

OCTOBER 2019, VOL 02, ISSUE 04

MARITIME CAMPUS



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

Enrol in BSc (Honours) in Marine Fisheries at BSMRMU for a promising future

BSMRMU to receive
Nuffic Orange Knowledge Programme fund

BSMRMU International Maritime Seminar
Bangladesh revives the shipbuilding industry



Key milestones in maritime safety since 1912

1914

International Convention for the Safety of life at Sea (SOLAS) established — setting standards for maritime safety provisions.

1914

International Ice Patrol starts aerial monitoring of icebergs.

1922

Echo sounding applied on board to monitor depth of water.

1930

International Convention on Load Lines addresses issues on loading and stability.

1940s

Welding starts to replace riveting, later followed by prefabrication, increasing quality of ship construction.

1940s

LORAN (LONg RANge Navigation) radio navigation system allows accurate offshore position finding to 900 miles.

1944

DECCA position fixing allows accurate position finding up to 400 miles offshore.

1948

International Maritime Organization (IMO) established, and entered into force in 1958.

1960s

Computer-aided ship design revolutionizes ship design.

1960s

Widespread use of Very High Frequency radio improves ship-to-ship and ship-to-shore communication.

1965

RADAR made mandatory under 1960 SOLAS convention.

1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960

MARITIME SAFETY

1967

"Transit" Sat Nav system: the first satellite-based positioning system for merchant ships, giving regular position fixes on transit of a satellite.

1969

Automatic Radar Plotting Aid (ARPA) introduced (mandatory 1989), replacing manual plotting of movements.

1972

International Regulations for Preventing Collisions at Sea (COLREGS) establishes 'rules of the road' for shipping.

1973

International Convention for the Prevention of Pollution from Ships (MARPOL) addresses maritime pollution risk.

1978

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) establishes basic training and certification requirements.

1993

International Safety Management (ISM code) adopted by IMO, establishing standards for safe management and operation of ships.

1994

Global Positioning System (GPS) fully operational, allowing accurate satellite-based position finding.

1999

Global Maritime Distress and Safety System (GMDSS) establishes protocols for ships in distress and rescue scenarios and introduces mandatory distress communication equipment on board vessels.

2000

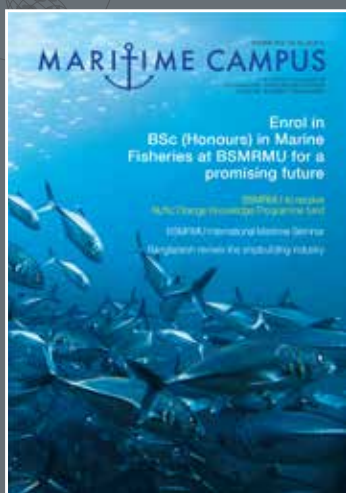
IMO adopts amendments to SOLAS making 'Voyage Data Recorders' (VDR) or the 'Black Box' of navigational bridge mandatory on new ships.

2012

Electronic Chart Display and Information System (ECDIS) navigation system to become mandatory, providing continuous position and navigational information.

2014

Automatic Identification System (AIS) for vessel identification and tracking, reduces collision risk.



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Maritime Campus

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Editorial

Marine fisheries to ensure the Blue Economy growth

Dear readers, we are delighted to inform you that the quarterly campus magazine of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh, 'Maritime Campus' has entered its second year of publication. On this occasion, we would like to thank you for being our reader throughout this one-year walk. In this issue, you will find articles on different issues as follows:

The BSc (Honours) in Marine Fisheries is an undergraduate degree programme that deals with the study on a different aspect of marine fisheries to ensure the Blue Economy growth from sea resources of Bangladesh. The course provides scientific-technical training and the methodology necessary for fishery research, aquaculture, stock assessment and management, marine fishing operation, fish processing, operation and maintenance of commercial fishing, processing establishments and their concerned issues in fisheries sciences. In this issue, our lead story discusses the BSc (Honours) in Marine fisheries programme offered by BSMRMU and the admission process elaborately.

Constructivism promotes students' active learning and at the same time emphasises of collaborating to construct and share concepts, knowledge and information with peers and teachers. In this way students enjoy learning more because of their direct and active participation rather than being a passive listener. Education works best when it focuses on thinking (brain-storming) and understanding rather than memorisation. In 'Academia' section we have included an article that deals comprehensively with this topic.

It is usual that the academic research is done in a team comprises teacher, students, research assistants and experts from industries. Every teacher has his/her own ideology, thought and field of interest. Comprehending the importance of academic research and publication, we have put up an article that briefly depicts the methods of academic research writing and publishing.

To qualify as a shipbuilding country, four essential requirements have to be met. There should be international standard shipbuilding practices, quality management, necessary shed and skilled manpower, plus the country has to be coastal and riverine. Bangladesh can meet all four essential requirements to become a major shipbuilding nation of the world. We have also included an article about our potential shipbuilding industry in 'Panorama' section.

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 third quarter of this year.

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)
Editor and Controller of Examinations



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LEAD STORY

Enrol in BSc (Honours) in Marine Fisheries at BSMRMU for a promising future

To keep pace and to be at par with the developing world in the field of maritime higher studies and research, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh has launched the undergraduate programme in Marine Fisheries to produce quality human resources.



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ACADEMIA

Constructivist theory as a paradigm for teaching and learning

Most of us think that the teacher owns more knowledge about the subject he is teaching than the average students. This ensures that at some level teaching must involve transmission of expert knowledge from teacher to students. However, constructivist literature on teaching and learning explains learning as an active experience.

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INFO BYTES

Anecdotes, information and points to ponder from the vast maritime world

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HORIZON

How to produce 'Impact Factor Research Articles'?

The academic research can be differentiated in three major parts, i) theoretical ii) field survey iii) Experimental. The theoretical research requires computation material such as software, computer etc. The field survey requires transport, portable equipment, manpower etc. The experimental research requires lab establishment, equipment and a maintenance cost.

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CAREER CRUISE

A career as a Merchant Navy Captain

The captain is the overall command of the ship and is effectively the General Manager and ultimately responsible for the safe navigation and operation of the vessel. He exercises complete control over the officers and crew onboard the ship. He is also the owner's representative dealing with charterers, port agents and cargo formalities.

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AROUND THE WORLD

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NEW WAVES

Post-war minesweeping operation in Bangladesh

In 2 April, 1972 first rescue expedition ship led by Rear Admiral Sergey Pavlovich Zuenko arrived at Chittagong port with 100 advance seamen. By 4 May, 1972 the main flotilla of 22 vessels and 700 seamen, from Vladivostok the Soviet "Pacific Fleet" were already at Chattogram Port.

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FOCUS

BSMRMU International Maritime Seminar

It is highly anticipated that the international seminar will uphold the overall image of the university at home and abroad. Additionally, it will help to promote our maritime potentials in overseas, the university can make many important contacts, students and faculty members can enrich their knowledge and communication skills.

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PERSPECTIVE

An overview of ancient Indian Mathematics

It has been shown that the study of mathematical astronomy in India goes back to at least the third millennium BC and mathematics and geometry must have existed to support this study in these ancient times.

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PANORAMA

Bangladesh revives the shipbuilding industry

Since the country has begun exporting Bangladesh-made ships, it has emerged as a prestigious shipbuilding nation in the global forum. In fact, through the entry into the world market almost a decade ago, the door of infinite opportunities and limitless possibilities for export-oriented shipbuilding has been opened before the country.



Enrol in BSc (Honours) in Marine Fisheries at BSMRMU for a promising future

Maritime Campus Desk

The fisheries sector is one of the major sectors that plays an important role in the socio-economic development of Bangladesh. About 3.57% of the national GDP and 25.30% of the agricultural contribution to GDP comes from the fisheries sector. Bangladesh is now self-sufficient in fish production. According to a recent FAO (Food and Agriculture Organisation) report, Bangladesh ranks third in fisheries harvesting from domestic natural sources, 25th in marine fisheries harvesting and fifth in overall fisheries cultivation. By keeping the current growth, Bangladesh can become the top fisheries harvesting country by 2022.

Over 11% of Bangladesh's total population is directly or indirectly involved in the fisheries sector for their livelihood. 2.70 lac fishermen's family and their 13.50 lac family members in the coastal areas of the Bay of Bengal are depended on fisheries resources for their daily living.

Of these, 5.16 lac fishermen are directly involved in the marine fisheries sector. About 7 lac metric tons of fish are caught annually

against the total reserves of 8 million tons of fish within Bangladesh's own sea area. The total fish production in Bangladesh was 42.77 lac metric tons against the target of 42.20 lac metric tons in the financial year 2017-18. Out of which, 56 per cent is harvested from inland close water, 28 per cent from inland open water and 16 per cent from the sea. The industrial harvesting of marine fisheries was 1.20 lac metric tons and 5.35 lac metric tons were harvested by the artisanal (traditional) system.

The extent of marine fisheries is no longer limited to creating a safe haven for the livelihood of the vast majority of the coastal population, but it is playing a vital role in food security, especially nutrition, throughout the country. Apart from this, it has also played a vital role in empowering women in small scale fisheries industries, including creating huge employment opportunities through a variety of auxiliary activities in fisheries harvesting and management. A large project, called 'Sustainable Coastal and Marine Fisheries Project', has recently been undertaken by the Ministry of Fisheries and Livestock for the development of this sector in Bangladesh, and to develop

coastal and marine fisheries resources with the assistance of USD 240 million loans from the World Bank.

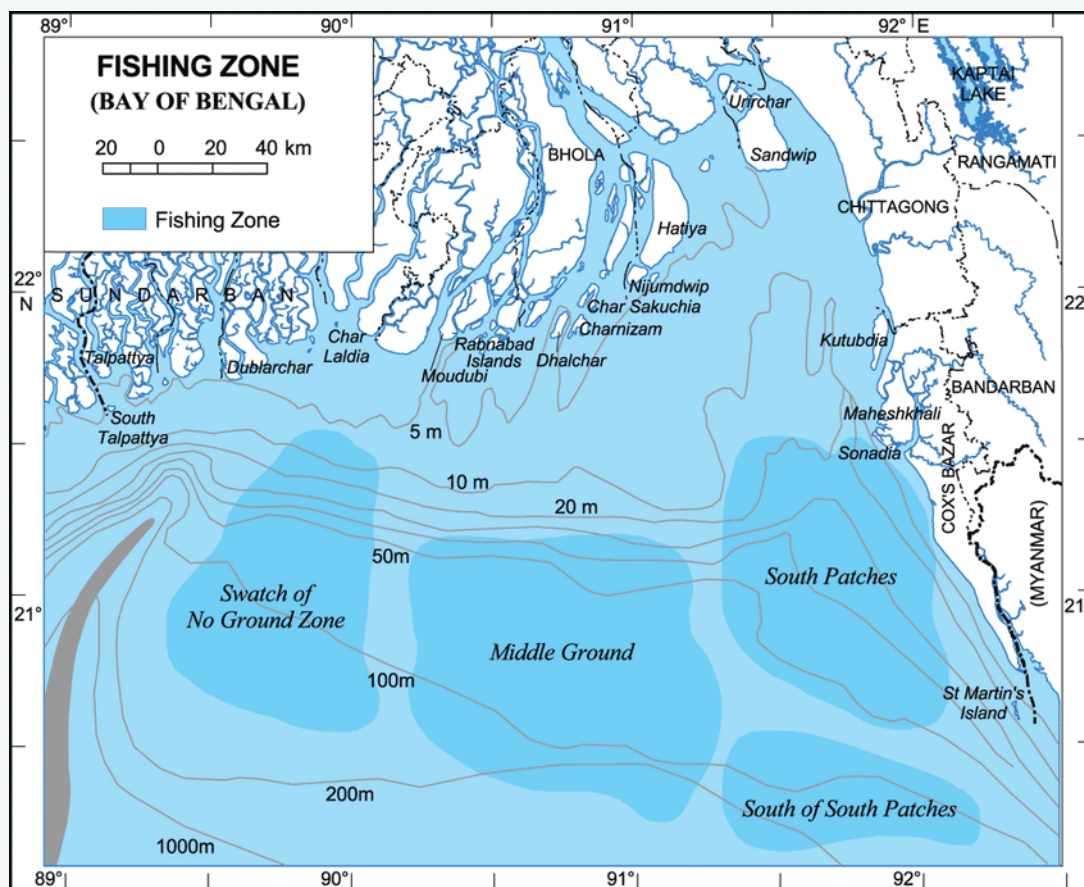
Bangladesh has a coastline of 710 km along the north and north-east part of the Bay of Bengal. It has internal estuarine water area of 25124 square kilometres up to 10 fathoms depth from the baseline, territorial waters of 9054.94 sq. km, continental shelf of 8506.15 sq. km and Exclusive Economic Zone (EEZ) 1,18,813 sq. km under national economy and jurisdiction. All these areas of Bay of Bengal offer potential resources especially fishes and shellfish for the country.

Biodiversity of the Bay of Bengal

Among world's 67 largest marine ecosystems, the highest amount of river water and sediments fall into the Bay of Bengal. The geographical location, climate, rainfall and nutrient-rich water of many rivers have enriched the Bay of Bengal with unique biodiversity. Our vast assembly of biodiversity within our sea area includes fish, shrimp, crabs, snails, mammals, corals, algae, etc. The main commercial species of these are hilsa, sardines, mackerel, pomfrets, coral, ribbonfish, Bombay duck fish, croaker, Indian salmon, Indian pella, red seabream, crayfish, Chaga shrimp, Bagachama shrimp, Horina prawn.

St. Martin, the only coral island in the country, is home to a wide range of natural beauty, including aquarium fisheries. The coastal mangrove area adjacent to the Sundarbans is of particular importance as a natural breeding and nursery area of all species of fresh, slightly saline water and marine fishes. Within the depth of 200 meters of the Economic zone, there are plenty of tropical fishes and tuna or tuna type fishes are abundant in the deep sea.

