnessing Ocean Resources' where 4 scholars have presented their papers.

The Keynote Speaker of this session was Professor Dr Badrul Imam, Department of Geology, University of Dhaka, Bangladesh. He delivered his speech on the topic titled, 'Energy Scenario in the Bay of Bengal (BoB): Prospects and Challenges'. In his speech, he expressed hopes for the maritime future of Bangladesh. According to him, the BoB may be able to supply us with a huge portion of our energy needs in the future. Therefore, it is high time for Bangladesh to take necessary steps to examine the energy scenario of the Bay of Bengal including its prospects and challenges as well as exploration of the energy deposits in the BoB.

Mr Richard Willis, Technical Director, Royal Haskoning DHV, Liverpool, United Kingdom presented his paper titled, 'Digitised, Interconnected and Energy-Efficient Smart Port'. To increase the efficiency in ports, he proposed to use the latest technology e.g. latest generation port container handling machinery, energy

Professor Dr Imtiaz Ahmed, Department of International Relations and Director, Centre for Genocide Studies, University of Dhaka, Bangladesh graced session 1 as the Session Chair

Professor Andrew Serdy, Department of Public International Law and Ocean Governance Southampton University, UK, presented his keynote paper titled, 'Impact of Maritime Law and UNCLOS III on Ocean Governance' at the seminar.

management systems, digitalisation, and data-based monitoring. In order to materialise the vision for the energy-efficient smart port, we need to encourage the adoption of these technologies in all ports.

The paper, titled 'Ocean Energy: The New Frontier in Asia' by Professor Dr Omar Bin Yakoob, Marine Technology Centre, University Technology, Malaysia, elaborated the energy deficit of Bangladesh and proposed to explore the ocean for profitable extraction of energy. According to him, that can be done at ease if the experiences of successful Asian countries are studied and applied after required customisation.

Professor Dr Savita S. Kerkar, Department of Biotechnology, Goa University, India presented an interesting paper titled, 'Prospect of Marine Natural Resources in Developing Health Care Products' that described tremendous prospects of marine healthcare products-based drugs. Microorganisms such as algae, sponges, corals, and other invertebrates, are bringing significant contributions to the discovery of costly health care products. These are mostly present in the shallow waters and tropical ecosystems which are prevalent in this part of the Bay of Bengal pronounces good possibilities for Bangladesh.

Concluding Session

The daylong seminar came to an end after the concluding session in which Rear Admiral Kazi Sarwar Hossain, NBP, OSP, BCGMS, ndc, psc (retd) presented the seminar resume as the commentator. He summarised the policy options which the seminar speakers suggested. The first policy option was to promote and encourage deep-sea fishing inside Bangladesh's water area.

Secondly, a research vessel may be considered for acquisition under BSMRMU so that other maritime institution can also use it.

Thirdly, the digital connectivity of the maritime ports of Bangladesh should be encouraged and should be upgraded to the best of its capacity.

Fourthly, BSMRMU should include in their curriculum maritime connectivity and enhancement mechanism study for the growth of the maritime community leaders in future.

Fifthly, the seaports of Bangladesh should be upgraded with the facilities to accommodate more numbers of TEU's.

Finally, there was a suggestion for instituting the blockchain technology to facilitate the development of the port facilities.

Partial view of the attendees of the BSMRMU international maritime seminar

Applicable sectors of Marine Biotechnology

Maritime Campus Desk

In Bangladesh, discussions on Blue Economy started after the peaceful settlement of maritime boundary with Myanmar and India. There is no doubt that sea-related subjects like the expansion of international trade, the use of marine mineral resources for long-term energy security, proper management of marine fish resources and protecting the marine environment and biodiversity will determine Bangladesh's future development and economic growth. Bangladesh is well positioned to develop sectors of the Blue Economy since it is situated on the northern coast of the Bay of Bengal. For example, fisheries and coastal aquaculture offer huge potential for the provision of food and livelihoods, respecting ecological parameters, creating sustainable employment and producing high value species for international export markets. Besides, having the most diverse forms of life, the Bay of Bengal is the treasure throve of biological and chemical diversity. From bacteria to eukaryotes, as well as unique chemical compounds which are of great importance to medicine, nutrition, cosmetics, agriculture, and other industries. In order to harness the potential of the marine environment for human benefit and fundamental biological progress, Biotechnological applications can be used in the Bay of Bengal.

Through the application of biotechnology, molecular and cell biology, and bioinformatics, Marine Biotechnology is the creation of products and processes from marine organisms. Marine Biotechnology deals with ocean exploration for development of new pharmaceutical drugs, chemical products, enzymes, and other products and processes. It also deals with the development of aquaculture and seafood safety, bioremediation and biofuels amongst others.

Biotechnology in Aquaculture and Fishery

Biotechnology has the potential to offer solutions to several problems areas in aquaculture.

Reproduction

Under captive conditions, several fishes do not spawn spontaneously when placed. In the past, fish gonadotropin, a group of hormones that stimulate reproduction, were produced in small amounts by extraction and purification from crude preparations of thousands of pituitary glands. At present, large quantities of highly purified gonadotropin can be produced in the laboratory through recombinant DNA technology.

Some species are male in the early stages of their life cycle, and turn female on the later stages (protandrous hermaphrodite) or vice versa (protogynous hermaphrodite). It is necessary to have both sexes in the broodstock always. Through genetic engineering, sex of the species can be regulated as it reaches maturity.

Nutrition

Trash fish or wild fish species for fish meal as protein source for aquafeeds are very limited. Thus, plant-based protein sources are a sustainable option with additional advantage of being cheaper. However, most plants have anti-nutritional characteristics that are not favourable for feed utilisation. For instance, carnivorous fishes have limited ability to use up carbohydrates due to the digestability of polysaccharides. To address this concern, carbohydrate metabolism of salmonid fish was enhanced through genetic engineering. Glucose transporter and hexokinase genes were transferred to the salmonid fish.

Fish oil is economically important in fish feed production, as well as to human health. The demand for fish oil continued to grow alongside the expansion of aquaculture industry because it is a major lipid source in aquafeeds. The aquaculture industry takes up to almost 90 per cent of the global fish oil production. With this growing demand, it is necessary to have other sources of fish oil.

Scientists also developed camelina oilseed plants that were genetically engineered to produce omega-3 fish oils in their seeds. Omega-3 fish oils are known to be beneficial components of human nutrition. GM camelina has the potential to supply healthful fish oil for human diet.

Health Management

Traditional disease diagnosis involves analysis of cells and tissues of organisms, which takes a long time to be done. Modern methods use polymerase chain reaction, a technique used in molecular biology to focus on a segment of the DNA and copy it million times over in a short span of time. PCR enables accurate identification of pathogens in marine organisms even without visual symptoms of the disease. Since marine organisms are capable of transboundary movement, it is vital to diagnose diseases accurately because of their implication to quarantine and trade.

The shrimp industry faces risk of losses due to several viral pathogens such as the white spot syndrome virus (WSSV), yellow head virus, Taura syndrome virus, hepatopancreatic parvovirus, and baculoviruses. Scientists find it hard to devise treatment for viral diseases in crustaceans like shrimps because they do not possess true adaptive immune response system and they react to diseases by non-specific innate immune mechanisms. Identification and characterisation of genes involved in immune response in shrimps are vital to comprehend host-pathogen interactions. Genes from giant tiger prawns (Penaeus monodon) and Japanese tiger prawn (P. japonicus) exhibited antiviral activity after being cloned and upregulated in WSSV-infected shrimp.

Aside from antiviral agents, RNA interference (RNAi) or gene-silencing has also been used to control virus infection. A short interfering RNA (vp28-siRNA) targeting a major envelope protein gene of WSSV was used to induce gene silencing in P. japonicus. This resulted to significant decrease of viral DNA production and lower mortality rates. Furthermore, after three injections of vp28-siRNA, the virus was wiped out from the WSSV-infected shrimp.

Antimicrobial peptides (AMPs) is a potential alternative to antibiotics for aquaculture because no resistance to AMPs has been reported to date. AMPs are considered as major components in the innate immune defense system of marine organisms because they exhibit antimicrobial properties and provide an immediate and fast action against invading microorganisms. Examples of AMPs found in marine organisms include penaeidins from shrimps, mytimicin from mussel, halocidin from sea peaches, callinectin from blue crab, big defensin from tri-spine horseshoe crab, and clavaspirin from club sea squirt.

Vaccines are another cost-effective means to protect fish from viral diseases and prevent spread of diseases. Fish vaccines have been considered as the key reason in the success of salmon industry. An

example of a vaccine for salmon is known as Apex-IHN which confers resistance to haemotopoietic necrosis virus (IHNV).

Growth Promotion

Majority of transgenic research on commercially important fish species are focused on improving growth rates by transfer of growth hormones. This is economically sound because transgenic fish with altered growth traits reach maturity in a shorter span of time than non-transgenic fish and exhibit better feed conversion efficiency. These advantages further translate to shorter production cycle, lower production costs, and reduced pollution in aquaculture facility.

In 2015, AquAdvantage salmon with growth hormone gene from Chinook salmon became the first genetically engineered fish approved for commercial use after it was proven to be safe to eat like non-GE Atlantic salmon, by the US Food and Drug Administration.8 It was also approved for commercial use in Canada in 2016.

Biotechnology in Medicine

Over 2,000 years ago, extracts from marine organisms were used as medicine. In the 19th and 20th century, cod liver oil is one of the famous nutritional supplements. It was only in the middle of 20th century when scientists started to systematically navigate the oceans for medicines.

When scientists were studying the defense mechanisms of sea creatures, they discovered the vast defensive chemical weapons of the organisms. In 1950s, Ross Nigrelli from New York Zoological Society extracted a toxin called holothurin from Bahamian sea cucumber (Actynopyga agassizi), which showed anti-tumor activity in mice. Holothurin was not commercialised but the number of potential bioactive compounds from the ocean spiked up and more are being discovered each year. Scientists have used biotechnology to make copies of the marine compounds in the laboratory so they don't have to be constantly harvested from marine life. Some have been commercialised, while others are undergoing clinical or pre-clinical tests.

Other marine-derived drugs are still in clinical trials. These include cytotoxic compounds bryostatin 1 and the dolastatin derivatives soblidotin and synthadotin. Aside from these drugs, more products are in the preclinical pipeline. The number of marine compounds reported is increasing every year, with over 1,000 new compounds with varied potencies and biological functions added to the pipeline each year.