Four major fishing zones are at Bangladesh's EEZ in the Bay of Bengal



Time for Marine fisheries based Blue Economy

The idea of the Blue Economy is new to Bangladesh and it is very prospective. Bangladesh's development and economic growth can be significantly enhanced by exploiting the potential of the Blue Economy in the newly expanded water area in the Bay of Bengal. In this regard, marine fisheries, biotechnology, renewable energy, oil and gas exploration and extraction, maritime construction, tourism, shipping, ports and maritime trade and commerce can play important roles. Especially, by advancing the technological and infrastructural development, by building the research of academic institutions and by curbing down the pollution and illegal trade, Bangladesh will be able to take the fishery sector forward.

Bangladesh's EEZ in the Bay of Bengal can be divided into four main fishing areas - 1) South Patch, 2) South of South Patch, 1) Middle Ground and 3) Swatch of No Ground. The South and South of South Patch cover an area of 6200 sq km, Middle Ground 4,600 sq km, and Swatches of No Ground covers an area of 3,600 sq km.

Bangladesh sea area consists of 20 per cent coastal area, 35 per cent shallow shelf sea area and the remaining 45 per cent is the deep-sea area. Almost all of the marine fisheries are harvested in coastal and shelf sea areas. Within Bangladesh's sea area, 255 industrial trawlers are engaged in fishing. Due to the absence of high-powered vessels and modern technology, fishing in the deep sea is not feasible.

With the acquisition of modern fish technology, huge foreign exchange can be earned by harvesting deep-sea tuna and other tuna-like fish. The hilsa is predominant in marine fisheries.

Bangladesh produces about 60 per cent of the world's hilsa. The

total production of hilsa during the financial year 2017-2018 was 5.17 lac metric tons. About 2.84 lac metric tons of hilsa is harvested from the sea and around 2.5 million people live on it.

Another notable harvest is the shrimp. Most of the fish harvested from the sea are sold in local markets. The dried fish is made with a significant portion of the harvested fish. This year, traders are expecting to export about BDT 400 crore dried fish after meeting the country's demand.

The coastline of Bangladesh is 710 sq km. Marine fisheries have expanded mainly to the coastal areas of the country. Shrimps are generally cultivated along the coast. And almost all the fish exports are shrimp export. According to a survey conducted by the Department of Fisheries, in the fiscal year 2016-2017, Crayfish production was



Marine fisheries have expanded mainly to the coastal areas of the country.

68,272 metric tons that brought USD 456.91 million of foreign currency. However, because shrimp is traditionally cultivated in shallow waters, shrimp production in our country is relatively low compared to shrimp producing countries like Thailand and Vietnam. While inland fisheries harvesting is much higher than marine fisheries harvesting, there are huge possibilities and opportunities for rapid growth in the marine fisheries sector due to the newly expanded water area. If proper management plans, sustainable exploration strategies and conservation policies are formulated to protect and manage this vast sea area and its resources, it will further accelerate the socio-economic development of Bangladesh.

A marine fisheries researcher at BSMRMU marine fisheries lab



Fisheries education and research

Education With the increase of population and depletion of fisheries resources due to loss of fish growing land to agriculture, siltation, etc it became necessary to develop an institutional set-up for fisheries education and research. In order to meet the demand for fisheries education and to translate the vast potential of fisheries in Bangladesh into real wealth, the Faculty of Fisheries was established as one of the six faculties of the Bangladesh agricultural university, Mymensingh in 1967.

In all the major state-run general universities of the country, such as the University of Dhaka, University of Rajshahi, University of Chattogram, and Jahangirnagar University, there

are zoology departments where a major thrust area is fisheries. Recently, the University of Dhaka has established (1998) a separate department of Aquaculture and Fisheries. Chattogram University has a specialized institute called the Institute of Marine Sciences that emphasizes on marine fisheries. Khulna University has a separate discipline named Fisheries and Marine Resources Technology Discipline.

Apart from that to keep pace and to be at par with the developing world in the field of maritime higher studies and research, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh has launched the undergraduate programme in Marine Fisheries to produce quality human resources.

BSc (Honours) in Marine Fisheries in BSMRMU

The Bachelor of Science (Honours) in Marine Fisheries is an undergraduate degree programme that deals with the study on a different aspect of marine fisheries to ensure Blue Economy growth from sea resources of Bangladesh. The course provides scientific-technical training and the methodology necessary for fishery research, aquaculture, stock assessment and management, marine fishing operation, fish processing, operation and maintenance of commercial fishing, processing establishments and their concerned issues in fisheries sciences. The Bachelor of Science (Honours) in Marine Fisheries is a fully integrated professional course of study for the persons willing to prepare themselves for variety of careers in the fishing sectors, fish processing plants, aquaculture farms and hatcheries, integrated coastal management, marine spatial planning, fisheries research etc. The duration of this course is 4 (Four) years. In this period students learn how to maximise the proper and sustainable utilisation of marine living resources. Students will get sufficient practical knowledge regarding Marine Resources during their research project in final year. This programme is divided into eight semesters of 6 months each (2 semesters each year). The duration of each semester is 26 weeks. In each semester, 15 weeks are dedicated for classroom learning, while remaining weeks are utilized for make-up classes, mid-term examination, preparatory leave, final examination and other curricular and co-curricular activities. Distribution of weeks is as follows:

Enrol in BSc (Honours) in Marine Fisheries at BSMRMU for a promising future

a.	Classes	15 weeks
b.	Mid Term Examinations	02 weeks
c.	Preparatory Leave	02 weeks
d.	Term Final Examination	03 weeks
e.	Recess	04 weeks

Credits of the Programme: 150 Credits

Admission Information

Applicants must fulfil the admission requirements as prescribed by Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU). To be eligible for admission in the programme, a candidate must pass SSC/ Dakhil and HSC/Alim examinations or its equivalent in Science discipline. The minimum requirements for admission in this programme are as follows:

- Applicants who have passed HSC or equivalent examination in the current year or one year before the notification for admission are eligible to apply.
- Applicants must have passed SSC/equivalent examination and HSC/ equivalent examination from Board of Intermediate and Secondary Education/ Madrasa Education Board/ Technical Education Board in Science group with minimum GPA 4.00 in a 5-point scale. Applicants must have Biology in HSC.
- In HSC/Alim/equivalent examination the applicant must have obtained minimum "A" grade in any two (02) subjects from Mathematics, Physics, Chemistry, Biology and English with minimum "B" grade in rest of the courses.
- Applicants with GCE must have passed a minimum five subjects at O level including Physics, Chemistry, Mathematics and at least two subjects in A level including Physics and Mathematics. Applicants must also have Biology in A level. However, an applicant has more than two 'C' grades in O level and/or more than one 'C' grade in A level shall not be eligible for admission.
- Foreign applicants shall apply through their respective embassy. Educational qualifications are same as applicable for Bangladeshi students.

A marine fisheries researcher at BSMRMU marine fisheries lab



A student of BSMRMU is working at marine fisheries lab



Admission Procedure

The admission notice shall be circulated usually in the month of August/September of each year through media advertisement, BSMRMU website and notice board. The procedure for admission in BSc in Fisheries programme is as follows:

- Written Admission Test:** An eligible candidate has to sit for a written admission test of 100 marks. The current HSC syllabus shall be the syllabus of the admission test.
- Marks Distribution of Written Admission Test:** Syllabus of the admission test shall that be of the current HSC Syllabus. Subjects of the written examination and mark distributions are given below:

a.	Mathematics	20 marks
b.	Physics	20 marks
c.	Chemistry	20 marks
d.	Biology	20 marks
e.	English	20 marks

Total 100 marks

- Final Selection:** Candidates will be selected finally on the basis of their combined marks obtained in the written admission test (100), HSC/equivalent examination (60) and SSC/equivalent examination (40). Final merit list along with waiting list will be published on BSMRMU notice board as well as on BSMRMU website.

- Registration/Admission in the Programme:** After final selection, selected candidates shall be registered with the programme in accordance with the procedures as laid down by BSMRMU. The candidates have to go through a medical checkup at BSMRMU designated Medical Centre to ascertain their medical fitness. The selected candidates shall have to collect Admission Form from Admission Section and complete admission and registration formalities within the given time frame by paying required fees.

// Lead Story //

(e) Cancellation of admission: (i) If any candidate fails to complete admission formalities within the prescribed date and time his/her selection will be cancelled automatically; (ii) If any student does not attend the class within two weeks of commencement of classes, his/her admission will be cancelled automatically.

The Aim of Bachelor of Science (Honours) in Marine Fisheries Programme

Provide and equip students with knowledge, understanding, proficiencies, skills, competences, attitudes and values to qualify and prepare them for marine fisheries sector, fish processing, aquaculture farms and hatcheries as well as any managerial position in maritime domain and also to produce graduates who are qualified to pursue a professional career or advanced studies in a related field of specialisation.

After successful completion of Bachelor of Science (Honours) in Marine Fisheries programme, students can accommodate themselves into the commercial Fishing industry, Fish Processing Industry, Fish/shrimp hatchery, Aquaculture Farm, Coastal and Marine Tourism Industry, Government organization and NGO's in various capacity as well as may serve themselves as a freelance Consultants.

Bangladesh has enormous potentials for harvesting fisheries in the huge economic zone of the Bay of Bengal. However, due to the depletion of land resources, land and sea pollution as well as climate change, we are observing an adverse effect on the abundance and biodiversity of Bangladesh's fisheries. To overcome this situation, under the strong leadership of the Honourable Prime Minister Sheikh Hasina, the government has taken various steps for exploration and exploitation of sea resources. Also, Bangladesh is one of the countries who signed the regional and international rules, protocols, guidelines, conventions or agreements for proper management of marine fisheries and it's sustainable harvesting. These initiatives will open a new horizon for the development of sustainable marine fisheries resources for Bangladesh and play an important role in the development of our potential Blue Economy. Therefore, it is a promising time for the youth to seek quality education in marine fisheries programme that is being offered by BSMRMU.





BSMRMU to receive Nuffic Orange Knowledge Programme fund

The Dutch organisation Nuffic has awarded a grant to STC International (STC International is an internationally operating company that provides education, training, consultancy and research for the maritime and offshore, port and terminals and transport and logistics industries, it is also the lead partner) and Partners (CINOP and IHE-DELFT Institute for Water Education). The recipient of the programme is Bangabandhu Sheikh Mujibur Rahman Maritime University and Chattogram Port Authority.

The Nuffic Orange Knowledge Programme which is funded by the Ministry of Foreign Affairs as part of the Netherlands' development policy and managed by Nuffic, offers scholarships, training and institutional partnerships between education institutions in Technical and Vocational Education and Training (TVET) and higher education, in fields related to the priority themes of the Dutch government:

- Food and nutrition security
- Water, energy and climate
- Sexual and reproductive health and rights
- Security and the rule of law

The grant is for implementation of an institutional collaboration

programme carrying the title "Achieving sustainable solutions in the maritime and port sector in Bangladesh by strengthening the capacity of BSMR Maritime University and CPA through strategic multi stakeholder partnership formation". On a different note, Netherlands is extending its support to Bangladesh for implementing the Bangladesh Delta Plan 2100.

The aim of the programme is to ensure educational institutes in the maritime and port sector perform better at their core tasks, so they are able to bring forward a quality workforce that will add value to the economic development of Bangladesh. The programme relies on the knowledge, insights, innovations, and eventually solutions for sustainable development that partnerships with different kinds of stakeholders can bring about. In order to create change, educational-, governmental-, private sector- and civil society organisations need to join hands.

The total cost of the programme is 1 (one) million euros. Under this programme, two PhDs, six attachments, twenty inspections, two master and two honours programmes syllabus modernisation and redesign, structure as well as 12 syllabuses for short courses and four seminars have to be conducted in five years.



How to Produce 'Impact Factor Research Articles'?

Dr M Abul Hossion

A university teacher has three job responsibilities i) teaching ii) research and iii) administrative work. Out of these three responsibilities academic research is the only part that defines university teaching. It is usual that the academic research is done in a team comprises of teacher, students, research assistants and experts from industries. Every teacher has his/her own ideology, thought and field of interest. This way they identify their own research domain. The academic research can be differentiated in three major parts, i) theoretical ii) field survey iii) Experimental. The theoretical research requires computation material such as software, computer etc. The field survey requires transport, portable equipment, manpower etc. The experimental research requires lab establishment, equipment and a maintenance cost. Above all these, time, access to online resources, books, access to journals, funding and a reasonable place/environment to do research is common requirement for all.

The outcome of the research is measured by number of publication and patents. Publishing the research article in Thomson Reuters indexed 'Impact Factor Journals' is the supreme achievement. But one can publish an article in any peer-reviewed journal listed in the 'Scopus Index Journal List'.

Step-1 Form a Research Group; a research group can be formed with a focused area of interest by a teacher preferably with a Doctorate degree. The team leader will spread the idea of research in the academic environment to get attraction from the academician, students etc. Once the team have been formed, the members will work as a volunteer.

Step-2 Look for Funding; the research group will write a proposal explaining their plan of research. The proposal can be submitted to the funding authority like the university, government agencies, ministry, international organizations and industry. The proposal must be written following the guideline provided by the specific funding authority.

Step-3 Reception of Fund; the successful reception of fund depends on the quality of writing, relativeness of the work with the national development, the outcome of the work with respect to social need. Recommendations and communication of the team members with the funding agency plays a vital role.

Step-4 Utilization of Fund; on conducting any research, the expense is crucial. One should have a transparent way of expenses. To do this the research group can follow the rules provided by the funding authorities. This process takes a large portion of time and

effort of a researcher but one should master the art of financial matters as well.

Step-5 Path of Research; once the administrative works are done, one can start the research work. For all three kinds of research, the team needs to agree on a time frame to continue the research. In most of the cases, all three kinds of research require few startup materials such as stationery item, computers, printer, workspace, books. In addition the experimental work requires laboratory setup. Continuation and exploration of research highly depend on the capability of team leader. During the research work, one may seek discussions with experts at home and abroad for understanding the direction of the result. Keeping an international resource person in the team is the best way to address this issue.

Step-6 The Write up; Choice of the journal is the key point on publishing the research. In this case one should be very careful about identifying the correct journal which publishes a similar kind of work. The selection of journal can be done by using the Scopus Index journal list. The writing can be done on using Microsoft Office or LaTeX. Usually both the templates are available on the website of the journal. Nowadays journal authorities are very fastidious on selecting the article, predicting the possible citation of the particular research. So care should be taken on focusing the finding, analysis and possible field of application. A comparison of your finding with the available literature will be useful. Providing references to the article published in a similar journal or published by the possible reviewer is thought to be an advantage.