Environment and Biotechnology

Degradation of environmental pollutants is an important concern globally. Studies have shown that marine microorganisms exhibit unique biodegradation pathways for breaking down several organic pollutants. Immobilised cells of bacterium Pseudomonas

chlororaphis produce pyoverdin, which hastens the breakdown of toxic organotin compounds in seawater. Other studies have also shown that some marine organisms produce eco-friendly chemicals like biopolymers and biosurfactants which can be used in environmental waste management and treatment.

Biofuel and Biotechnology

Biofuels from microalgae is one of the economically viable ways to reduce fossil fuel consumption. Microalgae are considered better sources of biofuels than higher plants because of their high oil content; ease of propagation (can be cultivated in seawater or brackish water, thus do not compete with the resources of conventional agriculture); residual biomass after oil extraction can be used as feed or fertiliser or fermented to produce ethanol or methane; and the biochemical composition can be controlled by modifying growth conditions. Microalgae with superior biomass productivity and lipid content include Chlorella, Tetraselmis, Chaetoceros, Isochrysis, Skeletonema, and Nannochloropsis.

Conclusion

One of the youngest biotechnology approaches is Marine Biotechnology. The marine ecosystem has rich biodiversity, and the organism themselves contain vital biochemical compounds with a wide array of uses in medicine, environment, and other industries. Thus, research on this field is vital to tap the vast potential of the marine environment to improve human life in any way possible.

Bangabandhu Sheikh Mujibur Rahman as a strategic leader

Cdre M Ziauddin Alamgir, (L), NGP, ndc, psc, BN (retd)

Introduction

The history of the world is replete with reference to citizens that have brought changes to their environment through imagination, interaction and vision. Citizens belong to this class are known as strategic leaders. They are endowed with the great capacity to reason and analyse their thoughts logically, concisely and convincingly. They take a global look at events around them, narrow it down to the specific and come up with solutions and procedures to resolve contending issues.

Certain characteristics or attributes are commonly regarded as marks of strategic leadership. These include having values, vision, and ethics; being result-oriented and imaginative; honesty, credibility, competence, inspiration, intelligence and courage.

In Bangladesh, through his charisma, the Father of the Nation Bangabandhu Sheikh Mujibur Rahman led to achieving the independence of Bangladesh. Bangabandhu, the architect of Sonar Bangla (Golden Bengal), is our identity as a nation and an independent country.

History is well-stocked with strategic leaders who were icons of their own generation. It is incumbent on future leaders to make conscious efforts to understand the art of leadership of the past strategic leaders by reviewing and studying their leadership styles. The purpose of this study, therefore, is to discuss Bangabandhu as a strategic leader.

Brief Biography of Bangabandhu

Bangabandhu (popularly known as Mujib in his early political career) was born in a respectable Muslim family on 17 March 1920, Tungipara village under the Gopalganj district to Sheikh Lutfur Rahman and Saira Begum. At the age of seven in 1927, Sheikh Mujib begins his schooling at Gimadanga Primary School. At nine, he was admitted to class three at Gopalgonj Public School. Subsequently, he was admitted to Gopalgonj Missionary School. Before becoming active in student politics, Sheikh Mujibur Rahman had an affinity toward sports and a special love for football. He received awards for his outstanding performances.

Mujib became politically active and joined the All India Muslim Students Federation in 1940. He joined the Bengal Muslim League in 1943 and grew close to the faction led by Huseyn Shaheed Suhrawardy. During this period, Mujib worked actively for the League's cause of a separate Muslim state of Pakistan. In 1946, he became general secretary of the Islamia College Students Union. After obtaining his degree in 1947, Mujib worked under Suhrawardy during the communal violence that broke out in Kolkata in 1946.

Later, Mujib left the Muslim League and joined Suhrawardy and in the formation of the Awami Muslim League. He was elected joint secretary and general secretary of its East Bengal unit in 1949 and 1953 respectively. He was elected to the East Bengal Legislative Assembly in 1954.

Mujib was arrested for organising resistance to the suspension of the constitution and imposition of martial law in 1958. After his release from prison in 1961, he started organising an underground political body in order to oppose the regime of Ayub Khan. In 1963, Mujib became the head of the Awami League.

In 1966, Mujib proclaimed a 6-point charter titled ‘Our Charter of Survival’. Mujib’s 6 points catalysed public support across East Pakistan, launching the 6 point movement recognised as the definitive gambit for autonomy and rights of Bangalees in Pakistan. He was arrested in Agartala conspiracy case and was accused of colluding with Indian government agents in a scheme to divide Pakistan and threaten its unity, order and national security. The government caved to the mounting pressure, dropped the charged and unconditionally released Mujib. He returned to East Pakistan as a public hero.

Sheikh Mujibur Rahman on behalf of the people of East Pakistan announced the 6-point programme, the charter of freedom of Bengalis in Lahore (February 5, 1966)

On 23 February 1969, one day after he was freed from jail in the Agartala conspiracy case, Sheikh Mujibur Rahman was accorded a grand reception, where he was given the title Bangabandhu (friend of Bengal).

In 1969, Bangabandhu declared that henceforth East Pakistan would be called 'Bangladesh.' Bangabandhu's declaration re-defined the debate over regional autonomy. He was able to galvanise support throughout East Pakistan and thus became one of the most powerful political figures in the Indian subcontinent.

On 7 March 1971, Bangabandhu called for independence and asked the people to launch a major campaign of civil disobedience and organised armed resistance against the government of Pakistan at a mass gathering of people held at the Race Course Ground in Dhaka. On night 25 March 1971, the Pakistani army launched 'Operation Searchlight' to curb the so-called political and civil unrest. Bangabandhu asked his fellows to create resistance against the army of occupation by a telegraph at midnight on March 26, 1971. Bangabandhu was arrested and taken to West Pakistan and kept under heavy guard in a jail near Faisalabad.

Forced by international pressure and the imperatives of its own domestic predicament, Pakistan was obliged to release Bangabandhu from its jail soon after the liberation of Bangladesh. And on 10 January 1972, the great leader returned to his beloved land and his admiring nation. After the return, Bangabandhu took tremendous tasks of rehabilitation. He brought the shattered economy back on the rail, rebuilt infrastructures, saved millions from starvation. He restored the law and order in the country. Under his charismatic leadership, the country soon began moving on to the road to progress.

At this critical juncture, his life was cut short by a group of anti-liberation reactionary forces who in a pre-dawn move on 15 August 1975 not only assassinated him but 23 of his family members and close associates. The only survivors were his two daughters, Sheikh Hasina (Hon'ble Prime Minister) and Sheikh Rehana.

Main Strategic Thoughts of Bangabandhu

Secularism

The politics of the then Indian subcontinent was dominated by religion. Muslim League was one of the major political parties. Bangabandhu introduced secularism in politics. In 1963, he dropped the word 'Muslim' from Awami Muslim League in a shift towards secularism. In 1972 he proclaimed the four fundamental principles of nationalism, secularism, democracy and socialism in the constitution which came to be known as 'Mujibbad.'

6-Point Charter

In 1966, Bangabandhu proclaimed a 6-point charter titled "Our Charter of Survival" in which he demanded self-government and considerable political, economic and defence autonomy for East Pakistan in a Pakistani federation with a weak central government. The 6-point charter later was transformed into 6-point movement. This led to the formulation of the wider 11-point proposal and contributed to 1970's general election where the Awami League led by Bangabandhu formed a clear majority. The massive victory inspired Bangabandhu to call independence in 1971. His strategic thoughts of 6-point charter contributed to the creation of Bangladesh.

Concept of Sonar Bangla

From the childhood, Bangabandhu cherished concept of Sonar Bangla (Golden Bangladesh) free from poverty, corruption and ethnicity. On 5 December 1969, Bangabandhu made a declaration at a public meeting that henceforth East Pakistan would be called 'Bangladesh.' After taking over his office as prime minister, he nationalised hundreds of industries and companies as well as abandoned land and capital and initiated land reform aimed at helping millions of poor farmers. Towards the achievement of Sonar Bangla and ensure unified and coordinated efforts Bangabandhu founded Krishak Sramik Awami League in 1975. His concept of Sonar Bangla led to vision 2021- the concept of Digital Bangladesh envisaged by Prime Minister Sheikh Hasina.

Key Competency of Bangabandhu's Strategic Leadership

Example Setting

Bangabandhu was the role models that his followers imitated. He rightly set the tone and culture of his party. To protest the declaration of Urdu as state language, he inspired his followers through setting the example that he himself was on hunger strike in the jail.

Vision

Bangabandhu was a visionary leader. He imagined futures, determined what is limiting the present, and showed what is possible

Bangabandhu addressing a meeting at Tejgaon during the election campaign (1970)

"The struggle this time is for our emancipation. The struggle this time is for our independence" - Bangabandhu Sheikh Mujibur Rahman delivering his historic 7th March Speech at a huge public rally at Race Course Maidan (Suhrawardy Udyan, March 7, 1971)

in the future. Through his visionary leadership, he successfully steered the nation to achieve independence. After the independence, he imagined that sea resources would be vital in future, as such he enacted Territorial Water and Maritime Zones Act 1974. This facilitated the settlement of maritime boundary dispute with Myanmar and India and paved the way for Maritime Bangladesh.

Communication Skill

Bangabandhu maintained the connection with a large and highly diverse number of members through communication skill. His historic 7th March speech encouraged the whole nation to be united for a single issue of independence. Within a short time after the independence, Bangladesh became a member of the United Nations and Organisation of Islamic Countries mainly due to the respectable connection of Bangabandhu with the international arena.

Bangabandhu's Contribution to Strategic Leadership Study

Patriotism

Bangabandhu was a patriot in the true sense and hence he could utter: "Standing on the gallows, I will tell them, I am a Bangalee, Bangla is my country, and Bangla is my language". On his return home, Bangabandhu declared, "Bangladesh has earned independence. Now if anybody wants to seize it, Bangabandhu would be the first man to sacrifice his life for the protection of that independence". His country was all-important to him.

Flexibility

Bangabandhu was firm in attaining his goal but was flexible in tactics. He had to move forward step by step in his struggle for his nation. He had to change the tactics and the slogans of the movement several times. He was flexible and changed his tactics in each step of his struggle starting from organisational stage of the democratic movement to armed liberation struggle. The way he turned a nonviolent non-cooperation movement of unarmed masses into an armed struggle that successfully brought into reality the liberation of a new nation demonstrated the flexibility of his approach.

Factors Influencing Bangabandhu's Approach to Strategic Leadership

Upbringing

Bangabandhu's humble background, as well as the hard work and sincerity of his parents, influenced his approach to strategic leadership. The bedrock values of his upbringing were code of duty, honour and patriotism. These factors contributed to his hard work, humility and dedication which characterised his leadership style and contributed to his giant strides.

Personality

Bangabandhu's personality, a mingling of gentle and stern qualities, had an uncanny magical attraction. He was as simple as a child yet unbending in courage, as strong as steel when necessary. For his elegant personality, he was as dear to the educated Bangladeshi compatriots as to the illiterate and half-educated masses. He inspired the intelligentsia and the working classes alike. He began as a humble worker at the bottom rung and arduously climbed to the position of a national leader and rose to the very pinnacle as the Father of the Nation.

Influence of Bangabandhu on His Followers

Teamwork

Bangabandhu demonstrated how he could inspire people to work together. He inspired the whole nation to work together in the language movement, 6-point movement, mass movement, general election and in the Liberation War. Through his teamwork, Bangabandhu united the Bangalees to throw off the shackles of Pakistani oppression and steered them towards independence.

Hard Work

Bangabandhu was a very hardworking person. His struggle to establish the right of people testifies the fact. After independence, he

Bangabandhu Sheikh Mujibur Rahman was arrested and taken to West Pakistan shortly before the start of Operation Search Light on March 25, 1971. Bangabandhu Sheikh Mujibur Rahman, the undisputed leader of the Bengali nation surrounded by Pakistani troops at Karachi airport (April 4, 1971)

Bangabandhu Sheikh Mujibur Rahman acknowledging the reception of a huge gathering of followers upon his landing at the Tejgaon Airport (January 10, 1972)

Bangabandhu Sheikh Mujibur Rahman addresses the United Nations General Assembly at New York in BANGLA for the first time (September 24, 1974)

launched the second revolution to make independence meaningful. The objectives of the revolution were: elimination of corruption, boosting production in mills, factories and fields, population control and established of national unity. Imbued with new hope, Bangabandhu marched forward to extend the benefits of independence to every doorstep.

Organising Capacity

Bangabandhu's organising capacity was unique. He had the qualities of tolerance and flexibility, which were needed for making the party bigger. Even old people in remote rural areas, whose only possession was a tea-stall, who never got anything from the party, but had never, left it after coming to the fold of Awami League at the behest of Bangabandhu. He was the fearless fighter of the Language Movement; the pioneer of the democratic movement; the architect of the 6-point movement; the life-force of the mass movement; the enviable victor of the election and, above all, the greatest hero of the Liberation War. All these testify his organising capacity that inspired his followers.

Bangabandhu Sheikh Mujibur Rahman takes oath as the Prime Minister of a free and independent Bangladesh (January 12, 1972)

Humility

Bangabandhu was a very humble leader and this was responsible for the love many of his followers had for him. The vastness of his heart, his humanism and tolerance, his appearance, dresses and words; all of these had demonstrated his intention to maintain everlasting bonds with a huge population. In returns, Bangalees has honoured him with the title 'Bangabandhu' meaning friend of Bengal.

The Relevance of Bangabandhu's Thoughts of Strategic Leadership

Bangabandhu's strategic thoughts are still relevant today. Secularism is now the norm of all most all modern state. This has become the main weapon to combat ethnic and religious violence. His 6-point charter was the Magna Carta for realising legitimate rights for self-determination of Bangalees. Till today demand of autonomy can be based on his historic 6-point plan. Concept of Sonar Bangla is an effective guideline for formulation any goal to be achieved by any nation through setting the vision. Bangladesh has effectively used it to formulate her Vision-2021.

Conclusion

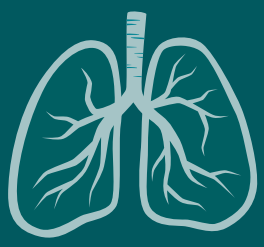
Bangabandhu was a visionary leader whose strategic thoughts on secularism, 6-point movement and concept of Sonar Bangla remain valid in contemporary strategy for nations. Bangabandhu's unambiguous strategies of flexibility combined with decisive action, firm commitment to objectives, and patriotism among others made him a towering personality worthy of emulation.

Cdre M Ziauddin Alamgir, (L), NGP, ndc, psc, BN (retd)

Dean

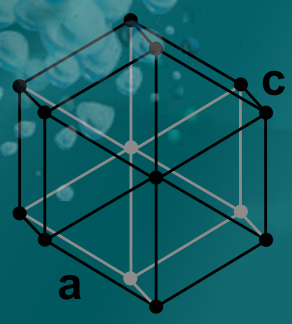
Faculty of Engineering and Technology (FET), BSMRMU

INFO BYTES



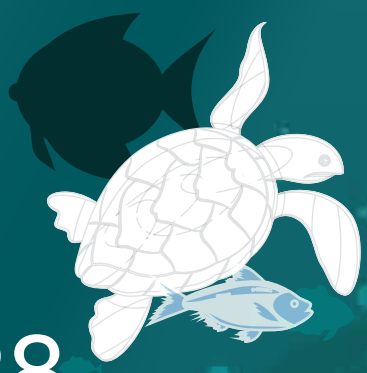
HALF of the oxygen we breath is produced in the ocean

50x more carbon is held in the ocean than in the atmosphere



1.35bn km^3

Total volume of world's ocean



28 major groups of animals live in the ocean, whereas only 11 live on land

CORAL is actually a colony of tiny animals with porous limestone skeletons – suitable for repairing human bones

The longest known mammal migration was achieved by a GRAY WHALE travelling 22,511km over the course of 172 days

1 inch

of **ocean depth** has as much water as the atmosphere

14%

PROTEIN consumption comes from fish

230,000

MARINE SPECIES are known– with over 2 million estimated to exist

3,700 m

The average depth of the ocean

An Exclusive Interview with UGC Chairman

Professor Dr Kazi Shahidullah, the Chairman of the University Grants Commission (UGC), gave an exclusive interview to Maritime Campus magazine recently. As a notable and experienced academician, he details out UGC's role and the current as well as future scenario of tertiary education of Bangladesh during that interview. For our students and enthusiastic readers, we have published the full interview in this issue. We believe that the readers will find this interview a great resource to know UGC's valuable activities in promoting quality higher education in Bangladesh.

Education, especially higher education, facilitates good governance by preparing leadership for the creation, preservation, and dissemination of knowledge to the society. Would you please describe UGC's role in tertiary education of Bangladesh?

The University Grants Commission (UGC) of Bangladesh was established under the President's Order No. 10 of 1973. The UGC is the apex and statutory body of the universities of Bangladesh. The main objectives of forming the UGC are to (a) promote and coordinate university education; (b) monitor and maintain the standard of university education; (c) assess the needs in terms of funding for the public universities; and (d) advise the government on various issues related to higher education and research in Bangladesh. The major responsibilities entrusted to the UGC are - receiving funds from the government and allocating and disbursing those funds to the public universities for their maintenance and development. After necessary assessment and scrutiny of the requirements of the universities, the UGC places them before the government for necessary approval. Formulating plans for the development of higher education, examining and evaluating various development projects and programmes of the public universities and advising as well as putting forward recommendations to the government about various aspects of higher education are also important functions of the UGC. In this respect, the role of the UGC is mainly advisory in nature. Besides, the Private University Act, 2010 has empowered the UGC with the authority to supervise, monitor and regulate the activities of the private universities in Bangladesh. As a result, the UGC has been empowered with the legal authority to advise, supervise and regulate higher education at private universities in Bangladesh.

What are the vision and mission of UGC in the context of higher education in Bangladesh?

Our vision is to facilitate and guide the universities to achieve excellence in higher education and innovative research for sustainable socio-economic development as well as building a knowledge-based economy through promoting good governance and management at the higher education institutions in Bangladesh.

Our mission encompasses catering the academic and financial needs and demands of higher education institutions and formulating strategic plans for tertiary education in Bangladesh. We work for improving the quality and relevance of academic programmes at the universities for sustainable socio-economic development. The UGC facilitates establishing infrastructure for advanced research and strengthen innovative research capabilities. It encourages universities to nurture emerging technologies and interdisciplinary applied research, university-industry interaction for national development and promotes good governance and financial management. We promote applications of ICT knowledge in all possible areas and encourage digital communications among different universities both within as well as outside Bangladesh. We also help to establish international cooperation and competitiveness with foreign universities.

How is UGC facilitating to produce educated human resources for the sustainable development of the country?

The UGC is very keen in producing educated and quality human resource for the sustainable development of our country. An entire division of UGC is dedicated for improving the quality of education and facilities to produce educated human resources. That division is called the Planning and Development Division. The division formulates plans for overall development of the university education of the country. Apart from physical and infrastructural development of public and private universities, major thrust in the planning of university education is to bring necessary improvement in the standard and quality of university education. The Planning and Development Division has constantly been trying to bring real and meaningful improvement in development activities and to establish accountability and transparency in the operating procedure of development projects undertaken by the universities so that they can produce quality human resources for the sustainable development of the country. The division is responsible for formulating development plans for the university education. It also formulates plans for establishment of new universities in the country and new institutes and departments in the existing universities. The Planning and Development Division inspects, supervises and reports on the progress of the development projects undertaken by the universities. For the development of education, it collects, analyses and interprets statistical data relating to the university education. So, there is a whole system playing the role to enhance the quality of the education to produce educated human resources.

The government has been giving importance to the maritime sector to tap the opportunities of Blue Economy. Is UGC synchronised with the government's aim and taking measures to produce sufficient maritime professionals?

With the landmark verdict on delimitation of maritime boundary with India and Myanmar, Bangladesh has been endowed with a large sea area with abundant sea resources. The present government, under the leadership of Hon'ble Prime Minister Sheikh Hasina, eyes on effective exploration and exploitation of maritime resources to cope up with the 21st century economic challenges. Besides, the onus of maintaining 'good order at sea' is becoming heavier with the passage of time. In order to attain these goals, the nation desperately needs right kind of human resources. I believe, BSMRMU with its motto 'We Strive for Maritime Excellence' would provide necessary human resources for the nation, through creation of effective well qualified and knowledgeable human resources in the coming days well synchronised with the government's maritime vision. We are also encouraging the private sector to invest in the maritime education and training industry. We need private maritime universities as well. I am quite hopeful about the future of the maritime education in our country.

> *"We work for improving the quality and relevance of academic programmes at the universities for sustainable socio-economic development. The UGC facilitates establishing infrastructure for advanced research and strengthen innovative research capabilities. It encourages universities to nurture emerging technologies and interdisciplinary applied research, university-industry interaction for national development and promotes good governance and financial management."*

Maritime research and development needs huge technical and funding support. Do you think the existing budget for public universities are sufficient to carry out progress in maritime research and sustainable development?

To assist higher education and research activities in the country, especially to support and coordinate research activities in the universities, the UGC established 'Research Support Fund' in 1982.