Step-7 The Submission; a successful online submission of a research article is a long waiting procedure. Many of the journal articles contain table, image and figure which required to be uploaded separately. The process also contains a plagiarism test, copyright submission etc. Take sufficient time and peace of mind while submitting the article.

Step-8 Answer the reviewer; this is where the final battle begins. Usually, the editor provides a quick look and with minor correction sends the article to the reviewers. At some point the editor will send the reviewer's comments to the corresponding author. One should be very careful about answering these questions and queries. It is better to reply to this conversation with concrete answer within 10 days or less. Focus on the comments of the reviewers. Work on the comments. Answer to the point. Avoid providing long argument. I guess this is the battle one should go through with extreme confidence in the research.

A publication is a lifetime achievement. It is the creation of a beautiful mind. It comes with dedication to the work, commitment to society and mental effort. So when it comes, the joy is only yours.

Impact factor: $\frac{\text{Article Cited}}{\text{Article Published}}$

Dr M Abul Hossion

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Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh



Constructivist theory as a paradigm of teaching and learning

Mahmuda Malek

Information may be imposed, but understanding cannot be, it must come from within.

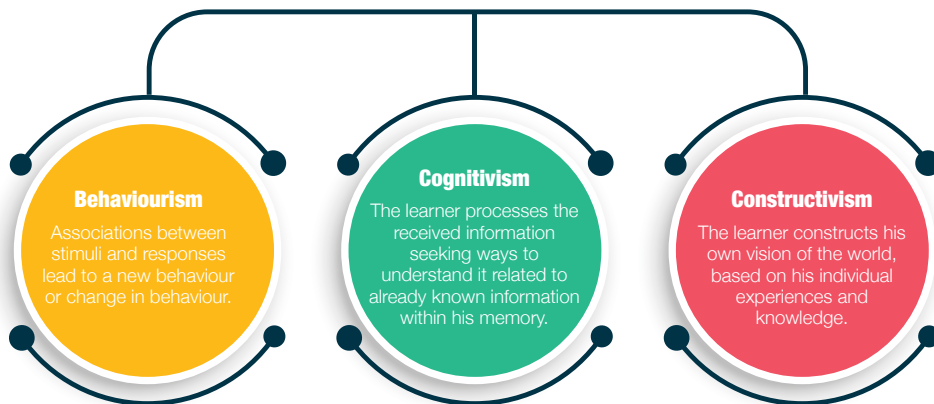
Learning is a continuous process by which people are acquiring new or modifying existing knowledge, behaviours, skills, values etc. To construct the learning process there are some established learning theories such as behaviourism, cognitivism (Cognitive Information Processing), constructivism etc. Learning theory describes how students absorb, process, and retain knowledge during learning. Cognitive, emotional, and environmental influences, as well as prior experience, all play a part in how understanding occurs or changed and knowledge and skills retained. Constructivist conceptions of learning have their historical roots in the work of Dewey (1929), Bruner (1961), Vygotsky (1962), and Piaget (1980). Bednar, Cunningham, Duffy, and Perry (1992) and von Glasersfeld (1995) have proposed several implications of constructivist theory for instructional developers stressing that learning outcomes should focus on the knowledge construction process and that learning goals should be determined from authentic tasks with specific objectives.

Constructivism is a learning-based theory on the idea that knowledge is constructed by the learner through mental activity and most important influence of constructivism is concentration on student-centred learning. If we want to reform education for all students are to be successful, then the students must be emphasised. Learners are considered to be active organisms seeking knowledge. The most significant issue of education is that students need to actively construct knowledge in their own minds. That is, they discover and transform information, check new information against old and revised. Constructions of knowledge or information may initially bear little relationship to reality but will become increasingly more complex, differentiated and realistic as time goes on Bednar, et al (1991) elaborate that the learner is constructing an inner representation of knowledge and personal interpretation of experience. This representation is constantly exposed to change its structure and linkages

"It is assumed that learners have to construct their own knowledge-- individually and collectively. Each learner has a tool kit of concepts and skills with which he or she must construct knowledge to solve problems presented by the environment. The role of the community, other learners and teacher is to provide the setting, pose the challenges, and offer the support that will encourage the construction."
(Davis, Maher, Noddings, 1990, p. 3)



Learning Theories



developing the foundation to which other knowledge structures are appended. Learning is an active process, developed on the basis of experience. However, conceptual progress comes from the sharing of multiple perspectives and simultaneous changing of our internal representations in response to those perspectives as well as through cumulative experience.

Constructivist theories of teaching and learning raise the interesting query: 'does teaching involve the transmission of knowledge or the facilitation of learning?' This enquiry leads to a further question, 'Who is a teacher?' It is very simple to explain that a teacher is a person who possesses expert knowledge on the subject he is teaching by virtue of his academic credentials. Most of us think that the teacher owns more knowledge about the subject he is teaching than the average student. This ensures that at some level teaching must involve transmission of expert knowledge from teacher to student. However, constructivist literature on teaching and learning explains learning as an active experience. Therefore, the answer to the first question is that teaching involves both transmissions of knowledge and facilitation of learning. Moreover we found very clear clarification from Von Glaser Feld is that the student or the learner is an active participant in the learning process and the teacher plays role as facilitator to facilitate learning.

Dr Bada, Steve Olusegun (2015) stated in his article titled *Constructivism Learning Theory: A Paradigm for Teaching and Learning* that Tam (2000) lists the following four basic characteristics of constructivist learning environments, which must be reflected when implementing constructivist instructional strategies:

- 1) Knowledge will be shared between teachers and students.
- 2) Teachers and students will share authority.
- 3) The teacher's role is one of a facilitator or guide.
- 4) Learning groups will consist of small numbers of heterogeneous students.

Constructivism promotes students' -active learning, and at the same time emphasise of collaborating to construct and share concepts, knowledge and information with peers and teachers. In this way students enjoy learning more because of their direct and active participation rather than being a passive listener. Education works best when it focuses on thinking (brain-storming) and understanding rather than memorisation. Constructivism focuses on learning how to think and understand. On the other hand learning occurs on the basis of learners' questions and investigations, and often the students have a hand in designing the assessments as well. Constructivist assessment involves the students' initiatives and individual

investments in their journals, research reports, physical models, and artistic representations. Students must develop their skill about how to articulate their ideas clearly as well as to collaborate on tasks effectively by sharing in group projects. Students must, therefore, learn the technique to exchange ideas and so must learn to "negotiate" with others and to evaluate their contributions in a socially acceptable manner. This is important to success in the real world, meanwhile they will always be exposed to a variety of experiences in which they will have to collaborate and navigate among the ideas of others.

In the constructivist classroom, the concentration tends to the alteration from the teacher to the learner. A classroom is no longer a place where the teacher ("expert") pours knowledge into passive students, who wait like empty vessels to be filled. In the constructivist model, the students are urged to be actively involved in their own process of learning. The teacher functions more as a facilitator who coaches, mediates, prompts, and helps students develop and assess their understanding, and thereby their learning. And, in the constructivist classroom, both teacher and students think of knowledge not as inert factoids to be memorised, but as a dynamic, ever-changing view of the world we live in and the ability to successfully stretch and explore that view. Constructivist teacher encourages students to participate in dialogue with the teacher and with peers; inspires them inquiry by asking thoughtful, open-ended questions and encourage students to ask questions to each other and seek explanation of students initial responses; moreover engage students in experiences that show contradictions to initial understandings and then encourage discussion; gives time for students to construct relationships and comparisons; assess students understanding through application and performance of open-structured tasks. Hence, from a constructivist perspective, the primary responsibility of the teacher is to create and maintain a collaborative problem-solving environment, where students are allowed to construct their own knowledge, and the teacher acts as a facilitator and guide.

Constructivism signifies one of the great ideas in education. Its implications for how teachers teach and learn to teach are enormous. If the education system reform the motto of education that all students are to succeed, then we must focus on students. Nowadays, emphasis on student-centred learning may be the most important impact of constructivism. The principles of constructivism become influential for classrooms and curricula in schools. Though the principle appeals to our modern views of learning and knowledge but conflict with traditional practices. However teachers need to practice in their classroom. Constructivist teachers inspire students constantly to assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students in the constructivist classroom ideally become "expert learners." This gives them ever-broadening tools to keep learning. With a well-planned classroom environment, the students learn HOW TO LEARN, because information may be imposed, but understanding cannot be, it must come from within.

Mahmuda Malek

M.Phil Researcher, University of Dhaka.



A career as a Merchant Navy Captain

Capt. Sharwar Golam

Quite often we are being asked what is the job of a Merchant Navy Captain and how is their career path, progression, and the process of certification. Here, some ideas are laid down about this unique profession and its training, certification etc.

Job/ Responsibility of a Ship's Captain

The captain is the overall command of the ship and is effectively the General Manager and ultimately responsible for safe navigation and operation of the vessel. He exercises complete control over the officers and crew onboard the ship. He is also the owner's representative dealing with charterers, port agents and cargo formalities. In matters of Safety, Security & Pollution, he can take any decision for the safety of the crew, vessel, cargo or protection of the environment (Overriding authority).

Career path, progression and certification of Merchant Navy officers

Merchant Navy is a world-class profession governed by International laws as the ship has to operate under internationally agreed system and procedures acceptable to every state where she has to pass through. This is the reason why their certificates have to be as per international convention.

From the trainee Cadet level, one will be promoted to Captain of the ship with proper sea-experience, compulsory courses and further written and oral examination. This oral examination is carried out by a Senior Master Mariner at an office of the Department of Shipping (DoS). Successful completion of the oral exam will result in the award of a Certificate of Competency (COC). COC is an international

qualification, issued by a government agency which allows an Officer to work in their qualified capacity onboard a ship. This certificate ensures that the concerned person has sufficient knowledge and skills to sail on oceangoing ships. It must be clearly understood that a person may obtain Doctorate/PhD in Navigation or Maritime science but he still will not be eligible to work on a ship as a certificated officer unless issued with a relevant certificate by DoS. Certificates are issued for different ranks and as such an Officer will usually return to complete a subsequent series of studies until they reach the highest qualification (Master Mariner). Below is a guideline how a Mariner can develop his career path through the Maritime Institutes:

1. The initial entry to this profession is through an approved 'Maritime Training Institute' where they have to undergo a training/study for 4 years. However, on the 3rd year, a trainee has to go to sea for a period of a year to complete Internship on board which is the part of their study. This affords a practical education that along with the academic study in the institute prepare them to be an officer onboard ship. In the final year, students study again at the institute to complete 4 years Bachelor (Honours) degree. This certificate is being awarded by University. With this Degree, they can find a shore job immediately in any shipping company, marine agencies, ports or even they can appear BCS examination and become government officer or take a banking/insurance job like fresh graduates of any other discipline. Further to mention is that with this graduation certificate, they can take admission in MSc Courses (Masters in 'Port and Shipping Management', 'Maritime Law', 'Maritime Business' etc.) in our newly formed BSMR Maritime University and on completion with good result they can join the University as a 'Lecturer'. Options are there to do MBA in other Universities like other discipline fresh graduates. However, for progression of career at sea (which he is meant for), the trainee will have to undergo DoS approved training and appear at examination and then obtain the Competency Certificate (Class-3) from DoS as mentioned earlier.
2. With above Class-3 COC, one join on board ship as a junior officer (3rd Officer) where he performs his job as a member of the ship's

navigation/operating team. At the same time, this is a learning process where he develops the skill to navigate and also takes preparations for next Competency Exam. After 12 months of practical sea time, he becomes eligible for Class-2 COC. However to appear at the exam he has to complete a course for approximately. 8 months at the institute.

3. With Class-2 COC and after completion of 24 months sea time on board, he becomes eligible for Class-1 COC (Master Mariner). After a few months' course study and upon successfully passing the exam at the Department of Shipping, he is awarded a 'Master Mariner' Certificate. As we can see from above that even a Mariner is performing his job onboard, this is also a learning institute for him where he learns from his seniors in the form of module/assignment, training session etc. till he becomes a 'Master Mariner'. It is the Captain's responsibility to train/educate the trainees/officers from his professional experience. A Captain on board is not only responsible for the ship. But also a trainer/instructor/teacher for onboard personnel. Hence it is a continuous learning process with on job training under the guidance of the Captain. Although after 4 years honours graduation, he is working onboard ship, after certain sea time, he is attending academic courses at the institute. These courses cannot be matched together because of an international regulation. But are separated at each leg before each COC examination. In fact, this is the best way of learning and implementing the knowledge. It is a combination of theoretical education and its practical implementation to achieve the best result of education.

Captain Sharwar Golam
(BMA 26th Batch)
Master Mariner (U.K)





August 1972, Russian ship trawling for mines in the Bay of Bengal

Post-war minesweeping operation in Bangladesh

Md. Sami-UI-Haque

At the time of the liberation war, the voracious and pillaging Pakistan army and their associates killed millions, delivered massive enduring on the innocent peoples and caused enormous devastation. Foundations especially extensions, air terminals and seaports, were in all respects hugely harmed. Chattogram port, the principal seaport

of the nation, just as the littler Chalna (Mongla) Port were crushed and put down and out. There were lots of mines implanted by Pakistani army in the whole port area and also a lot of sank ships and vessels in Karnaphuli River estuary. Bangabandhu Sheikh Mujibur Rahman realised the necessity of port for an infant nation. So he wanted the two seaports working in the shortest possible time, which was significant for the reconstruction and recovery of the war assaulted nation. So government asked help to other friendly nations for assistance. The United Nation and USSR (Union of Socialist Soviet Republic) replied positively. The UN wanted time for enough resource and suitable company but USSR offer was immediate and unconditional. Bangabandhu formally approached the Soviet leadership during his visit with the request to assist in minesweeping of Chittagong port and cleaning of its wrecks in Karnaphuli river. In March 21, 1972 both countries signed an agreement on rendering free aid to Bangladesh in rehabilitation of normal conditions of navigation in seaports of the country.

In 2 April, 1972 first rescue expedition ship led by Rear Admiral Sergey Pavlovich Zuenko arrived at Chittagong port with 100 advance seaman. By 4th May, 1972 the main flotilla of 22 vessels and 700 seamen, from Vladivostok the Soviet "Pacific Fleet" were already at Chittagong Port.