The objectives of this fund are to provide financial help to the university teachers to carry out research, partial travel grants to the university teachers to participate in national and international conferences, seminars, symposium etc., grants to the university teachers to write text and reference books or translate books for graduate and postgraduate students, and partial grants to MPhil and PhD students of the universities under the UGC Fellowship Programme. The UGC will have more such projects in future to provide funds for maritime research and development.

According to media report, the country has 48 public and 101 private universities. Do we think Bangladesh need more universities for the future? Is UGC prioritising quantity over quality?

Few decades ago, many students were deprived of education due to the limitation of available seats in the public universities of the country. The number of universities is not enough for a country with 160 million people. With a view to solving this problem, the government has accorded permission for establishment of universities in the private sector by enacting the Private University Act, 1992. However, the Act of 1992 (amended in 1998) could not meet the ever-growing challenges in maintaining and ensuring the quality of higher education, transparency and accountability in the managerial level of private universities. Subsequently, Private University Act, 2010 was passed in the National Parliament in July 2010. The Act has been designed and formulated with the object of ensuring and enhancing transparency, accountability, dynamism, good governance and quality of higher education in Private Universities. We are very much aware of the need of quality higher education in the country, but yes, we need more universities for the growing higher education seeking students as well.

Under the present government's initiatives, we see a surge in female enrolment in education and employment. Does UGC have any strategy to register more female students for tertiary education?

With several outstanding initiatives, the Hon'ble Prime Minister Sheikh Hasina has been promoting female education and employment throughout the country. Her ingenuities regarding female education and empowerment are being highly appreciated and applauded by the local and global intelligentsia. We have been encouraging female enrolment for higher education. I would like to urge all universities to make promise that they will try to admit 50% female students in all departments by giving then necessary incentives and learning atmosphere. Additionally, I have plans to strengthen and widen the capacity or UGC's 'Rokeya Chair' which was established at the 111th meeting of the UGC in 2007 and started its function as per the Commission's decision to honour the educationists and researchers who have special contribution to the cause of women education, leadership, women empowerment and development. So far, four educationists and researchers have been honoured for their contribution to enhancing women empowerment and development.

Some fears that few students are being radicalised in universities and are posing threat to the overall security of the society. How can UGC play a role to mitigate such crisis?

The University Grants Commission wants power to appoint observers to the boards of trustee of all private universities to increase its supervision on them following allegations of militant activities in some private universities. The UGC has already recommended the government to amend the Private University Act 2010 and incorporate a provision in the act to allow it to appoint observers to the trustee boards. Besides, the UGC has taken several awareness initiatives in order to refrain them from radicalisation. We have recommended some strategies for universities to deter such threats.

No one can disagree with the thought that education system enriches with multinational cooperation. What steps are taken so far by UGC in this regard?

The UGC has International Cooperation and Collaboration (ICC) section which is an integral part of our office. It was formed in 2011 especially to facilitate congregation of Bangladeshi participants in different international programmes. Since the emergence, this section, has been playing a significant role. ICC deals with all matters relating to international cooperation and collaboration in higher education. It administers various Scholarship and Fellowship programmes such as JSPS, SAARC Scholarship and Fellowship, SAARC Chair and similar other programmes. The section explores opportunities of funding for university faculty members and UGC personnel to facilitate their participation in various foreign and international trainings, workshops, seminars, conferences and similar other programmes. It facilitates various trainings sponsored by the

British Council and similar other foreign organisations. ICC also conducts admission test of South Asian University (India), run and managed by SAARC. The section deals with foreign funded/collaborative joint research projects such as JSPS-RONPAKUUGC Joint Research Project and RONPAKU-UGC (PhD dissertation) programme. It disseminates the information of different scholarship and fellowship programmes offered by different international organisations. ICC administers Commonwealth Scholarship (Academic and Open) and Commonwealth Medical Fellowship programmes. The section deals with University Mobility in Asia and the Pacific (UMAP) programme and other scholarships, awards and prizes sponsored by the UNESCO Commission.

As country's only specialised maritime university, BSMRMU, Bangladesh started its journey to produce efficient and educated manpower for the maritime sector. Do you have recommendations to improve the overall performance of the university?

Education provides our young people with the knowledge and experience they need to contribute to society. It helps lift young people out of poverty and provides them with opportunities to lead a better life. It empowers young people to pursue their dreams, and to become the leaders of tomorrow. To keep pace with the developing world in the field of maritime higher studies and research, Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh, the first Maritime University of the country, was established by the BSMRMU, Act No. 47 of 2013. The University started its journey as the 37th public university of the country, the 3rd Maritime University in South Asia and the 12th Maritime University in the world. But BSMRMU is still in its infancy to review its performances. It has miles to go before we discuss about the overall performances. And to become an icon in the field of MET, the university should conduct knowledge sharing programmes, research projects and modern science and technology based teachings on a regular basis. The university should have short term, mid-term and long-term plans to meet present and future challenges in our MET sector. I believe, with the prudent leadership of the Vice-Chancellor of BSMRMU, M Khaled Iqbal, the university is in the right direction.

Almost all the private universities are located in the capital. What can UGC do to decentralise the opportunities of higher education?

As you rightly pointed out, most of private universities are located in Dhaka and we are encouraging and inspiring those universities to relocate their campuses outside the city. Already, several universities have shifted their campuses to other locations of the country. In this regard, the UGC is prioritising the approval for new private universities which have plans to build their campuses outside Dhaka city in order to decentralise the opportunities of higher education for the potential youth.

This ship was destroyed by Bangladeshi naval commandos during 'Operation Jackpot', that was waged against the Pakistani military in the Liberation War of Bangladesh

Operation Jackpot

A unique operation of Naval Commandos in Liberation War

Md. Bayzid Mahmud

Operation Jackpot was one of the most difficult parts of the War of Independence, 1971 which was a guerrilla operation primarily operated by naval commandos. The heroes who participated in the war were the heroes of our country. The gravity of this operation, the loss of property and the loss of resources were enormous. And while reading it's thrilling actions, it seems that it is the part of some great scenes of English movie. During the War of Liberation, all the naval bases, ports and coastal areas of the country were part of the sector 10 which was operating by the Navy. There was no specific sector commander in this sector.

First, in early March, the Pakistani submarine PNS Mangro went to the French submarine dockyard in France to train Pakistani submariners. Of those 41 submariners, 13 were Bengali. They decided to flee to Bangladesh after hearing the news of the massacre on 25 March 1971 in the international media. Eight of them left for Bangladesh on 30 March 1971 and arrived in Delhi on 9 April 1971. They are Md. Rahmatullah, Md. Syed Mosharraf Hossain, Md. Sheikh Amanullah, Md. Abdul Wahed Chowdhury, Md. Ahsanullah, Md. Abdur Rakib Mia, Md. Abdur Rahman Abed, Md. Badiul Alam. Later, in addition to these eight others, a total of 20 guerrillas were formed and they were given special training in India. When they were sent to Bangladesh, they met with Colonel Osmani. He decided to form a naval commando force with them, and on Osmani's decision a secret training camp was opened in 23 May 1971 on the banks of the Bhagirathi river beside the historic Palashi memorial site for the training of selected guerrillas of the naval commando sector. The training camp is named for the C2P. About 300 selected fighters were collected for training in early May from different camps in other sectors. What kind of training they were being given at the training camp was so secretive that no one knew about this except the commanders of the area where the operation to take place.

Before the start of training, the fighters were said that it was a suicidal operation. Therefore, they may have to sacrifice their lives if necessary, to make the operation successful at any cost. Therefore, at the beginning of the training, a consent form was signed along with the pictures of each trainee. The forum wrote, “I am taking this training with agreeing to give my life for the country's independence, and no one will be responsible if I die in the war.” Indian naval officer commander MN Samanat was in charge of the training camp of the naval commandos. Another 20 Indian trainers, including Commander GM Martis were the trainer of the camp. Among the instructors eight submariners fleeing from France were there. There were two parts to the training. All had to learn necessary ground warfare, such as throwing grenades, use of explosives, launching Sten gun, revolvers, un-armed combat (empty-handed combat).

And the training of water warfare included various types of swimming - such as swimming in the chest weighing 3-5 kg, swimming in the nose, swimming long in the nose with water, swimming in the water and using the limpet mine with dive swimming, swimming in the swamp, swimming in the lake etc. All the hard training was given to the participants at the Bhagirathi river. All fighters had to practice staying in the water for 48 hours at a stretch in winter and summer. After nearly three months of training, it ended in the first week of August. Towards the end of the training, the attack plan began to be organised. At the same time, a plan of four sectors was coordinated to attack two seaports and two rivers ports. The first batch trained was divided into four groups for the purpose of attacking at four places. Two teams of sixty and two more groups of twenty commandos and four leaders of the four groups were assigned. The team leaders were taught a special secret method that was kept secret to other members of the team. The commanders were told that two Bengali songs would be used as a warning signal. The song will be broadcast in Kolkata Akash Bani at the special event for the Eastern audience from 6 am to 6.30 am or from 10.30 pm to 11.00 pm. Only the commander of the group knew the name and song of this frequency. The lyrics, used as their signals are:

Naval commandos are seen here preparing themselves with limpet mines in order to start ‘Operation Jackpot’

The first signal was Pankaj Mallick’s singing ‘Ami Tomay Shuniyechilam Joto Gaan’ - that meant attacking within 24 hours or closer to the time of the attack. Second signal was Sondha Mukhopadhya’s song “Amar putul ajke Prothom jabe shoshur bari”- that meant leave the base to attack.

The operation was conducted at Chattogram port on the first watch of 16 August 1971 midnight. At the beginning of the operation preparations, each naval commando was given a limpet mine, a knife, a pair of swim fins and some dry food. One sten gun for three person and one transistor is given to the commanders. The day of operation is set for 15 August 1971. It’s a life-and-death moment for the naval commanders of the Bangladesh Liberation War. Their journey started from Palashi's Harina Camp. According to the plan, they will reach their respective areas i.e. Chattogram, Mongla, Chandpur and Narayanganj accordingly.

The group of 60 members from the Harina camp was divided into three groups. Groups 1 and 2 travel to Chattogram base camp by following three different routes as per their previous plans and on 14 August, they receive the first song signal. On receiving this signal, they reached their base camp at Charalakshya on the east bank of the river Karnaphuli with weapons. There was no news of a third

group yet. On 15 August, they received the final signal on the transistor and completed all preparations for the operation. 31 commandos participated in this operation. On 16 August 1971, at 1 am, the naval commandos departed for the operation. At 1.15 am, they started swimming for the ship, and they quickly set mine on their target ships. The first explosion occurred at 1:40 am. Then it exploded all the mines one after another. In this successful operation three major armourbearer ships were destroyed. These large vessels are (1) V Hormuz - it arrives at Chattogram port on 14 August. The vessel, which had 9,910 tons of arms and ammunition, was anchored at No. 13 Jetty (2) MV Al-Abbas - it was stationed on 9 August with 10,500 tons of military equipment. (3) Orient barge number 6 — It was positioned in front of the Fish Harbour Jetty with 6,500 tons of ammunition. On 27 July 1971, 60 naval commandos and 25 Bangladeshi C&C special commandos, headed by Aminur Rahman Khasru, set sail for the Mongla operation from the port of Kanning Matlar, India. The commando team reached the port of Mongla on 13 August at 6 pm. A commando team stayed at the abandoned zamindar house behind Mongla port and Dangmari bill. At around 12 am, commandos started sailing for Mongla port on fifteen boats. The last time to reach Mongla was 2 am. But commandos could not arrive at Mongla port in stipulated time due to the wrong direction of the instructors. The operation was not only a risk to life, but the operation at the morning of 16 August was a direct suicide action. Overcoming all the obstacles, the operation started in Mongla around 4 am. Due to shortage of time, only 24 naval commandos took part in this operation. They put mine on 6 foreign ships. After 6.30 am explosion started occurring. There was one Somalian ship, one US ship, two china ship, one Japanese, one Pakistani ship, in this operation all the 6 ships were completely destroyed with a massive number of ammunitions.

Mongla Operation Commander Aminur Rahman Khasru, along with two other naval commandos, crossed the barrier of Mongla port in the operation. Somalia's 7,000 tons of armaments ship SS was destroyed by mine explosion. In this operation two freedom fighters were reported missing, thought to have drowned or died in the stream.

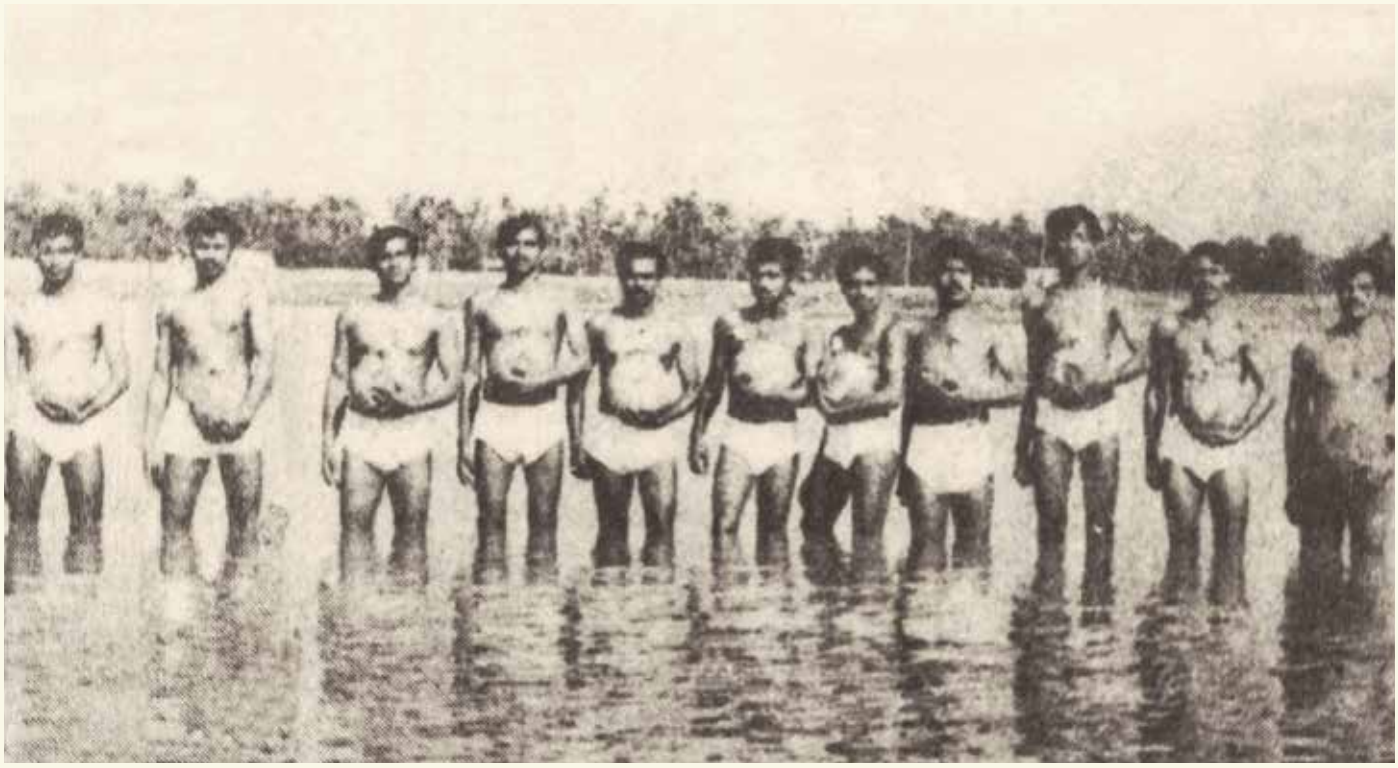
18 naval commandos took part in the Chandpur river port operation. The group was divided into 6 small groups of three fighters each. The mine exploded, destroying two steamers and a large number of small and big ships, including a cargo ship.

In the Narayanganj river port operation, a total of 4 ships were destroyed by naval commandos. Total 20 commandos participated in this operation.

About 26 ships were destroyed in the operations and many more ships were damaged. In addition to these operations in August, many more naval commandos operations were launched in August-November. In these operations, Pakistani ships and heavy weapons and ammunition were damaged. Thus, a number of naval boats was coming under control of Bangladeshi Naval Commandos.

Not all of the naval commando missions saw success. After the first week of October, no further operations could be made in Chattogram as the watch was strengthened by the Pakistan Navy. The attempt to destroy Hardinge Bridge failed four times. Some commando teams were subjected to ambush by enemy forces. Some expeditions also failed due to bad luck and miscalculation. Oil depots could not be attacked in Narayanganj, Bogra, Faridpur and Chattogram because the enemy had strengthened their security. However, the Mukti Bahini was able to destroy both the oil depots of

An old photo of the Liberation War that exhibits a group Bangladeshi naval commandos who were ready to sacrifice their lives conducting 'Operation Jackpot'



Chattogram and Narayanganj on 2 December with the help of helicopters and twin-Otter aircraft.

A total of 515 commandos got training from C2P. Eight commandos were martyred, thirty-four were wounded and 15 were captured by the enemy during August-December. During this time, the naval commandos were able to destroy or sink about 126 ships/coasters/ferries. According to a source, during the August-November period, they were able to sink at least 65 different types of boats (15 Pakistani ships, 11 coasters, 7 gunboats, 11 barges, 2 tankers and 19 ordinary vessels). The jetties and ports were turned off and the channels were blocked. Despite having no military fleet of its own, the naval commandos somehow managed to poach off.

Our naval commando Abdur Rakib and commander Hossein Farid were martyred in the operation of Fulchhari Ghat during the second operation in Chattogram. Commando Khobiruzzaman was martyred in the second operation in Faridpur. Commando Sirajul Islam, M Aziz, Aftab Uddin and Rafiqul Islam went missing during the operation.

The successful operations of the naval commandos uncovered the futile propaganda made by the Pakistan government to the outside world that normalcy was prevailing in occupied Bangladesh. The news of the success of naval operations undertaken by the freedom fighters were published and broadcast in the international media. After these successful operations, no foreign ship agreed to anchor in the ports of the then East Pakistan. The liberation war got a wide publicity in the outside world because of the Operation Jackpot. It certainly boosted the morale of Freedom fighters who were already high on spirit and patriotism. If the war from 26 March to August was won by Pakistani army, it can certainly be said that this operation turned the tide.

Humble respect and love for all the heroic martyrs of the War of Independence. In exchange of their sacrifice, we have got this beautiful country - Bangladesh.

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Ocean Mysteries

Top 5 Amazing Ocean Mysteries

The oceans contain great mysteries within their depths. These various unexplained mysteries of the oceanic domain are interesting subjects of discussion and debate. Top 5 of such oceanic enigmas – both solved and unsolved ones are presented below:

1. Milky Sea Phenomenon

Milky Sea refers to the unique milky glow of the waters of the Indian Ocean. The ocean phenomenon occurs on account of bioluminescent bacterial action and in turn, causes the water to turn blue, which appears to the naked eye as being milky white in colour in the darkness. The Milky Sea phenomenon has been documented to be in existence for over four centuries.

2. Bioluminescence

Bioluminescence is the light produced by marine creatures as a defence mechanism. Certain chemicals in the creatures' body when counteracted with atmospheric oxygen results in the emergence of bioluminescent light.

3. Convergence of Baltic and North Seas

This oceanic phenomenon has been a highly debated topic. The convergent point of the North and the Baltic Seas occurs in the province of Skagen in Denmark. However, because of the differing rates of densities of the seas' waters, the sea waters continue to remain separate in spite of their convergence.

4. Steaming Black Sea

Called as the 'sea smoke', the steam arising out of the Black Sea is caused due to the humidity of the oceanic water counteracting with the coolness of the wind over the water's surface. Apart from explaining the ocean mystery behind the steam rising from the Black Sea, experts have also proved that the phenomenon is quite common to even smaller water bodies.

5. Green Flash

The ocean phenomenon of green flashes occurs during sunset and sunrise. Usually seen for merely a couple of seconds, such green flashes are the result of the natural prismatic effect of the atmosphere of the earth. During sunset and during sunrise, the light cast by the sun gets diverged into multiple colours, which is seen by the emitting of the green flash.

Know your general 'Shipping Industry' terms

Maritime Campus Desk

We have accumulated general shipping industry terms to make them familiar with the students of BSMRMU and new readers of Maritime Campus. There are many other terms ornamented the shipping industry communication. We have selected frequently used terms and their meanings. These terms are used in all the seaports of the world.