The 800- member Soviet team confronted an entirely imposing and overwhelming assignment. Almost 40 ships, of all description, had sunk in the Port area and outer anchorage (mostly from heavy Indian air strikes). At the close of the War, the Pakistani occupation forces

Russian Navy is seen removing watermines from Karnaphuli channel



had placed numerous mines to render the Port useless to Bangladesh. Rescuing submerged ships are troublesome under normal conditions. Be that as it may, on account of Chittagong Port, this methodology demonstrated to be considerably increasingly troublesome and dangerous. The water was so muddy besides there are heavy flowing of water in the Karnaphuli river. Solid flows in the quick streaming river kept the jumpers from going down multiple times each day, and each time for no longer than 40/45 minutes. They employed 'Sunken Pontoons' method which was much older formula for rescuing wrecks in order to not to hamper the ecosystem of this river. This method was very time consuming. The rescue and mine sweeping operation were finished by mid-June, 1974. On behalf of Bangladesh government Bangabandhu Sheikh Mujibur Rahman paid rich tribute to the all members of Rescue Expedition.

One senior mariner, Yuri Viktorovich Redkin, at drifting workshop PI-156, however, did not return home. On July, 13, 1973, he died on duty. He was buried in Chittagong, on the Petenga Cape. The spot of his entombment, 'Redkin Point', is named after him. It is currently situated in the premises of Bangladesh Naval Academy.

Bangladesh government regarded 'Late Rear Admiral Sergey Pavlovich Zuenko and his group' ('Rescue Expedition') when Prime Minister Sheikh Hasina exhibited the 'Friends of Liberation War Honour' to their delegates in a ceremony on 27 March 2013.

Vladimir Molchanov and Viktor Kozhurin members of 'Rescue Expedition' team wrote a book on the USSR mine-sweeping and ship-raising operation in the Bay of Bengal, 'The Fairway is Clean Again'.

We should not forget them

Recently we, the 3rd batch students of Department of Oceanography have stayed in Bangladesh Naval Academy and paid a visit to Redkin Point where our honourable Dean, Instr Cdre M Jashim Uddin told us about this memorable place.

1974, Russian Navy rescue operation is completed.
Bangladeshis said good bye to MS KHABAROVKS departing for the port of VLADIVOSTOK. — at Chittagong Port.



1974, Russian and Bangladeshi officials pay homage to senior sailor Yury Redkin who died while performing his duties during the minesweeping operation in Chittagong port

Source:

- In The Spirit Of Brotherly Love by Humayun A Kamal
- The Daily Star
- The Daily Jugantor
- Bangladesh Old Photo Archive
- Embassy of Russian Federation in Bangladesh
- Wikipedia

Md. Sami-Ul-Haque

Student

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Bangladesh



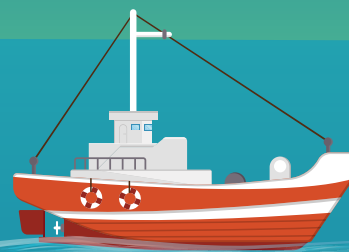
INFO BYTES



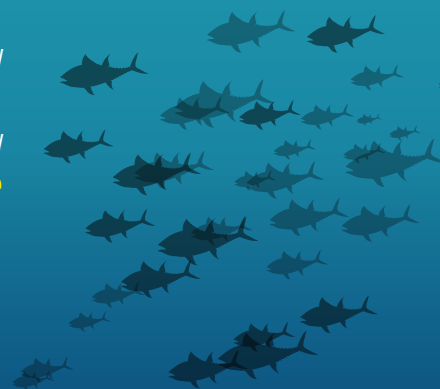
If you were an alien landing on Earth, you would have about a **60% chance** of landing out of **sight of land**.



Although tap water freezes at 0 degrees Celsius (32 degrees Fahrenheit), seawater does not freeze until about **minus 2 degrees Celsius** because **3%** of it is salt.



In the **last 100 years**, humans have perfected **fish-finding electronics**, but fish have not developed **human-avoidance skills** to match.



Coral reefs cover about one-fiftieth of the ocean floor, but about one-quarter of all marine species make reefs **their home**.

Instruments on **satellites in space** can measure many things about the sea: surface winds, sea surface temperature, watercolour, wave height, and height of the ocean surface.

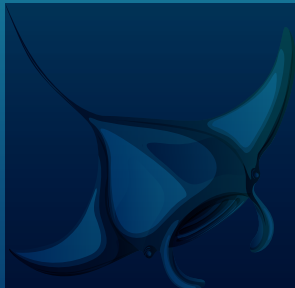


Tsunamis are caused by offshore earthquakes and travel at about **800 kilometres** (500 miles) per hour.

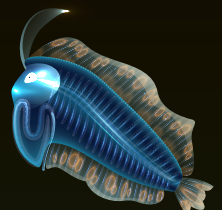
If sea level should rise by **3 metres** (10 feet), many of the world's coastal cities, like Venice, London, New Orleans, and New York, would be **underwater**.



Manatees, which are large, gentle, fat marine mammals, were mistaken for **mermaids** by some explorers--perhaps those explorers needed **glasses!**



Many abyssal creatures (those who live at the bottom of the ocean) **glow in the dark**, like fireflies.



// Campus Canvas //

Ground breaking ceremony was held at BSMRMU permanent campus



The ground breaking ceremony of the permanent campus of Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU) was held at the port city on 21 July 2019. Deputy Education Minister Barrister Mohibul Hasan Chowdhury, MP inaugurated the development works through a video conference held at Radisson Blue hotel, Chattogram. BSMRMU Vice-Chancellor Rear Admiral M Khaled Iqbal, BSP, ndc, psc presided over the ceremony. MPs of different constituency of Chattogram, University Grants Commission (UGC) Chairman Dr Kazi Shahidullah were also present there.

The Chief Guest in his speech hoped that the university will play an important role in the inception of necessary theory, modern technology and creation of skilled manpower for maritime research and resource exploration. He also focused on the potentiality of this university considering the Blue-Economy importance in implementing Honourable Prime Minister's Vision-2041, achieving the goals of SDGs and Delta Plan-2100.

The Vice-Chancellor in his speech thanked the Honourable Prime Minister for establishing Bangabandhu Sheikh Mujibur Rahman Maritime University and he also sought cooperation from the ministry and all concerned to set up the permanent campus.

Mentionable, the university will be set up on 106.6 acres of land in Hamid Char in Chattogram.

BSMRMU pays homage to the Father of the Nation on National Mourning Day

On 15 August 2019, a delegation led by the Vice-Chancellor Rear Admiral M Khaled Iqbal, BSP, ndc, psc of Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh paid homage to the Father of the Nation by placing wreaths at the portrait of Bangabandhu Sheikh Mujibur Rahman in front of Bangabandhu Memorial Museum in Dhaka's Dhanmondi to observe 44th anniversary of Bangabandhu's martyrdom and National Mourning Day-2019. After placing the wreaths, the team stood there in solemn silence for some time to show their deep respect for the great leader.

BSMRMU also observed "The 44th Anniversary of Bangabandhu's martyrdom and the National Mourning Day-2019" at its temporary campus located at Pallabi, Mirpur-12. The Vice-Chancellor graced the occasion as the Chief Guest. Also, attending as Special Guest Lt. Col. Quazi Sajjad Ali Zahir (Retd.), Bir Protik addressed different aspects of Tragic August. All faculty members, students, officers and staffs of the university were present there as well.

At the beginning of the programme, a documentary on the life of the Father of the Nation was exhibited in the auditorium. Later, essay and poetry were read out on the life of Bangabandhu Sheikh Mujibur Rahman and 15th august. In his speech, the Vice-Chancellor urged all to contribute from their own places to materialise the "Sonar Bangla" dream of the Father of the Nation.



BSMRMU delegation visits UK

Bangabandhu Sheikh Mujibur Rahman Maritime University, (BSMRMU) Bangladesh is constantly pursuing academic cooperation from different universities of the world to achieve its aim, i.e. creating effective human resources in maritime sector of Bangladesh. To this end BSMRMU has already signed Memorandum of Understanding (MoU) with various renowned universities and organisations both at home and abroad. A delegation headed by Rear Admiral Mohammad Khaled Iqbal, BSP, ndc, psc, Vice-Chancellor, BSMRMU visited seven universities/institute in England, namely Solent University, University of Southampton, University of Portsmouth, National Oceanography Centre, Nautical Institute, International Maritime Organization (IMO), International Maritime Satellite Organization (IMSO) from 10 July to 12 July 2019.

The aim of the visit was to explore possible fields of mutual cooperation in terms of faculty development, faculty exchange, joint academic program including award of joint degree, joint research, exchange programme and other related issues with a view to sign MoU so as to ensure quality education and to remain at par with renowned universities of the world.

BSMRMU holds 5th senate meeting



Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh holds its 5th annual senate meeting at the conference room of the temporary campus located at Pallabi in the capital on 31 July 2019. It is a milestone in the progress of the university. Vice-Chancellor of the university, Rear Admiral M Khaled Iqbal, BSP, ndc, psc presided over the meeting.

By the presence and opinion of the Senate's respected members, discussions and various decisions were taken on various important issues related to the university in the meeting. The Senate started with welcome speech from the Honorable Vice-Chancellor of the university. The Vice-Chancellor expressed his thought that, the university is determined to develop necessary maritime human resources for the nation in order to explore and harvest maritime resources and also hoped that, the university will contribute to the progress of the "Blue Economy" of the nation by innovation of modern technologies.

Seminar session held on 'Challenges of Ocean Governance in Bangladesh'



A seminar was organised by the Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh auditorium on 23 July 2019 in

its campus at Pallabi, Mirpur, Dhaka. All faculty members and students of LLM, MMB, MPMS & MMS participated in the seminar. The Hon'ble Vice-Chancellor Rear Admiral M Khaled Iqbal BSP, ndc, psc graced the occasion as the chief guest. Dean of Faculty of Maritime Business Studies, Commodore M Ziauddin Alamgir (L), NGP, FDC, psc, BN chaired the seminar.

Rear Admiral Mohammad Anwarul Islam (ret'd), former SDS (Navy), ndc and Dr Golam Shafiuddin (Additional Secretary, Blue Economy Cell) attended the seminar as resource persons. Students and faculty members attended the seminar with full enthusiasm.

BSMRMU conducts a guest lecture session on 'Overview of the Global Ship Recycling Industry'

A guest lecture on "Overview of The Global Ship Recycling Industry" was held on 05 August 2019. Sefer Anil Gunbeyaz, Research Associate, Department of Naval Architecture, Ocean & Marine Engineering, University of Strathclyde, Glasgow, Scotland conducted the lecture session as resource person. Faculty members and students



of BSc in NAOE (1st & 2nd Batch) participated in the lecture session. He also enlightened the students about various master programme related to "Overview of The Global Ship Recycling Industry" which our students could pursue after graduation. There will be some scholarship opportunities available for the students as well.

Seminar held on 'Prospects and Challenges of Maritime Law Professionals'

A seminar on "Prospects and Challenges of Maritime Law Professionals" was organised by the Faculty of Maritime Governance and Policy of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh on 23 July 2019. The Hon'ble Vice-Chancellor Rear Admiral M Khaled Iqbal, BSP, ndc, psc graced the occasion as the Chief Guest. All faculty members and students of LLM and LLB participated in the seminar. Justice A.F.M. Abdur Rahman, High Court Division, Supreme Court of Bangladesh and Md. Asaduzzaman, Associate Professor, University of Asia Pacific presented paper as resource persons on the seminar. Commodore M Ziauddin Alamgir, Dean, Faculty of Maritime Governance and Policy presided over the seminar.



// Campus Canvas //

BSMRMU conducts internal study tour



With an aim to go beyond academics, as a part of course curriculum, a study tour was organised for the Students of Master in Port and Shipping Management, MBA in Maritime Business, Master in Maritime Science -1 and LLM in Maritime Law -4 from 16 to 19 July 2019. The team was led by Commodore M Ziauddin Alamgir, NGP, fdc, psc, BN, Dean, FMGP. During the tour, the students visited different maritime organisations in Chattogram such as Chattogram port, BSC, CDDL, Western Marine/ Karnaphuli Shipyard and Bangladesh Navy Ships in Chattogram and Cox's Bazar. The main aim of the tour was to acquaint students with the role and activities of maritime organisations. It gave the students an excellent opportunity to interact with maritime industries and know more about its overall environment. After the internal study tour, students were able to gain a

combined knowledge of both theory and practice and the visit was a great experience for the students of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh.

During their study tour, the team organised a 'Maritime Environment Awareness Drive and Beach Cleaning' campaign on 19th July 2019 at Laboni Point of Cox's Bazar. The campaign was led by Commodore M Ziauddin Alamgir, NGP, fdc, psc, BN, Dean, FMGP. Many tourists also spontaneously participated in it.

However, the tour was really a good opportunity for the students of BSMRMU to acquaint the role and activities of maritime organisations. It will be easier for them to relate practical knowledge with their theoretical education.

Seminar on Cell science and Biotechnology was held at BSMRMU

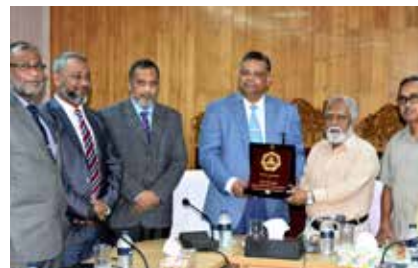


The Department of Genetic engineering and Biotechnology of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh organised a seminar on "Exploring the Current Trends in Cell Science and Biotechnology" on 26 June 2019 at its campus, Mirpur, Dhaka. Commodore A M Quamrul Huq, (ND), NGP, ndc, afwc, psc, Acting Vice-Chancellor and Treasurer of BSMRMU graced the seminar as the Chief Guest.

Dr Kensuke Miki, Associate Professor of Yokohama City University, Professor Dr Hassena Khan and Professor Dr Mamunur Rashid Chowdhury of Department of Biochemistry and Molecular Biology were the resource persons in the seminar.