- Bill of lading (B/L) - This is the official legal document that represents ownership of cargo; the negotiable document to receive cargo; and, the contract for cargo between shipper and carrier.
- Box - Another name for a shipping container. This is how they are often referred to in the industry.
- Brake horsepower - a common unit of power, the rate at which work is done. The power of cars and other motors of engine-driven vehicles, including container ships, is often measured in brake horsepower.
- Break bulk - loose cargo, such as cartons, stowed directly in the ship's hold as opposed to containerised or bulk cargo. The volume of break bulk cargo has declined dramatically worldwide as containerisation has grown.
- Bulk cargo - commodity cargo that is transported unpackaged in large quantities. These cargos are usually dropped or poured as a liquid or solid, into a bulk carrier's hold. Examples of bulk cargo are grain, seed, and coal and iron ore.
- Carrier - any individual, company or corporation engaged in transporting goods. Container shipping lines are sometimes referred to as ocean carriers.
- Charter rate - a rate for shipping freight agreed upon between the owner of a vessel and the person wanting to use the vessel (the 'charterer').
- CO_2 emissions - abbreviation for carbon dioxide emissions. CO_2 results from the burning of fossil fuels such as petroleum. It is broadly considered to be a factor contributing to global warming.
- Container - a reusable steel rectangular box for carrying cargo that first came into common use about 50 years ago. The sizes of containers are standardised so that they can easily be moved between specially adapted containers ships, trains and trucks.

- Container terminal - a docking, unloading and loading area within a port designed to suit the sizes and needs of container ships.
- FEU - 'Forty-foot Equivalent Unit'. This is a container that is the same height and width as a TEU but twice the length. As a result, it has twice the capacity.
- Freight rates - The charge made by a shipping line for the transportation of freight aboard one of its ships from one place to another.
- Gantry crane - a type of crane used to load and unload container ships. It lifts objects with a hoist and can move horizontally on a rail or pair of rails.
- Intermodalism - a system whereby standard-sized cargo containers can be moved seamlessly between different 'modes' of transport, typically specially adapted ships known as containerships, barges, trucks and trains. Because the cargo does not need to be unloaded from the container every time it is moved from one mode to the other it is a very efficient and fast system of transportation.
- International Convention for the Safety of Life at Sea (SOLAS) - prescribes the numbers of lifeboats and other emergency equipment that ships must have, as well as safety procedures including continuous radio watches when a ship is at sea.
- International Maritime Organisation (IMO) - a specialised agency of the United Nations responsible for measures to improve the safety and security of international shipping and to prevent marine pollution from ships. It is also involved in legal matters, including liability and compensation issues and the facilitation of international maritime traffic.
- International Organisation for Standardisation (ISO) - an international standard-setting body composed of representatives from various national standards organisations. It was the ISO that prescribed the standard size of shipping containers to make global container trade more efficient.
- International Ship and Port Facility Security Code (ISPS Code) - a code agreed between the signatories of the 1974 International Convention for the Safety of Life at Sea (SOLAS) on minimum security arrangements for ships, ports and Coast Guard agencies. The Code was introduced by the International Maritime Organisation (IMO), the overseer of the original SOLAS agreement, in the wake of fears of terrorist attacks on ships and ports after the September 11 terrorist attacks in the United States in 2001.
- Knot - a nautical measurement of speed equal to 1.15 miles or 1.85 Km per hour on land. The speed of ships is measured in knots.
- Maiden voyage - the very first journey a ship makes after being delivered from the ship-yard.
- Manifest - a list of cargo being carried by a ship as declared by the shipper.
- Pallet - a term used for a load-carrying platform onto which loose cargo is stacked before being placed inside a container. It is designed to be moved easily by fork-lift trucks.
- Reefer - Industry term for a temperature-controlled container. Inside each one is a complex system of coils, wires and electrical fittings, which are managed by a computer that controls everything from the temperature and humidity to ventilation and gas levels, all working to prevent the deterioration of fresh food or other sensitive goods over long distances and periods of time.
- Shipper - any person or organisation paying for its cargo to be shipped from one place to another.
- TEU - 'Twenty-foot Equivalent Unit'. This is the industry standard to measure containers. A 20-foot container's dimensions are twenty feet long (6.09 meters), 8 feet wide (2.4 meters) and 8 feet six inches high (2.6 meters). These dimensions have been set by the International Organisation for Standardisation (ISO).
- US Customs - Trade Partner Against Terrorism (C-TPAT) - a voluntary supply chain security program led by U.S. Customs and Border Protection (CBP) and focused on improving the security of companies' supply chains with respect to terrorism.
- Vessel - another word for a boat or ship. Container ships are sometimes referred to as vessels.
- World Customs Organisation (WCO) - an intergovernmental organisation comprised of customs administrations from 170 countries who participate to communicate and co-operate on customs issues.

Source: World Shipping Council

NUFFIC-Netherlands hands over Academic Cooperation Grant to BSMRMU

With a view to developing the maritime sector and specifically to ensure maritime higher education and research in Bangladesh, an Academic Cooperation Grant was handed over to Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh by Netherlands-based academic institution NUFFIC at the International Mother Language Institute in Dhaka on 21 October 2019. Hon'ble Minister of Education Dr Dipu Moni, MP graced the occasion as the Chief Guest. Besides, Deputy Education Minister Barrister Mohibul Hasan Chowdhoury, MP and H E Ambassador of Netherlands in Bangladesh Harry Verweij were among the distinguished guests. Vice-Chancellor of BSMRMU Rear Admiral M Khaled Iqbal delivered the welcome speech on the occasion. Afterwards, Ambassador of Netherlands handed over the Academic Cooperation Grant to the Vice-Chancellor of BSMRMU. Under the NUFFIC Orange Knowledge programme, the Government of the Netherlands approved a grant of 1 million Euros to Bangabandhu Sheikh Mujibur Rahman Maritime University, (BSMRMU) Bangladesh for higher maritime education and research for the development of maritime and port sectors of Bangladesh.

BSMRMU observed the Victory Day-2019

On 16 December 2019, Bangbanbandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh observed the Victory Day- 2019 at the campus located at Pallabi in the capital city. The Vice-Chancellor of the university, Rear Admiral M Khaled Iqbal graced the occasion as the chief guest. The Treasurer, Registrar, Deans, Faculty members, Officers, Staff and the Students of the university attended the function as well. The activity of the day started by hoisting the national flag with the sunrise. The programme started with a discussion on the significance of the Victory Day. Students and Faculty members of the university participated in the session as well. Later, students of the university arranged a cultural programme based on the theme of the Victory Day. The Chief Guest, in his speech, highlighted the contribution of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman and all the national heroes of the liberation war and urged all to keep up the true spirit and ideology of the Victory Day to materialise the Vision-2041. The programme concluded with a prayer in memory of the great martyrs of the liberation war and for peace, prosperity and progress of the nation.

Certificate awarding ceremony of short courses held

Certificate Awarding Ceremony of courses on Freight Forwarding, Dangerous Good Handling, Supply Chain Management, Project Management and International Humanitarian Law was held on 29 Ocotber 2019 at the University Auditorium organised by the Faculty of Maritime Governance and Policy of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh. The Vice-Chancellor of the university, Rear Admiral M Khaled Iqbal graced the ceremony as the Chief Guest. Dean of the faculty, Commodore (retd) M Ziauddin Alamgir delivered the welcome speech. The Chief Guest handed over the certificates among the 132 students of the courses. Students, faculty members and other relevant resource personnel were present in the ceremony.

BSMRMU arranges special session on maritime crime and security in an international conference

Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh arranged a special session on Maritime Crime and Security at a seminar held in Daffodil International University in Dhaka on 8 December 2019. The session was arranged in the inauguration day of "The 4th International Conference on Globalisation, Entrepreneurship and Emerging Economies (ICGEEE)" jointly organised by Centre for Innovative Leadership Navigation (CILN) and BSMRMU. In the session, Vice-Chancellor of the University, Rear Admiral M Khaled Iqbal and Professor Chris Bellamy from University of Greenwich, UK and Adviser of Global Maritime Security and Defence presented the keynote paper. In his presentation, Vice-Chancellor emphasised on Ocean Governance as a fundamental for sustainable maritime development in the Bay of Bengal. Speakers at the seminar discussed about various maritime crimes and security aspects of the Bay of Bengal.

22nd Syndicate and 25th Academic Council Meeting

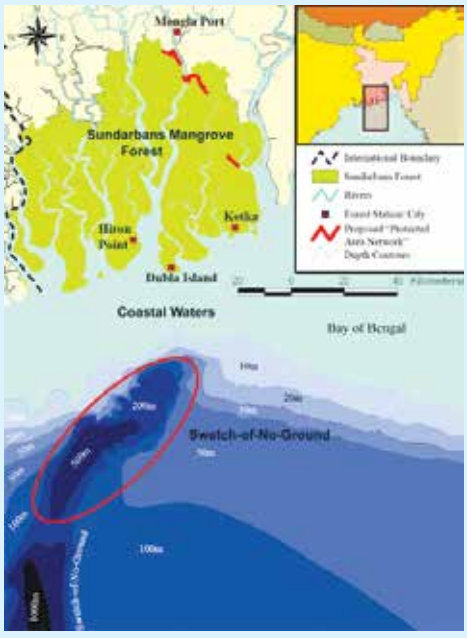
On 30 September 2019, the 22nd Syndicate Meeting of BSMRMU was held at its temporary campus in Pallabi, Mirpur. The meeting was chaired by the Vice-Chancellor Rear Admiral M Khaled Iqbal. Various decisions on a number of important issues were taken at the meeting including application for affiliation of BSMRMU to International Association of Maritime University (IAMU), membership of National Hydrography Committee (NHC) of Bangladesh Navy and Memorandum of Understanding (MoU) with Southampton Marine and Maritime Institution (SMMI). Besides, the 25th Academic Council Meeting of BSMRMU was held on 10 December 2019.

Ocean Odyssey

The Swatch of No-Ground

The Swatch of No-Ground, a 1,738 sq km area with an average depth of 900 metre located in the southern side of the Dublachar island in the Bay of Bengal, is a key breeding and spawning ground of dolphins, whales, sharks and turtles. At least five globally endangered dolphins and eight species of whales including the fin whale, hunch back whale, common sperm whale, killer whale and brydes whale breed and reside in the area. The vast area of approximately one and a half thousand square miles is a special breeding centre for rare biodiversity, which can be important for the proposed Blue Economy.

The environment and forest ministry of Bangladesh issued a circular on 27 October 2014 announcing the area as protected under the Wildlife (Conservation and Security) Act, 2012 which would restrict fishing and other offshore commercial activities there. The initiative was aimed at ensuring long-term protection of the cetaceans (the dolphins, whales and porpoises) species inhabiting in the offshore waters of Bangladesh.



Bangladesh would be transformed into a hub of regional trade and connectivity: Prime Minister

The Hon'ble Prime Minister Sheikh Hasina told in the parliament on 13 November 2019 that Bangladesh would be transformed into a hub of regional connectivity by providing port services to regional countries.

Bangladesh had signed a deal with India known as the Standard Operating Procedure (SOP), which would ease the flow of cargo destined to north-eastern Indian states of India by using Chattogram and Mongla ports. She also said that she will welcome it if the south-western states of China show interest in using the two ports and landlocked Bhutan as well as Nepal might also be given access to the ports in the near future.