Commodore M Ziauddin Alamgir, Dean, FEOS, BSMRMU and Professor Dr Sadequr Rahman were present in the Seminar as the Special Guests. Professor Dr. Altaf Hussain, Academic Advisor of BSMRMU was the chair of the programme. Dr Mohammad Nazir Hossain, Associate Professor, Department of Genetic Engineering and Biotechnology coordinated the whole event. Among others, heads of the departments, teachers from different departments, officers and students also took part in the seminar.

BSMRMU and PSTU signed MoU



A delegation headed by the Vice-Chancellor of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh Rear Admiral M Khaled Iqbal, BSP, ndc, psc visited Potuakhali Science and Technology

University (PSTU) on 12 September 2019 and signed an MoU (Memorandum of Understanding) to enhance academic cooperation between the two universities.

A MoU is signed between BSMRMU and BRUR



A delegation led by the Vice-Chancellor of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh Rear Admiral M Khaled Iqbal, BSP, ndc, psc visited Begum Rokeya University, Rangpur

(PSTU) on 20 September 2019. BRUR Vice-Chancellor Professor Dr Major Nazmul Ahsan Kalimullah, BNCCO and BSMRMU Vice-Chancellor signed an MoU (Memorandum of Understanding) to enhance academic cooperation between the two universities.

BSMRMU extends space

On 17 September 2019, the sole maritime specialised public university of the country, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh organised a ceremony to inaugurate extended floors of the university's temporary campus at 7th and 8th floor of Padma building situated at Pallabi. The Vice-Chancellor of the University Rear Admiral M Khaled Iqbal, BSP, ndc, psc inaugurated the floors while gracing the occasion as the Chief Guest. Along with him Treasurer, Registrar, Deans, other faculty members and officers attended the ceremony as well. The Chief Guest expressed his hope that by ensuring quality maritime research and providing effective manpower, Bangabandhu Sheikh Mujibur Rahman Maritime University will play an important role in materialising the "Vision 2041", Bangladesh Delta Plan 2100 and the "Blue-Economy Policy" of the Hon'ble Prime Minister Sheikh Hasina.



A seminar titled 'Challenges of Ocean Governance in Bangladesh' held in BSMRMU

A seminar on "Challenges of Ocean Governance in Bangladesh" was organised by the Faculty of Shipping Administration of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh in its temporary campus at Pallabi in the capital on 25 July 2019. The Hon'ble Vice-Chancellor Rear Admiral M Khaled Iqbal, BSP, ndc, psc graced the occasion as the chief guest. All Faculty members and students of LLM, MMB, MPMS and MMS participated in the seminar. Rear Admiral (retd) Muhammad Anwarul Islam, Former SDS (Navy), NDC and Golam Shafiuddin, Additional Secretary, Blue Economy Cell, Government of Bangladesh presented papers as resource persons in the seminar. The seminar was chaired by Commodore M Ziauddin Alamgir, Dean, Faculty of Shipping Administration.



Inauguration of Bachelor of Maritime Studies

On 1 July 2019, an inauguration programme for Bachelor of Maritime Studies was held at the temporary campus of BSMRMU located in the capital city. The Vice-Chancellor of the university, Rear Admiral M Khaled Iqbal graced the occasion as the chief guest. Dean of FSA, Commodore M Ziauddin Alamgir delivered the welcome speech. Treasurer, Registrar, faculty members, officers and participants of the course attended the programme.

The students were provided guidelines about the discipline, security and environment of the university. The Chief Guest welcomed the participants and expressed that after successful completion of the course graduates will contribute to the progress and development of country's maritime sector.

Department of Oceanography and Hydrography goes for a field trip in Chattogram

On 24 August 2019, 45 students of department of oceanography and hydrography (3rd batch) of Bangabandhu Sheikh Mujibur Rahman Maritime University with 1 faculty member and the chairman of the department went for a field trip to Chattogram with an aim to gain practical knowledge about hydrographic survey and some hydrographic instrument, ecosystem of marine environment etc. They stayed 1st four days at Bangladesh Naval Academy. The environment of the naval academy was excellent. They visited two beautiful spots in this academy, one is "Redkin Point" and another is "West Point". They had also visited the "Patenga Light House" that is a very useful light house for the mariners.

At BNS ISSA KHAN, they were oriented and introduced to some hydrographic instruments of Bangladesh Navy Hydrographic and Oceanographic Center (BNHOC). They also learned the concept and procedure of publishing Nautical Chart, Electronic Nautical Chart etc from the experienced instructors and officers. They went to the deep sea with BNS Anushandhan to visualize the bathymetric process of the ship and different sample collection process of different hydrographic instruments.

In their field trip, they also visited the university of Chattogram, Salimpur Mangrove forest, Karnaphuli river estuary, Marine Fisheries Academy and several other places.

Students found the trip amazing since they learned a lot, got the practical experience of theoretical courses. The trip also built strong bonding between the students. After completing all trip objectives, students returned to Dhaka on 3 September 2019.

BSMRMU international seminar to sensitise sustainable maritime development

Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), Bangladesh is going to organise an international seminar on 28 November 2019. The theme of the seminar is 'An Outlook for Sustainable Maritime Development and Governance: Challenges and Way ahead.' The seminar will explore future maritime prospects of Bangladesh in order to achieve the goals and objectives of Blue Economy. A host of distinguished scholars, eminent maritime experts and professionals from home and abroad will present papers in the seminar.

Mr M A Mannan, MP, Hon'ble Minister, Ministry of Planning, People's Republic of Bangladesh has given his kind consent to grace the occasion as the Chief Guest in the Inaugural Session.

Mr Mohibul Hassan Chowdhury, MP, Hon'ble Deputy Minister, Ministry of Education and Admiral Aurangzeb Chowdhury, Chief of Naval Staff, Bangladesh Navy will grace the occasion as Special Guests. The international seminar will be arranged in Hotel InterContinental, Dhaka.

08:30 - 09:20 Registration

09:20 Guests to be Seated, 09:30 Arrival of the Chief Guest

INAUGURAL SESSION (09:30 -11:00)

Audio-visual presentation on BSMRMU

Welcome Speech by Rear Admiral M Khaled Iqbal, BSP, ndc, psc
Vice-Chancellor, BSMRMU

Keynote Paper - Prospects of Blue Economy and Maritime Development for Bay of Bengal Littorals by Professor Chris Bellamy, University of Greenwich, and Consultant on Global and Maritime Security and Defense, UK.

Speech by Special Guests

Speech by Chief Guest

Uncovering of Coffee Table Book

Official Photography

Light Refreshment

SESSION 1 (11:00 -12:45)

Session Theme - Regional Maritime Connectivity and Security

Session Chair - Professor Dr Imtiaz Ahmed, Dept. of International Relations & Director, Centre for Genocide Studies, University of Dhaka.

Paper 1 (Keynote) - BIMSTEC at the Crossroads: Connectivity, Security and Sustainable Development by Admiral Professor Jayanath Colombage, Pathfinder Foundation, Sri Lanka.

Paper 2 - Maritime Crime and Security: Bay of Bengal Perspective by Professor Lailufar Yasmin, Department of International Relations, University of Dhaka, Bangladesh.

Paper 3 - Emerging Trends in Maritime Logistics and Connectivity by Ms Hassiba Benamara, Economic Affairs Officer, United Nations Conference on Trade and Development, Switzerland.

Paper 4 - Port and Shipping Management: Global Perspective by Mr Biju Ninan Oommen, Senior Port and Maritime Transport Specialist, The World Bank, Singapore.





An Outlook for Sustainable Maritime Development & Governance: Challenges & Way Ahead

It is highly anticipated that the international seminar will uphold the overall image of the university at home and abroad. Additionally, it will help to promote our maritime potentials in overseas, the university can make many important contacts, students and faculty members can enrich their knowledge and communication skills.

SESSION 2 (12:45 -14:30)

Session Theme - Ocean Health and Governance

Session Chair - Rear Admiral M Khurshed Alam, ndc, psc, M Phil, (ret'd) Secretary, Maritime Affairs Unit, Ministry of Foreign Affairs, Government of Bangladesh.

Paper 1 (Keynote) - Impact of Maritime Law and UNCLOS III on Ocean Governance by **Professor Andrew Serdy**, Southampton University, UK.

Paper 2 - The Importance of Maintaining Ocean Health and Biodiversity and Consequence for Maritime Security by **Mr Peter Cook**, Director at PCA Maritime Ltd, East Melbourne, Victoria, Australia.

Paper 3 - Gas Hydrate in the Bay of Bengal: A New Frontier for Energy Security by **Professor Sunil Kumar Singh PhD**, Director, National Institute of Oceanography, Goa, India.

Paper 4 - Ocean Governance: A Cornerstone for an Effective Implementation for Blue Economy Policies by **Dr Pierre Failler**, Professor, Portsmouth University, UK.

Lunch Break

SESSION 3 (15:15 -17:00)

Session Theme - Maritime Technology and Harnessing Ocean Resources

Session Chair - Professor Dr Aftab Alam Khan, BSMRMU, Dhaka, Bangladesh.

Paper 1 (Keynote) - Energy Scenario in the Bay of Bengal - Prospects and Challenges by **Professor Dr Badrul Imam**, Department of Geology, University of Dhaka, Bangladesh.

Paper 2 - Digitized, Interconnected and Energy-efficient Smart Port by **Mr Richard Willis**, BSc CMLT MBCS, Technical Director Port Operations, Maritime & Aviation (Liverpool, UK), Royal Haskoning DHV, Netherlands.

Paper 3 - Ocean Energy: The New Frontier in Asia by **Professor Dr Omar bin Yaakob**, Marine Technology Center Universiti Teknologi, Malaysia.

Paper 4 - Prospects of Marine Natural Resources in Developing Health Care Products by **Dr Savita S. Kerkar**, Professor of Biotechnology, Goa University, India.

CONCLUDING SESSION (17:00 -17:20)

Seminar Resumé- Rear Admiral Kazi Sarwar Hossain, NBP, OSP, BCGMS, ndc, psc, (ret'd).

PM urges IORA to build unified sustainable blue economic belt



Prime Minister Sheikh Hasina called upon the Indian Ocean Rim Association (IORA) member states to build a unified sustainable blue economic belt in this subcontinent with the help of untapped resources of the sea.

She made the request while formally inaugurating the 3rd IORA Blue Economy Ministerial Conference at the Hotel InterContinental Dhaka on 5 September 2019.

The Ministry of Foreign Affairs, in association with IORA, organized the two-day conference.

"There are great opportunities to accelerate the sustainable development process of the respective countries from this region through Blue Economy approach by making the best use of the unused or untapped sea resources," she said.

She added in pursuit of making the best outcome of a unified sustainable Blue Economy, there is no alternative to cooperation and coordination among the stakeholders.

The premier hoped that the Blue Economy is set to play pivotal role to contribute to the life of 9 billion people by 2050.

Pointing out that there is an intricate relation between peace, security and sustainable development, Sheikh Hasina said, "We have to keep it in mind that we cannot sacrifice the marine environment in pursuing economic growth."

"We should simultaneously look Blue Economic Growth and think blue," she further said.

Realizing the importance of the sea and its potential maritime resources, the prime minister said Father of the Nation Bangabandhu Sheikh Mujibur Rahman first adopted "The Territorial Waters and Maritime Zones Act, 1974," to set the limit of the Maritime Zones of Bangladesh and extract sea resources.

She further hoped that this spirit of cooperation and momentum of collaboration among the IORA members will be augmented in the days to come.

South Korea keen to invest in shipping, port development in Bangladesh

South Korean Minister of Ocean and Fisheries Moon Seong Hyeok expressed his country's keen interest to invest in Bangladesh's shipping and port development sectors.

The State Minister for Shipping Khalid Mahmud Chowdhury had a bilateral meeting with Hyeok in Seoul. He conveyed that the young and active population of Bangladesh has transformed the country to a huge and potential market for investment. The State Minister led a five-member delegation to South Korea from 27 to 30 August, 2019.

He flagged the investment opportunities in shipping and deep-sea fishing sectors taking advantage of a huge potential market. In response, the Korean minister assured him to extend necessary assistance on the issues discussed in the meeting.

While emphasizing strengthening the bilateral relationship between Bangladesh and South Korea, the state minister also stressed augmenting the existing relationship in the shipping sectors of the two countries.

Both sides exchanged views on areas of mutual interest including blue bio-technology, tidal energy, ocean safety, training in the maritime sector and scopes for employment of Bangladeshi seafarers in the Korean fleet.

Cooperative security model needed for Bay of Bengal region: PM's security adviser



The countries of the Bay of Bengal region should develop a cooperative security model in order to ensure peace and stability, Prime Minister's Security Affairs Adviser Major General (ret'd) Tarique Ahmed Siddique said on 30 July 2019.

"Cooperative security can serve as the ideal model for enhancing regional security among nations that have more common interests and common threats than opposing interests," he said while addressing the inaugural session of the second meeting of the Track 1.5 Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Security Dialogue Forum as the chief guest.

The session was held at the auditorium of the Bangladesh Institute of International and Strategic Studies (BISS).

Following Bangladesh's success in combating terrorism, Prime Minister Sheikh Hasina has adopted a "zero-tolerance" policy against illicit drugs, said Siddique.

He also laid emphasis on the development of humanitarian assistance and disaster relief mechanisms under BIMSTEC.

The Track 1.5 BIMSTEC Security Dialogue Forum is a platform to facilitate security dialogue among the BIMSTEC strategic community. The First BIMSTEC Track 1.5 Security Dialogue Forum took place in New Delhi in September 2017, with the participation of both government officials and scholars from member states.

The second edition of this Dialogue Forum was held in Dhaka from 30 July 2019 to 31 July 2019, with representatives from member states Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand taking part.

Bangladesh, Maldives for cooperation on sustainable harnessing of untapped marine resources



Bangladesh and Maldives want strong cooperation on sustainable harnessing of marine resources that largely remain untapped.

The talks on the issues came up when Bangladesh State Minister for Foreign Affairs Shahriar Alam called on the President of the Maldives, Ibrahim Mohamed Solih, on 3 September, 2019 in Male on the sidelines of the 4th Indian Ocean Conference.

At the outset, Shahriar Alam conveyed the greetings of Bangladesh President Abdul Hamid and Prime Minister Sheikh Hasina to President Solih. During their meeting, they discussed cooperation on ocean and maritime issues with both the sides stressing on the need for sustainable harnessing of oceanic resources.

The need for exchanging of intelligence for combating terrorism was also discussed. The Maldivian President sought greater support from Bangladesh in the area of medical education for prospective students from Maldives.

Bangladesh, Malta to begin 'new era of cooperation'

Bangladesh and Malta have agreed to begin a 'new era of cooperation' to invigorate bilateral relations to achieve concrete benefits for the two countries. This was agreed between Bangladesh foreign minister Dr AK Abdul Momen and Maltese minister for foreign affairs and trade promotion Carmelo Abela during official bilateral talks held in the Maltese capital, Valetta, on 22 July 2019.

The two foreign ministers exchanged views on all issues of mutual interest, with particular emphasis on enhanced economic cooperation by building partnerships in areas like the maritime sector and the blue economy. Considering the fast-economic growth rates of the two countries (Malta is currently enjoying more than 5 per cent growth, highest in Europe, and Bangladesh is poised to grow at over 8 per cent in the current FY), both sides agreed on trade and investment exchanges.

The two sides agreed to explore opportunities in the near future and also to exchange experience and ideas for new businesses in areas like high-level manufacturing/marketing (e.g. facilitation of EU market access for generic pharma products), FinTech, and blockchain technologies. Cooperation in the UN, Commonwealth and other international organizations on issues like climate change, migration, including supporting each other's candidates for election to international bodies, was also discussed.



India, Bangladesh coast guards meet to discuss maritime issues



The Bangladesh Coast Guard (BCG) delegation held a regional and zonal commander-level meeting with the Indian Coast Guard (ICG) in Kolkata over coastal security, on Tuesday.

Both sides discussed various common maritime issues like sensitisation of fishermen on cross-border fishing, real-time information sharing, capacity building of Bangladesh Coast Guard through training and expertise sharing on maritime issues.

The Bangladesh delegation, which is on a four-day visit to India from 15 till 18 July 2019, was provided with an overview of the measures taken to provide maritime safety and security of the coast of West Bengal and Odisha.

The meeting was conducted as part of the Memorandum of Understanding (MoU) between the two maritime forces with an aim to enhance synergy in undertaking operations pertaining to common interests like Search & Rescue, Pollution Response and Coastal security.

// Maritime Bangladesh //

Delhi, Dhaka to boost maritime ties



India will join Bangladesh to commemorate 100 years of 'Bangabandhu', the founding father Sheikh Mujibur Rahman, in 2020, and an International Fleet Review in 2021 to mark 50 years of the Liberation of Bangladesh. From 22 September 2019 to

24 September 2019, Navy chief Admiral Karambir Singh was on a visit to Dhaka where these issues were discussed along with other maritime and security issues.

Admiral Singh's visit to Bangladesh was intended to enhance maritime relations between the two bilateral countries. Proposal to bring Bangladesh into India's coastal radar chain network, which already several countries have joined was among the top discussions.

Bharat Electronics Limited (BEL) team went there recently and a Memorandum of Understanding (MoU) was signed between the two countries. According to media sources, it could be signed in the next high-level bilateral visit. The Chittagong Dry Dock Limited aims to build six frigates for which India has offered to build some under 500-million-dollar line of credit, in order to boost its 'Make in India' initiative. Some frigates would also be built locally. The two navies, this year will hold their second patrol and first bilateral naval exercise. Bangladesh, which is currently the vice-chair of the Indian Ocean Rim Association (IORA) is slated to chair it in 2021. The Navy imparts training to Bangladesh at all levels and also provides assistance to hydrography, as part of its foreign co-operation initiatives.

Saudi firm looks to invest in Bangladesh's port infrastructure



Red Sea Gateway Terminal (RSGT), one of the largest terminal operators in Saudi Arabia, is keen on making investments under public-private partnership to develop Bangladesh's port infrastructure and maritime sector.

The RSGT has proposed investing in port infrastructure development and providing technical support for the existing Chattogram, Mongla and Payra ports, said Abdus Samad, secretary to the shipping ministry.

The Saudi firm, known internationally for world-class port terminal services, has built the newest flagship container terminal at Jeddah Islamic Port.

The secretary said the RSGT would prepare a plan for investment in multiple port-related infrastructure projects in Bangladesh and share operational expertise.

The Saudi company has recently signed a memorandum of understanding with the shipping ministry to explore investment opportunities and provide expertise to Bangladesh.

"We are aiming to leverage Bangladesh's geographic location between South and Southeast Asian countries to position the country as a key regional transport hub," Samad said.

Bangladesh needs to expand its port facilities as economic activities are accelerating and export and import will increase in the next decade.



Indian ocean facts

Covering almost 20% of earth's total surface, Indian Ocean makes a huge contribution to the water load of the world. Owing to its huge size, Indian Ocean has a whopping volume of 292,131,000 cubic kilometers, with an average depth of 3890 meters. Indian Ocean is bound by a number of continents on each side with Indian subcontinent

towards the north, Africa towards west, The Sunda islands and Australian lands towards east and Antarctica towards south. The geographical facts about Indian Ocean depict the diversity of this Ocean through 57 islands groups, 16 African countries and 18 Asian countries being connected directly through its waters. Many other smaller ports or larger cities are connected indirectly through navigational options of this ocean. The water here has highest concentration of dissolved and floating hydrocarbons, has maximum negative water balance and is single source of water of highest and lowest salinity levels. It bears many tectonic plate boundaries including the Rodrigues Triple Point where African, Indo-Australian and Antarctic continental plates merge. Indian Ocean has ports that belong to different continents. Chennai, Mumbai and Kolkata are the Indian ports of this ocean while Colombo of Sri Lanka, Durban and Richards Bay in South Africa, Jakarta in Indonesia and Melbourne in Australia make the other important ports of this ocean.

These ports are important trade points in their respective countries and globally too. A part of this can be attributed to the Indian Ocean's store of heavy minerals and off shore deposits.

Kenya launches maritime academy to boost blue economy



Kenyan President Uhuru Kenyatta on 8 July 2019 launched a maritime academy in the coastal city of Mombasa as part of efforts to position the blue economy sector as a key driver of the country's transformation.

The Bandari Maritime Academy aims at bridging the huge shortage of qualified seafarers in Kenya and the region to meet the needs of the emerging blue economy sector.

"The Academy is expected to become a top supplier of world class seafarers for shipping lines all over the world," Kenyatta said during the launch.

He also announced a raft of reforms the government is undertaking to secure both local and international seafaring jobs for Kenyan youth.

Kenyatta said the new institution will be key in equipping young Kenyans with the requisite skills and knowhow to enable them to compete favorably for employment opportunities in the vast blue economy sector.

It is estimated that blue economy, if properly harnessed, has the potential to inject up to 380 billion shillings (4.8 billion U.S. dollars) to Kenya's economy and create over 52,000 jobs in the next 10 years.

Kenyatta said the Bandari Maritime Academy will partner with the Kenya Utalii College, the Kisumu Maritime Centre and also establish twinning arrangements with the Mediterranean Shipping Company (MSC) Training Academy based in Naples, Italy.

Startups pioneering maritime innovation

Top maritime companies are wrestling with some heavyweight issues, particularly when it comes to their potential contribution to environmental damage.

Yet for naval architect Leonardo Zangrando: "The new wave of maritime software startups can add real value by helping operators both to comply with strict international regulations and optimise their use of scarce resources."

As founder and managing director of Startup Wharf, which claims to be the only independent virtual hub devoted to maritime innovation, Mr Zangrando argues that tech entrepreneurs from a wide range of backgrounds bring new ideas and fresh talent to a highly traditional sector.

"Lack of innovation in maritime is a fact," he says, citing the tight margins which can make innovation risky.

While the CO2 impact of maritime transportation is "actually smaller than that of comparable systems", he criticises the industry for being slow to answer criticism from environmental lobbyists.

Pressure on costs has in the past "pushed some operators to follow less than ethical practices", Mr Zangrando claims. It's this, together with reluctance to embrace digitalisation, that has made it harder for maritime companies to attract the younger, more ethically driven staff they need.



Inmarsat Wins Safety at Sea's Best Security Product of the Year Award



Inmarsat, the world leader in global mobile satellite communications has won the Safety at Sea Award 2019 for Best Security Product of the Year, after recognition by a panel of judges from ship owner,

marine insurance, maritime education, classification, crewing and training organisations.

The prestigious award was received by Inmarsat Senior Vice President, Safety and Security, Peter Broadhurst, at a ceremony at the Marriott hotel in Grosvenor Square staged during London International Shipping Week 2019. It recognises the contribution to maritime security made by Fleet Secure Endpoint, a key element in Inmarsat's Fleet Secure portfolio of solutions to guard against ever increasing Cyber threats.

"The Safety at Sea Awards consistently recognise improvements in maritime safety, security, training and seafarer well-being, celebrating the organisations and individuals who make positive contributions to protecting lives and working conditions at sea," Broadhurst said. "We are delighted that Fleet Secure Endpoint working on the Fleet Xpress platform has been recognised as 2019's product or service best demonstrating innovation, originality and the potential to improve security on board ship, online and on shore."

The transformation triggered by digitalisation brought with it the need to protect ships and shipping against cyberattacks that could compromise reputations, profits and safety, said Broadhurst.

India, France sign deals on maritime awareness, skill development



India and France on 22 August 2019 signed an agreement on behalf of the Indian Space Research Organisation (ISRO) and Paris-based National Centre for Space Studies (CNES) for the establishment of a "joint maritime domain awareness mission" to detect and tackle threats emanating from the sea during Prime Minister Narendra Modi's state visit to the European country.

Upon his arrival in France on Thursday morning (local time), Prime Minister Narendra Modi held a bilateral meeting with French President Emmanuel Macron and discussed wide-ranging issues of mutual interests.

In the meeting, the two expressed their resolve towards freedom of navigation in the Indo-Pacific.

"Based on a shared commitment to maintaining the freedom of navigation, particularly in the Indo-Pacific zone, maritime security cooperation between France and India is a domain of excellence in their strategic partnership," the Ministry of External Affairs said in a statement.

The agreements were signed between the Ministry of Skill Development and Entrepreneurship, Government of the Republic of India and the Ministry of National Education and Youth, Government of the French Republic for cooperation in skill development and vocational training.

Gujarat Maritime University commences Maritime Law courses

Gujarat Maritime University has launched two specialised one-year programmes in Maritime Law.

The University launched two LLM programmes namely LLM in Maritime Law and LLM in International Trade Law, marking the commencement of the first academic year.

Unlike other universities in India teaching International Trade Law, Gujarat Maritime University will be among the handful of offering full-fledged one-year course in the subject.

According to an official statement, a total of 27 students formed the maiden batch of GMU with 13 opting for Maritime Law and 14 students taking up International Trade Law.

The unique feature of LLM programme is the two-week international study tour to Rotterdam, Netherlands. GMU has collaborated with Erasmus University and STC International, globally reputed maritime universities where the students will be given exposure to the industrial visits to ports, ship owners' associations, legal practitioners.

Lloyd's Maritime Academy courses qualify for funding in Hong Kong

Lloyd's Maritime Academy, the experts in life-long learning for maritime professionals, has announced that people living and currently working in Hong Kong's maritime sector can benefit from an 80% refund on nine of its courses as part of the Maritime and Aviation Training Fund (MATF) introduced by the Hong Kong Maritime and Port Board.

The aim of the MATF is to build up a vibrant, diversified and competitive pool of professionals and technical personnel to support Hong Kong's future development in both the maritime and aviation sectors. May 2019 saw \$200 million being injected into the MATF for a further six years.

Nine of Lloyd's Maritime Academy's courses have been included in the Pre-approved Courses of Professional Training and Examination Refund Scheme under the MATF. As part of its Discover and Develop through lifelong learning phases, the courses include:

- Diploma in Maritime Business Management
- Diploma in Ship Management
- Diploma in Small Craft Surveying
- Diploma in Port Management
- Diploma in Marine Engineering
- Certificate in Chartering
- Diploma in Ship Superintendency
- Diploma in Marine Surveying
- Certificate in Maritime Law & Shipping Contracts.

Ships starts sailing without sailors in a commercial shipping operation



On 7 May 2019, customs officers in Ostend, Belgium, received a box of oysters from the UK.

The molluscs had been caught in Essex and transported to Belgium on a 12m (39ft) aluminium-hulled vessel, which traversed the English Channel with no humans on board.

It was the world's first unmanned commercial shipping operation.

The crewless boat was carefully watched by four people in a control centre in Tollesbury, Essex, headquarters of Hushcraft, the company behind the design and development of the craft.

It boasts a hybrid diesel engine, electrical generators, satellite links, CCTV and thermal cameras, an automatic identification system to warn approaching vessels of its position and more.

The boat was made by Sea-Kit, and the same vessel helped an international team of hydrographers, funded by the Japanese non-profit Nippon Foundation, win the \$4m (£3.2m) Shell Ocean Discovery Xprize for advances in autonomously mapping the oceans.

Pakistan's Maritime Study Forum Organizes Summer School 2019



Pakistan is an important maritime state in the Western Indian-Ocean region naturally endowed with an approximately 1,050 kilometer long coastline and an Exclusive Economic Zone covering about 240,000 square kilometer. The country faces an array of challenges while trying to cash into its Maritime and Blue Economic potential.

The Cohort-II of the Maritime Summer School 2019 (August Session in Islamabad) was intended to address the huge national, regional and global maritime economic situation regarding the 'Gross Marine Product' of the world's oceans and the epidemic of 'sea blindness' that have for so long plagued the ranks of the populace. The aim of Maritime Summer School 2019 (MSS19) was to promulgate the issues of the maritime realm thus broadcasting them to the relevant people and forums.

The MSS19 also aspired to formulate solutions by promoting exchange of ideas among the participants and experts from different professional spheres. MSS19 was themed along five topics, which included: Understanding Maritime, Policy Design and Analytics, Maritime Economy and Industry, Security and Diplomacy, and Socio Economic Factors of Coastal Community. The sessions of Maritime Summer School 2019 included lectures, simulation exercises and exposure visits to notable institutes.

Strathclyde co-leads new UK centre for maritime innovation and technology

The University of Strathclyde is co-leading a new national centre for maritime innovation and technology.