Many scholars believe, opening up the ports would not only benefit Bangladesh but also India, China, Bhutan and Nepal. It will enhance trade and regional cooperation in maritime domain.

Cabinet approves Bangladesh Maritime Zones Act 2019

With an aim to unlock the potential of Blue Economy and checking crimes, particularly piracy on the sea, the Cabinet approved in principle the draft of 'Bangladesh Maritime Zones Act 2019'.

The approval came from the regular Cabinet meeting held with the presence of Hon'ble Prime Minister Sheikh Hasina in the chair at her office in Dhaka on 25 November 2019.

"The foreign ministry brought the proposed law before the Cabinet for its approval in accordance with various sea related international laws and conventions," Cabinet Secretary Khandker Anwarul Islam said.

He also said that if the law is enacted, the rights of Bangladesh for exclusive economic zone over 200 nautical miles and its sovereign rights over 350 nautical miles in the continental shelf of the sea will be established.

Under the 1982 United Nations Convention of the Law of the Sea (UNCLOS), all coastal countries are granted sovereign right to stretch of sea extending 200 nautical miles beyond their coast, which is known as Exclusive Economic Zone (EEZ).

Bangladesh signs deals with India aligned with the Blue Economy policy

Bangladesh has signed seven bilateral agreements with India, aiming at deepening ties between the neighbouring countries. The development was announced at the end of high-level talks between Hon'ble Prime Minister Sheikh Hasina and her Indian counterpart Narendra Modi in New Delhi's Hyderabad House on 5 October 2019.

The deals inked by the South Asian nations include memoranda of understanding or MoUs on the establishment of a coastal surveillance system, cooperation in youth affairs, a cultural exchange programme and the withdrawal of 1.82 cusec of water from Feni River by India under a drinking water supply scheme for Tripura.

Agreements on the use of the Chattogram and Mongla ports for transportation of goods to and from India and the renewal of a line of credit committed by New Delhi to Dhaka were also signed.

After witnessing the signing and exchange of the documents, the two premiers launched three joint projects via video link. One of it is the import of liquefied petroleum gas or LPG from Bangladesh to northeast India.

The Hon'ble Prime Minister said, "Over the last decade, Bangladesh and India have witnessed remarkable progress in cooperation in a large number of areas. These include newer areas of cooperation for mutual benefit such as satellite systems, renewable energy, Blue Economy and maritime affairs, peaceful uses of nuclear energy, outer space technology, internet band width sharing and cyber security."

UAE-based companies turn to Bangladesh to build their ships

At present, ships built in Bangladesh are exported to around 12 countries in Asia, Africa and Europe.

Made in Bangladesh ships have a huge potential in India, Pakistan, Saudi Arabia, the United Arab Emirates (UAE), Norway, Sweden, Denmark, Finland, Italy, Germany and some African countries. Now, the focus is to have more orders from different international buyers and Bangladesh government is also formulating the policies for this export-oriented industry.

Bangladesh has more than 100 shipyards which build ships of different kinds and sizes for the local and international markets. Of them, 12 large shipyards have the capacity to meet the demand of the international market. Bangladesh will have a "golden period" in the next five years in the shipbuilding sector with both the government and private sector investors keen on exploring new opportunities.

UAE-based shipping company Al Rashid shipping is already in talks with Western Marine Shipyard Limited (WMSL) – one of the leading shipbuilders in the country – for the construction of two oil tankers worth USD 6.8 million.

The shipbuilding company is expecting more orders from the UAE market on successful delivery of these oil tankers.

Bangladesh secures top position in ship recycling

The ship recycling industry of Bangladesh has captured the global market by dismantling around 47.2% world vessels.

A report titled 'Review of Maritime Transport 2019' published by United Nations Conference on Trade and Development (UNCTAD) revealed the information on 30 October 2019.

Three countries, Bangladesh, India, and Pakistan account for 70–80% of the international recycling market for ocean-going vessels with China and Turkey covering most of the remaining market.

According to the report, in 2018, India dismantled 25.6% ocean-going vessels, Pakistan 21.5%, Turkey 2.3% and China 2%.

In 2018, China, Japan and South Korea were the top most countries in global for ship production, representing together 90% of shipbuilding activities (China 40%, Japan 25% and S. Korea 25%).

The five recycling countries have a large appetite for scrap metal. Bangladesh, Pakistan and to a large extent India uses the steel from recycled ships in mills where steel is rerolled so that it can be used directly in urban construction

As of January 2019, the top five ship-owning economies were Greece, Japan, China, Singapore and Hong Kong.

The bulk material sold for breaking comes from oil tankers, bulk carriers and container ships.

Pollution a challenge to sustainable maritime development: Planning Minister

Planning Minister M A Mannan has said man-made pollution, contamination, and natural disasters pose challenges to sustainable maritime development.

"We have maritime resources but there are many challenges such as pollution, contamination, adverse environment, security, and natural disasters," Planning Minister said.

He made the statement in an international seminar titled 'An Outlook for Sustainable Maritime Development and Governance: Challenges and Way Ahead' organised by Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh at a city hotel on 28 November 2019.

The minister said, "Bangladesh has the longest natural sea beach in the world. We are very interested in maritime activities. The government has taken many projects in the last decade."

"We enhanced our activities in the Blue Economy and also set up BSMRMU," he added.

The Minister said, "We need cooperation and coordination from local and international communities to face the challenges for sustainable maritime development."

Saudi Aramco and Acwa Power to develop USD 3 billion LNG terminal and power plant in Bangladesh

Saudi Aramco and Saudi utilities developer Acwa Power have signed a Memorandum of Understanding (MoU) with the Bangladesh government to develop a USD 3 billion liquefied natural gas (LNG) terminal and power plant in the South Asian country.

Acwa Power's chairman Mohammad Abunayyan was reported as saying the USD 3 billion direct investment would be made by 2020. The project will be Acwa Power's largest gas-to-power project and the first partnership with Saudi Aramco for such a scheme.

The LNG terminal will be developed in either the Moheshkhali area of Cox's Bazar or at Payra port. The power plant is planned to have a generation capacity of 3,600MW.

Acwa Power's CEO and president Paddy Padmanathan recently told MEED that the developer was targeting the growing global demand for LNG and gas-to-power as an additional area of growth.

Bangladesh and Iran to consider direct, regular shipping link

Iran has expressed its interest to open direct and regular sea connectivity with Bangladesh for increasing bilateral trade. In response to the country's request, the Islamic Republic showed the interest to introduce container-carrying vessels between the ports of the two countries also on condition of having enough amounts of propositions for maritime transportation of goods.

Iran wanted to discuss the issue in details in a meeting of officials of the shipping companies of the two countries at a convenient time and venue.

Bangladesh through its embassy in Tehran had earlier requested Iran to consider introducing the direct shipping link while Iran through its embassy in Dhaka apprised in a recent letter to Bangladesh ministries of foreign affairs, shipping and commerce of their readiness to discuss in this regard.

The bilateral trade between the two countries stood at about USD 35 million in fiscal year (FY) 2017-18, down from about USD 60 million in FY 2015-16.

There is demand for Bangladeshi items like agro-products, raw jute and jute goods in Iran. Besides, Bangladeshi investors could invest in export-oriented fertiliser factory in the Western Asian country.

Bangladesh and Iran signed a Memorandum of Understanding (MoU) on bilateral trade in February 2001.

Chattogram port joins world's 'Three Millionaire' list

Chattogram port has made it to the list of 'Three Millionaire ports' in the world.

Chattogram port, the principal port of Bangladesh, has achieved this glory by handling over 30 lac TEUs containers last year. Earlier, Chattogram port was ranked at number 64 in the list of the world's top 100 container handling seaports list by maritime world's internationally recognised Lloyd's Survey.

Chattogram port recorded the handling of 20 TEU 30 lac containers. The calculations of container handling recorded from 1 January to 22 December last year.

Chattogram port has achieved this milestone because of the full cooperation of the government, the addition of modern equipments including new gantry cranes, increased capacity of Chattogram Port Authority, improved management, automation, efficiency of port officers and staff, joint efforts of stakeholders and users, a decade of political stability and raise in the rate of export-import.

In order to maintain this continuity of growth, there is no alternatives to construct Bay Terminal in addition to the ongoing development project of the port.

EagleRail signs MoU with Chattogram port

Chattogram Port Authority (CPA) has signed a Memorandum of Understanding (MoU) with US-based EagleRail Container Logistics with the aim to transform and improve throughput on Chattogram's overcrowded and gridlocked port roads and gates.

The logistics company is being considered for official insertion into the Chattogram Master Plan for the new Bay Container Terminal (BCT) connecting it to the Karnaphuli River Terminals (NCT, CCT and GCB) and both expanded railheads that connect container rail traffic to Dhaka.

EagleRail is also being considered as part of the master design for the new and expanded customs clearance operation (for all terminals) with the aim to increase the number of containers that get scanned in-line.

EagleRail has created the first automated, patented and environmentally conscious system to increase port throughput and capacity.

Its technology and infrastructure solution replaces the reliance on manual diesel trucks with a short-haul, suspended overhead container movement system that quickly lifts containers and shuttles them to local yards or intermodal transportation hubs.

Japan, Bangladesh discuss maritime security issue

Bangladesh and Japan discussed the issues of maritime security and marine environment protection and decided to undertake an action plan in light of the discussion.

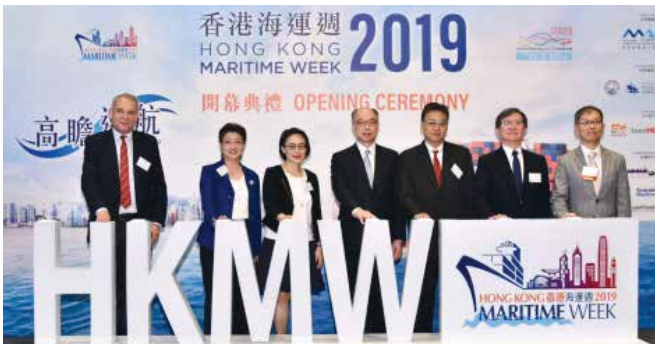
The two countries reached the decision during the second Coast Guard Global Summit that began in Tokyo, the capital of Japan on 19 November 2019.

Director General of Bangladesh Coast Guard Rear Admiral M Ashraful Haq joined the four-day summit jointly organised by Japan Coast Guard and Nippon Foundation.

During the summit, the Coast Guard chief paid a courtesy call on his Japanese counterpart and discussed several bilateral issues between the countries. He expressed his hope that the bilateral relations and mutual cooperation between the two countries will be strengthened through the summit.