The Strathclyde-based MaRI-UK centre has been established by a consortium of British companies, academia and government. It will provide a collaborative innovation vehicle for jointly tackling innovation and technology challenges for the UK's £40bn maritime sector.

Professor Alex Duffy, Head of Strathclyde's Department of Design, Manufacturing and Engineering Management, is leading the consortium with Patrick Carnie, Strategy Director Energy & Marine Technology with engineering firm Babcock.

The UK Government's Department for Transport (DfT) agreed in March 2019 to fund the establishment of MaRI-UK, alongside investment from Babcock and the BMTGroup. MaRI-UK is now launching a £1m competition for innovative ways to reduce maritime emissions on behalf of DfT.

MaRI-UK's first area of collaborative focus will be Clean Maritime. The consortium will work on research and innovation within mid technology readiness levels (levels 3 – 7), to address the opportunities between discovery and research and commercialisation of maritime technologies and systems.

It will develop a structured, coherent, and comprehensive approach leading to national and regional development and economic growth.

IMO Emphasis on Empowering Women

International Maritime Organization (IMO)'s World Maritime theme for 2019 – "Empowering women in the Maritime Community" has featured prominently in events at the London International Shipping Week (9-13 September).

A seminar co-hosted by Inmarsat and WISTA international (10 September) explored the theme of Diversity and Digitization in the Shipping Industry.

Opening the event, IMO Secretary-General Kitack Lim said, "If the fundamental nature of work is changing, this is the perfect time to re-examine and re-assess traditional roles and expectations in the workforce – and that means embracing diversity, and equality." He stressed that promoting gender equality in shipping was important not only for its own sake, but also for the practical reality that shipping must draw talent from every corner of the globe and every sector of the population to secure its own sustainability.

IMO has been running a highly successful programme to promote women in the maritime community for more than 30 years. With IMO's help, seven regional Women in Maritime Associations have been established, covering more than 150 countries and dependent territories.

Arab Academy for Science strengthens partnership between academia and maritime

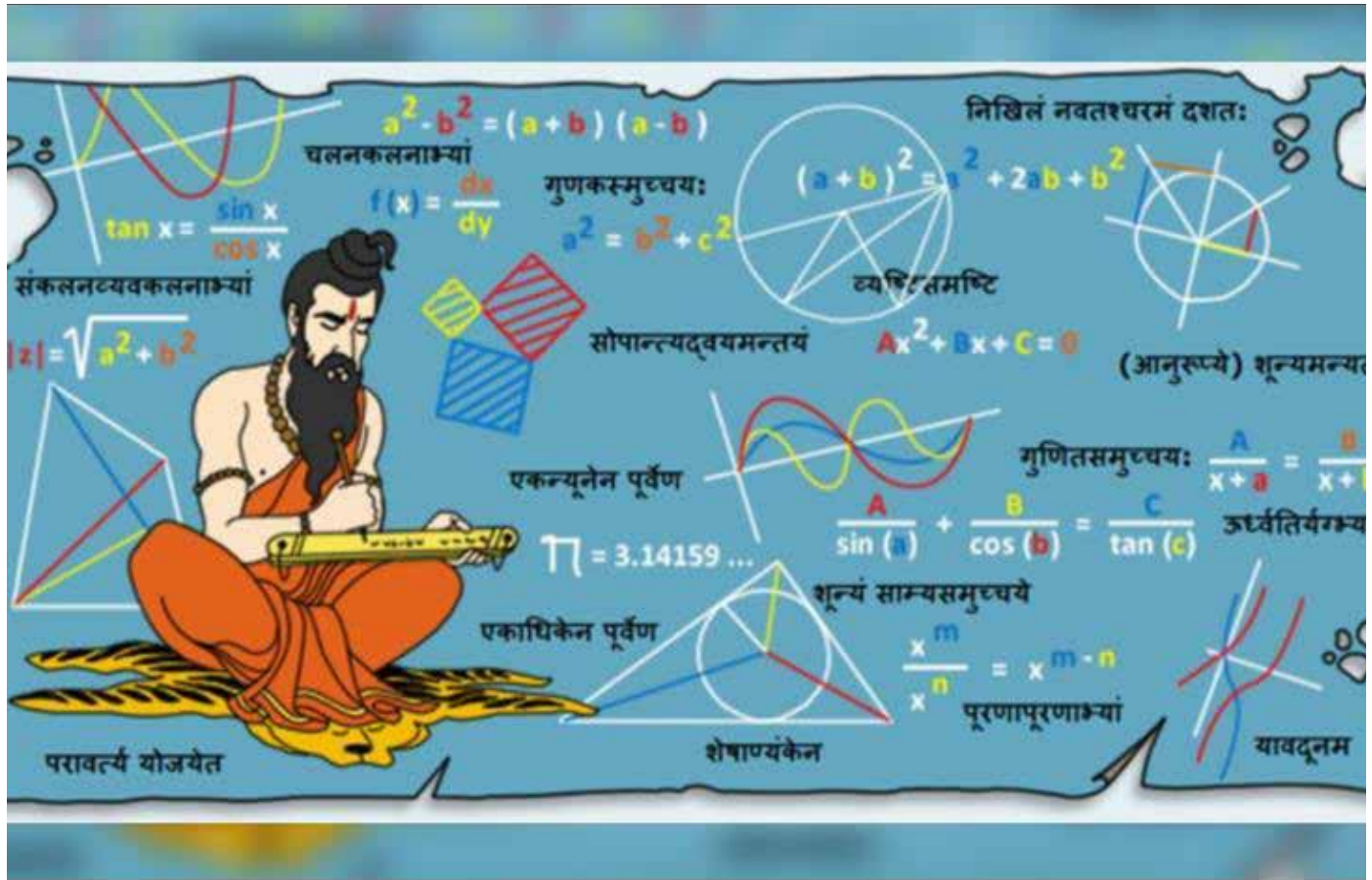


As part of its strategy to consolidate partnership between the academic sector and maritime industry, the Arab Academy

for Science, Technology and Maritime Transport (AASTMT) – Sharjah Branch participated in the UAE Maritime Week 2019.

AASTMT is represented by Dr. Hisham Affi, Advisor to the President of the Academy and in charge of Khorfakkan's branch, the Maritime College and Dr. Ahmed Youssef, Deputy Dean of the College of Maritime Transport and Technology.

Dr. Affi said, "The UAE is an advanced global shipping hub with over AED280 billion in maritime businesses. It hosts dozens of international maritime companies and boasts 19 ports, some of which are ranked first globally. That's why; the maritime sector needs a lot of support from maritime academic institutions, especially to supply the market with qualified young Emirati professionals, and to test renewal of the maritime passports for seafarers."



An Overview of Ancient Indian Mathematics

Dr Mohammad Tanzil Hasan

It is without a doubt that mathematics today owes a huge debt to the outstanding contributions made by Indian mathematicians over many hundreds of years. This "huge debt" includes the beautiful number system invented by the Indians on which much of mathematical development has rested.

Histories of Indian mathematics used to begin by describing the geometry contained in the Sulbasutras but research into the history of Indian mathematics has shown that the essentials of this geometry were older being contained in the altar constructions described in the Vedic mythology text the Shatapatha Brahmana and the Taittiriya Samhita. Also, it has been shown that the study of mathematical astronomy in India goes back to at least the third millennium BC and mathematics and geometry must have existed to support this study in these ancient times.

The earliest known urban Indian culture was first identified in 1921 at Harappa in Punjab and then, one year later, at Mohenjo Daro, near the Indus River in the Sindh. Both these sites are now in Pakistan but this is still covered by the term "Indian mathematics" which refers to

mathematics developed in the Indian subcontinent. The Indus civilization (or Harappa civilization as it is sometimes known) was based in these two cities and also in over a hundred small towns and villages. It was a civilization which began around 2500 BC and survived until 1700 BC or later.

We do know that the Harappans had adopted a uniform system of weights and measures. An analysis of the weights discovered suggests that they belong to two series both being decimal in nature with each decimal number multiplied and divided by two, giving for the main series ratios of 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200 and 500.

Several scales for the measurement of length were also discovered during excavations. One was a decimal scale based on a unit of measurement of 1.32 inches (3.35 centimetres) which has been called the "Indus inch". Another scale was discovered when a bronze rod was found which was marked in lengths of 0.367 inches. It is certainly surprising the accuracy with which these scales are marked. Now 100 unit of this measure is 36.7 inches which is the

measure of a stride. Measurements of the ruins of the buildings which have been excavated show that these units of length were accurately used by the Harappans in construction.

Around the middle of the third century BC, the Brahmi numerals had begun to appear. These are the earliest numerals which, after a multitude of changes, eventually developed into the numerals 1, 2, 3, 4, 5, 6, 7, 8, 9 used today. In around 150 BC, the main topics of Jaina mathematics were: the theory of numbers, arithmetical operations, geometry, operations with fractions, simple equations, cubic equation, quartic equations, and permutations and combinations. More surprisingly the Jaina developed a theory of the infinite containing different levels of infinity, a primitive understanding of indices, and some notion of logarithms to base 2.

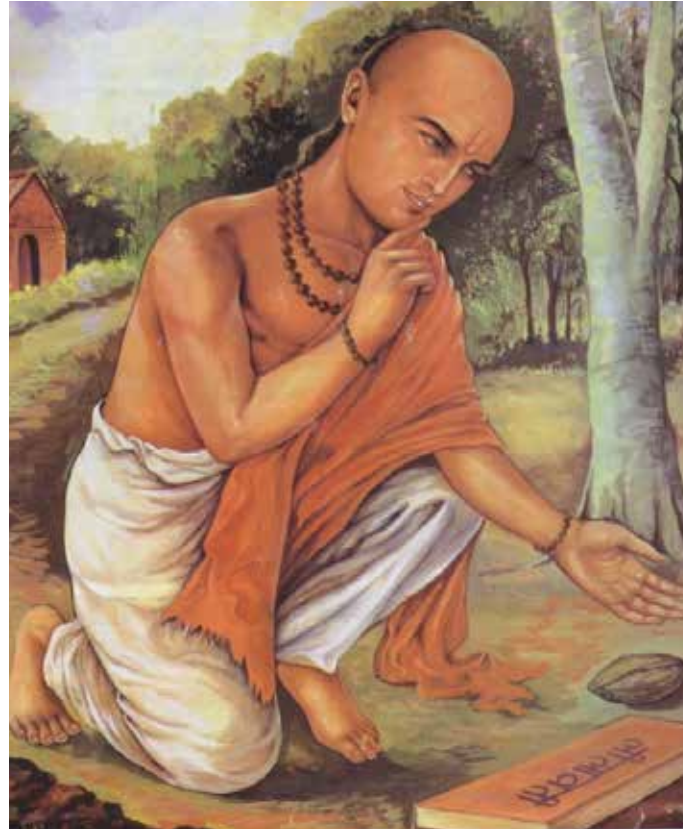
By about 500 AD the classical era of Indian mathematics began with the work of Aryabhata. His work was both a summary of Jaina mathematics and the beginning of a new era for astronomy and mathematics. His ideas of astronomy were truly remarkable. He introduced trigonometry in order to make his astronomical calculations, based on the Greek epicycle theory, and he solved with integer solutions indeterminate equations which arose in astronomical theories.

The next figure of major importance was Brahmagupta near the beginning of the seventh century AD and he would make one of the most major contributions to the developments of the numbers systems with his remarkable contributions on negative numbers and zero. He made other major contributions into the understanding of integer solutions to indeterminate equations and to interpolation formulas invented to aid the computation of sine tables. A contemporary of Brahmagupta was Bhaskara-I who was a commentator on the mathematics of Aryabhata. More than 100 years after Bhaskara lived the astronomer Lalla, another commentator on Aryabhata.

The ninth-century saw mathematical progress with scholars such as Govindasvami, Mahavira, Prthudakasvami, Sankara, and Sridhara. Some of these such as Govindasvami and Sankara were commentators on the text of Bhaskara-I while Mahavira was famed for his updating of Brahmagupta's book. This period saw developments in sine tables, solving equations, algebraic notation, quadratics, indeterminate equations, and improvements to the number systems. The main mathematics of the tenth century in India were Aryabhata-II and Vijayanandi, both adding to the understanding of sine tables and trigonometry to support their astronomical calculations.

In the eleventh century, Sripati and Brahmadeva were major figures but perhaps the most outstanding of all was Bhaskara-II in the twelfth century. He worked on algebra, number systems, and astronomy. He wrote beautiful texts illustrated with mathematical problems and he provided the best summary of the mathematics and astronomy of the classical period. Following Bhaskara II, there passed over 200 years before any other major contributions to mathematics were made in the Indian subcontinent.

In the second half of the fourteenth century, Mahendra Suri wrote the



Bhaskara- a commentator on the mathematics of Aryabhata.

first Indian treatise on the astrolabe and Narayana wrote an important commentary on Bhaskara-II, making important contributions to algebra and magic squares. The most remarkable contribution from this period, however, was by Madhava who invented Taylor series and rigorous mathematical analysis in some inspired contributions. Madhava was from Kerala and his work there inspired a school of followers such as Nilakantha and Jyesthadeva.

Some of the remarkable discoveries of the Kerala mathematicians are a formula for the ecliptic; the Newton-Gauss interpolation formula; the formula for the sum of an infinite series; Lhuillier's formula for the circumradius of a cyclic quadrilateral. Of particular interest is the approximation to the value of π which was the first to be made using a series. Madhava also gave another formula for π , one of which leads to the approximation 3.14159265359. There were other major advances in Kerala at around this time. Citrabhanu was a sixteenth-century mathematician from Kerala who gave integer solutions to twenty-one types of systems of two algebraic equations.

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Bangladesh revives the shipbuilding industry

Maritime Campus Desk

History of shipbuilding set off in Bengal back in the ancient times. Inscriptions of varieties of ships have been found on the ancient temple walls of the Indonesian Java, which were built in the lower part of Bengal; their users came from Sri Lanka, Java, Sumatra and Japan. These ships were used in the expedition of new colonies, for commercial transactions or in religious preaching. In his discourse, Moroccan traveller Ibn Battuta mentioned about the great trade ships and warships seen in the 14th century Bengal ports.