Japan government with its own sponsorship is now building a total of 24 ultra-modern boats for Bangladesh Coast Guard.

Hong Kong Maritime Week 2019 launched



The 'Hong Kong Maritime Week 2019' (HKMW 2019), a major annual event of the maritime and port industries in Hong Kong, was launched on 17 November 2019 with the 'Hong Kong Maritime Week Orienteering Race 2019' followed by the 'Capital Link Hong Kong Maritime Forum'.

Presiding over the opening ceremony of the HKMW 2019, the Chairman of the HKMPB and Secretary for Transport and Housing, Mr Frank JP Chan Fan said that "The maritime industry has been the pillar of Hong Kong's economy and will continue to be. With the rapidly changing environment and the new regulations, Hong Kong Maritime industry will have to adapt and grow alongside with it. The government will support the industry's drive towards innovation and technology so that Hong Kong's maritime industry can progress into the future."

HKMW 2019 offers more than 45 activities organised by 50 local and international maritime bodies. The activities cover eight themes, namely shipping and maritime, maritime law and arbitration, ship finance, marine insurance, ship management, marine technology, port and logistics, and maritime education and career. Activities in different formats held along the week long's celebration of the maritime industry.

Massachusetts Maritime Academy launches US's first offshore wind crew training facility

The Massachusetts Maritime Academy launched the first offshore wind crew training facility in the United States at its Buzzards Bay campus on 24 October 2019, setting the stage for education and job certifications for thousands of residents and cadets as the renewable energy industry picks up steam in Massachusetts and along the East Coast of USA.

The facility, which received USD 1.73 million from the Baker administration and the Massachusetts Clean Energy Centre, is part of the commonwealth's effort to grow a workforce supporting the industry, particularly Vineyard Wind's 800-megawatt project already slated to deliver power to hundreds of thousands of homes by 2022.

Shanghai Maritime University receives a tank container from ITCO

The Shanghai Maritime University, China's leading academic institution for the shipping, ports and logistics industry, received a donation of a 20ft ISO (International Organisation for Standardisation) tank container from the International Tank Container Organisation (ITCO).

ITCO is the international association representing the tank container industry. It has over 180 members, who are involved in tank operations, leasing, manufacturing and related service industries.

The tank will be used by the university for training and education purposes as part of a programme which includes six 1-day training days, together with access by students to ITCO's on-line Tank Container E-learning Course.

The donation ceremony took place at Shanghai Maritime University on 29 November 2019, when the ITCO/SMU co-operative and donation agreements were formally signed by SMU's Vice-President Shi Xin and ITCO's President Reginald Lee.

MPA inks MoU with IMarEST for maritime professionals training

The Maritime and Port Authority (MPA) of Singapore has entered into a partnership with the Institute of Marine Engineering, Science and Technology (IMarEST) to support training and development for maritime professionals in the Lion City.

The MPA inked a Memorandum of Understanding (MoU) with IMarEST with an aim to upskill and retain maritime talent in Singapore.

It will provide two routes for maritime professional with an MSc/BSc jointly offered by IMarEST and the Plymouth University in the UK via distance and online learning, and a Chartered Status under the IMarEST banner.

"MPA recognises the importance of continued education and training of our maritime professionals. This partnership will enhance our manpower development efforts as mapped out in the Sea Transport Industry Transformation Map," said Quah Ley Hoon, chief executive of the MPA.

4IR repositions shipboard jobs, competencies: Maritime stakeholders

English proficiency and skill competencies based on the Standards of Training Certification and Watchkeeping Convention (STCW) are no longer enough to secure a job at sea, especially with the advent of automated ships that threaten to remove human workers onboard vessels.

This was confirmed by manning, shipping, and maritime education and training leaders during the Seafarers Convention (SEACON) 2019, a maritime conference, job fair, and business expo that bring together all maritime stakeholders, industry leaders, and seafarers.

The convention emphasised on how the outdated modes of education and training in the maritime sector made Filipino seafarers less competitive in the age of Fourth Industrial Revolution (4IR), a period characterised by automation and artificial intelligence.

UN calls for shipping 'propulsion revolution' to avoid 'environmental disaster

If emissions from the maritime industry are not cut, we are headed for "an environmental disaster", Isabelle Durant, the deputy head of the UN trade body, UNCTAD, told the Global Maritime Forum summit on 30 October 2019.

Her views were echoed by the UN shipping agency IMO, whose spokesperson, Lee Adamson, told UN News in an exclusive interview that current levels of emissions from shipping are "not acceptable", and the industry needs a "new propulsion revolution", to completely cut emissions from the sector.

For hundreds of years, shipping has been one of the most important methods of connecting the world, and, even today, it is crucial to international commerce, and linking nations and communities. Its key role is only likely to grow, along with a major increase in global trade and maritime transport.

According to the IMO, shipping will be essential to the UN's vision for sustainable development, providing a dependable, energy-efficient and low-cost way to transport more than 80% of the world's trade.

Abu Dhabi Maritime Academy and ADNOC Logistics & Services sign MoU to offer cadetships to Emirati students

Abu Dhabi Maritime Academy, an Abu Dhabi Ports company, has signed a Memorandum of Understanding (MoU) with Abu Dhabi National Oil Company's marine and logistics subsidiary, ADNOC Logistics & Services (ADNOC L&S), to offer cadetships to Emirati students, enrolled at the Academy, with invaluable first-hand experience on-board of ADNOC's vessels.

The MoU, signed by senior representatives of both entities at an official signing ceremony at Abu Dhabi Ports offices, will leverage the scope of ADNOC L&S' extensive maritime fleet to develop the next generation of Emirati marine officers.

Under the terms of the two-year MoU, ADNOC L&S will accommodate cadets from Abu Dhabi Maritime Academy on its vessels to undertake a cadetship programme encompassing the necessary education and training required for a career in the maritime industry. The agreement will also enable them to complete sea service, during which they will be able to practice their newly acquired skills.

Cadets will undertake theoretical and practical courses in all areas of nautical science and maritime engineering, and gain invaluable practical experience on a wide range of vessels in ADNOC L&S' fleet on both local and international voyages.

Maersk lays the foundation stone for 'A.P. Moller – Maersk Centre of Excellence' for maritime skill development in Tamil Nadu

Maersk, a global integrator of container logistics, today laid the foundation stone of its planned 'A.P. Moller – Maersk Centre of Excellence' facility at Thenpattinam (Tamil Nadu), to support skill development and training needs for Maersk cadets across job functions (deck, electrical and engine). Maersk signed a Memorandum of Understanding (MoU) with Academy of Maritime Education and Training (AMET) University to jointly operate this facility with an aim to maintain steady channel of Indian seafarers for its operations.

The A. P. Moller – Maersk Centre of Excellence will be spread over 8 acres of land (32,375 sq m) and will be a part of a larger 12-acre (48,500 sq m) maritime campus set up by AMET. The centre will be equipped with world class facilities' like smart classrooms, workshops, and will house approximately 160 deck and engine cadets for Bachelor's programme in Nautical Science and Marine Engineering. Additionally, electrical cadets will be taken in as per requirement on yearly basis.

Climate change is reshaping communities of ocean organisms

Climate change is reshaping communities of fish and other sea life, according to a pioneering study on how ocean warming is affecting the mix of species.

The study, published in the journal Nature Climate Change, covers species that are important for fisheries and that serve as food for fish, such as copepods and other zooplankton.

"The changes we're observing ripple throughout local and global economies all the way to our dinner plates," said co-author Malin Pinsky, an associate professor in the Department of Ecology, Evolution, and Natural Resources in the School of Environmental and Biological Sciences at Rutgers University-New Brunswick.

"We found dramatic evidence that changing temperatures are already reshaping communities of ocean organisms," Pinsky said. "We found that warm-water species are rapidly increasing and cold-water marine species are decreasing as the global temperature rises. Changes like this are often disrupting our fisheries and ocean food chains."

The scientists compiled the most comprehensive assessment of how ocean warming is affecting the mix of species in our oceans. They looked at fishes, invertebrates such as crabs and other crustaceans and plankton in the North Atlantic and North Pacific, across two continents and two oceans. They analysed 3 million records of thousands of species from 200 ecological communities across the globe from 1985 to 2014.

Marine animals could help humans monitor oceans: Study

Sharks, penguins, turtles and other seagoing species could help humans monitor the oceans by transmitting oceanographic information from electronic tags, a new study suggests.

A team led by the University of Exeter in the UK said animals carrying sensors can fill many of these gaps through natural behaviour such as diving under ice, swimming in shallow water or moving against currents.

"We want to highlight the massive potential of animal-borne sensors to teach us about the oceans," said lead author David March from the University.

“This is already happening on a limited scale, but there's scope for much more,” March said.

Thousands of marine animals are tagged for a variety of research and conservation purposes, but at present the information gathered isn't widely used to track climate change and other shifts in the oceans.

Instead, monitoring is mostly done by research vessels, underwater drones and thousands of floating sensors that drift with the currents. However, large areas of the ocean still remain under-sampled - leaving gaps in our knowledge.

UNDOSSD calls attention to a wave of concerns

With the global ocean under a barrage of assaults, including climate change, pollution, and overfishing, scientists hope that the upcoming United Nations Decade of Ocean Science for Sustainable Development (UNDOSSD) will bring needed worldwide attention to these issues and encourage advances in research, monitoring, and mapping the ocean.

“We’ve had too little attention as a global society to the science of understanding the impacts of what we humans are doing to the ocean,” said Craig McLean, chief scientist and assistant administrator for Oceanic and Atmospheric Research at the National Oceanic and Atmospheric Administration.

The ocean science decade “is a wake-up call,” McLean said at a 9 December 2019 town hall session at the AGU Fall Meeting. The ocean science decade, which is being coordinated by the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organisation, will stretch from 2021 to 2030.

Italy makes climate change education obligatory

On the very day Washington formally withdrew from the 2015 Paris climate accord, Italy announced that it will become the world’s first country to make the study climate change and sustainable development compulsory in schools.

In an interview on 4 November 2019 with Reuters, Italy’s Education Minister Lorenzo Fioramonti said the national curriculum will dedicate 33 hours per year to climate change issues from September 2020 onwards. Moreover, a climate change perspective will be incorporated into traditional subjects, such as geography, mathematics and physics.

On the contrary, the US became the first country to pull out of the Paris climate accord on 4 November 2019, when Secretary of State Mike Pompeo submitted a formal notice to the UN. In contrast, French President Emmanuel Macron and China’s Xi Jinping signed a document affirming the “irreversibility” of the Paris climate accord,” on 6 November 2019.

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