European traveller Caesar Frederick said in his account that in the middle of the 15th century, one of the world's leading names in the construction of ocean-going ships was Chattogram. Ma Huan, the famous chronicler and interpreter of Zheng He (also called Cheng Ho) voyages, during the Ming dynasty, studied boat building in Bengal during the early 15th century (1400-1410). From Bengal, the Turkish Sultan made a complete fleet of warships for his navy. The construction of ships in Bengal became even more prosperous during the Mughal period. During the recession in the shipbuilding industry at the beginning of the industrial revolution, there were 4,500 warships and 415 commercial ships in Bengal fleet, whose total weight stood at 22,312,500 tons. At the beginning of the industrial revolution in 1760, the imitation of the 'flush-deck' design of Bengal's paddy ships spread around the world by the hands of the East India Company. Britain's Royal Navy made warships from Chattogram, which was used in the famous battle of Trafalgar in 1805.

Since the middle of the seventeenth century, shipbuilding industry of Bengal went through three phases. When Europe's commercial ships gradually began to dominate the trade of Indian Ocean, Bengal's shipbuilding industry started to decline in the second half of the seventeenth century. The second half of the eighteenth century, when the East India Company took over the rule of Bengal, the regional water went completely to colonial dominion. At that time, the shipbuilding industry was almost destroyed. But after realising the economic importance of the shipbuilding industry, the company soon started patronising the sector.

Inscriptions of ships of Bengal have been found on the ancient temple walls of the Indonesian Java





Shipbuilding can heavily contribute to economy of Bangladesh

Later, the shipbuilding industry started again and that continued until the second decade of the nineteenth century. During the first half of the nineteenth century, British port workers expressed objection about Indian ships, because British workers were losing jobs to the Indians. They started putting pressure on the East India Company so that the company would halt using Indian ships. To curb down the domination of the Indian ships, Sir Robert Peel was made chairman and a committee was constituted by the British Parliament. Based on the committee's report, a new law was passed in 1814. According to the law, only British-made ships can enter England. Initially, this rule was somewhat relaxed, but strict implementation began in 1863. At the same time, the steam engine powered shipbuilding technology put an end to the golden chapter of the shipbuilding industry of Bengal.

From the beginning of the twentieth century, the resurgence of the shipbuilding industry in the region started. From that time till the independence of Bangladesh, more than 50 shipyards established in Dhaka, Chattogram, Narayanganj, Barishal and Khulna regions, where the main work was to build internal coastal communication and fishing vessels.

The first modern shipyard of Bangladesh, Khulna Shipyard, was established in 1957. It was constructed by a German firm. Initially a private concern, the shipyard later nationalised and came under the authority of Bangladesh Navy in 1999.

Among the current shipyards, Dockyard and Engineering Works Limited, Narayanganj is the oldest. It was established in 1922. The Shipyard is located on the banks of the Shitalakshya River. It was firstly managed by the Royal Indian Marine Service. After the independence of Bangladesh, it came under the management of Bangladesh Steel and Engineering Corporation (BSEC). Later, in 2006, Bangladesh Navy took the charge of the company.

Present scenario of shipbuilding in Bangladesh

To qualify as a shipbuilding country, four essential requirements have to be met. There should be international standard

shipbuilding practices, quality management, necessary shed and skilled manpower, plus the country has to be coastal and riverine. With the fulfilment of these conditions, 130 shipbuilders are registered and operational in Bangladesh. All other shipyards are mostly privatised. Notable shipbuilders are Western Marine Shipyard Limited (WMSHL), Ananda Shipyard and Slipways Limited (ASSL), Karnaphuli Shipyard Limited, Dhaka Dockyard and Engineering Works Limited, Narayanganj Engineering and Shipbuilding Limited, Chattogram Shipyard Limited, Bashundhara Steel and Engineering Limited, High Speed Shipbuilding and Engineering Works Limited, FMC Dock Yard Ltd, Meghna Group, Khan Brothers Shipbuilding Ltd and Radiant Shipyard Limited. Among them, ASSL and WMSHL are exporting ships and contributing to the economy of Bangladesh.

The current shipyards of Bangladesh can be classified into four categories-

Class A: These shipyards are able to build small and medium marine vessels according to the international standards.

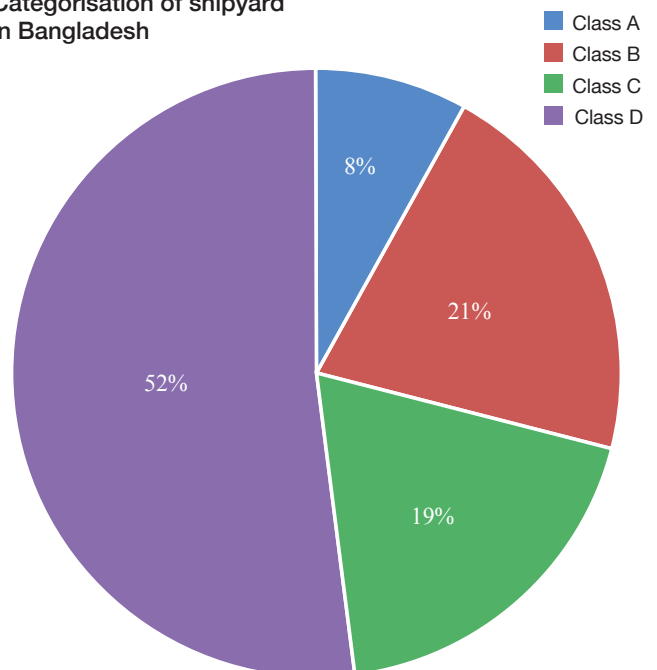
Class B: After some reconstruction and expansion they will be able to build small and medium ships according to the international standards.

Class C: Proposed shipyards, which are going to start small and medium shipbuilding according to the international standards.

Class D: The rest of the shipyards are covered under this category. They build vessels for inland waterways.

The private shipyards have been developed mainly around Dhaka, Chattogram, Barishal, and Khulna. Of these, 70 per cent are located on the banks of Buriganga, Shitalakkhya and Meghna rivers in Dhaka and Narayanganj areas while 20 per cent around the Karnaphuli river bank in Chattogram. Six per cent of them are in Khulna by the Rupsha river and the remaining 4% are in Barishal. Almost 100 per cent of the vessels we see within the country or the coastal areas were built by these shipyards and they are also carrying out the responsibilities of the maintenance and repair-job of these vessels.

Categorisation of shipyard in Bangladesh



Year	Type of Ship	Qty.	Owner/Buyer	Country	Builder
2008	One Ro-Ro Ferry, One Landing Craft, One Passenger Cargo vessel and Three Water Taxis	6	End User: Ministry of Transport & Communications, Mozambique. Buyer: JGH Marine A/S, Denmark.	Mozambique	ASSL
2008 2010	2900 DWT Ice-Class Multipurpose vessel	2	Stella shipping A/S	Denmark	ASSL
2012	Wooden Boat	2	End user: Maldives Government	Maldives	ASSL
2010	Floating Reception vessel	1	LAMOR Corp. AB	Finland	WMSHL
2011-13	5200 DWT Ice-Class Multipurpose vessels	8	Grona Shipping GmbH Co. KG	Germany	WMSHL
2011	Passenger Carriers	2	Karachi Port Trust	Pakistan	WMSHL
2013	49.8M Double Ended Car Ferry (Ro-Ro)	1	Hundested Roerovig Faergefart A/S	Denmark	WMSHL
2014	Aluminium Body Catamaran Pax Vessel	1	End User: Tanzania Electrical, Mechanical and Electronics service agency. Buyer: JGH Marine A/S, Denmark	Tanzania	WMSHL
2015	3800 DWT Ice-Class Multipurpose Vessel	1	Transnave Ecuadorian Navy Co.	Ecuador	WMSHL
2015	Car ferry (Ro-Ro)	1	End User: Uganda National Roads Authority Buyer: JGH Marine A/S, Denmark	Uganda	WMSHL
2015	Unrestricted Int'l SOLAS Pax Ship	1	New Zealand Ministry of Foreign Affairs and Trade	New Zealand	WMSHL
2016	One Tugboat and Ten HD Barges	11	End User: Gambia Groundnut Corp. Buyer: JGH Marine A/S, Denmark	Gambia	WMSHL
2017	54m High Speed Offshore Patrol Vessel	1	End User: Kenyan Ministry of Fisheries and Livestock, Kenya. Buyer: JGH Marine A/S, Denmark	Kenya	WMSHL
2017	8000 DWT Mini Bulk Carrier	2	Jindal Steel Works	India	WMSHL
2017	65m Self Propelled Twin-Screw Landing Craft	1	Al-Rashid Shipping	UAE	WMSHL

Bangladesh exported 41 vessels in 15 countries from 2008-2017

The list of manufacturers, ship types, and a number of ships exported and other informative details

Scopes for Bangladesh as a shipbuilding nation

Bangladesh will be ahead in shipbuilding because-

1. It is a riverine country and holds a glorious history of shipbuilding
2. Geopolitical location, regional communication and the wide range of accessibility facilities
3. A number of training centres are developed under various initiatives and projects to create skilled manpower
4. The abundance of the skilled labour force at low cost
5. Ten per cent government incentives to export
6. Similar quality production but 15 per cent cheaper than China and
7. Investment-friendly environment, rich domestic market and sustaining economic growth.

We need skilled manpower for shipbuilding

Multi-disciplinary skilled professionals having technical training are generally engaged in the shipbuilding process. Among them are naval architects, electrical engineers, mechanical engineers,

skilled welding workers etc. We have various educational and technical institutions to build such skilled manpower in shipbuilding.

As a pioneer in the field of engineering education, Bangladesh University of Engineering and Technology (BUET) has been enrolling students in Naval Architecture and Marine Engineering since 1971. There are other opportunities to pursue a post-graduate degree in the same subject. Military Institutes of Science and Technology (MIST) offers an honours degree in Naval Architecture and Marine Engineering. Keeping in mind the current demand for offshore drilling and conventional shipbuilding engineering, Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) has opened the department of Naval Architecture and Offshore Engineering in 2017. From the designing of the ship, BSMRMU offers different aspects of studying ship structure resistances, propulsions, fluid mechanics etc. Curriculum, equipped with electrical, mechanical, civil and metallurgical engineering, creates skilled and potential manpower in this sector. Among private universities, Sonargaon University offers Naval Architecture and Marine Engineering degrees.

Beyond this, shipyards also play a crucial role in creating skilled manpower for the shipbuilding industry. In a shipyard, trained professionals and others with specialised education in the field can directly participate in the shipbuilding process.



A commercial vessel is being built in Ananda Shipyard and Slipways Limited (ASSL)

National capacity and international market

In the first half of the financial year 2017-2018, the shipbuilding industry of Bangladesh had a remarkable achievement, compared to the same period of last fiscal year. The growth of the shipbuilding industry sees a 456.88 per cent hike. Bangladesh's revenues of shipbuilding from July to December of this year were USD 30.35 million, it's a sharp increment from the same period last year, which was only USD 5.45 million.

According to global economic data analysis agency Business Wire, by 2026, more than 20,000 new vessels will be built globally at the cost of USD 650 billion and most of them are small to mid-sized ships. The main focus will be to build environment-friendly vessels. All ships carrying single hull tanker will be replaced by double hull under the strict conditions of IMO.

All shipyards of Japan, South Korea and China are already booked with advance orders for the construction of large ships for the next 10 years. Therefore, to build small and medium ships, buyers are moving towards the emerging shipbuilding countries like Bangladesh. Conferring to WTO, the world's annual market for small shipbuilding is USD 400 billion. If Bangladesh can get only one per cent of the global market to build ships, the country will be able to earn 4 billion dollars in a year. If it is properly planned, with our current infrastructure we can earn 2 billion dollars of foreign currency in a year by exporting ships. For example, in the next 10 years, India will be seeking 600 ships for her infrastructural development. It is speculated that India will make 100 ships in Bangladesh. It is reported in media that India has already selected some of the shipyards of Bangladesh to build those ships.

This sector needs government attention

A prospective future for our shipbuilding industry is gradually unfolding before us. But we need to take certain moves to make the most of these existing opportunities. To affirm a strong foothold in the global market for the Bangladeshi shipbuilders, we

should first take into account some unique features and aspects of this sector, specially, while pondering on a policy related to it. A shipyard with a lifetime of 200 years is a long-time investment which usually requires an investment in the range of 100 million dollars. It would be a big boost if the entrepreneurs can gain this loan at low interest rate from financial authorities than which is in place now. In addition, public and private initiatives need to collaborate and work in cohesion to win over other competitors in the market. At present we have an employment of about 1.5 lac of workers engaged in shipbuilding. To comply with the current and imminent demand this

needs to be more than double. We also need to establish new training centres to train up the semi-skilled or un-skilled work force. To fine-tune things at the ground level and encourage the shipbuilders, there should be inter-ministerial collaboration to ensure unconstrained infrastructure facilities like lands, water and power supply.

Fortune waits for the shipbuilders

Bangladesh has 1,18,813 sq. km of sea area and a 710km long coastline. On the other hand, 700 rivers and 24,000 kilometres of waterways are dispersedly coming down from the three border areas of the country. There are 10 thousand active vessels in the country's inland waterways and coastal areas. These are continuously transporting 90 per cent of the oil products, 70 per cent of the cargo and 35 per cent of the total passengers. At least 2 million people are directly or indirectly dependent on this sector.

With pride, we are going to revive ourselves as a shipbuilding nation. Bangladesh's global outreach is expanding fast. Already STX of France, Fincantieri of Italy, China shipbuilding and offshore international company, Netherlands's Damen Shipyard and South Korea's Daewoo have shown interest to work with Bangladesh. In the year 2017 the slogan of our shipbuilders was, 'Let's Turn Around', and the theme of 2018 is 'Increased Production'.

Since the country has begun exporting Bangladesh-made ships, it has emerged as a prestigious shipbuilding nation in the global forum. In fact, through the entry into the world market almost a decade ago, the door of infinite opportunities and limitless possibilities for export-oriented shipbuilding has been opened before the country. Therefore, this is the exact moment for paying special attention to this sector.

Development of this potential industry means gaining huge foreign investment and the possibility of vast employment within the country. Its prosperity also means the journey from downfall to the return of the glory of being the world's top shipbuilder nation once again to rewrite history.

