

ISSN 2708-1338

OCTOBER 2022, VOL. 05, ISSUE 04

MARITIME CAMPUS

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



Integrated
**Delta Governance &
Ocean Management** in the
Bay of Bengal and Way Ahead

MoU Signing
and International
SEMINAR

31 July 2022
International Mother Language Institute
Shegun Bagicha, Dhaka



International Seminar on 'Integrated Delta Governance and Ocean Management in the Bay of Bengal'

Education Minister is
optimistic about the potential of BSMRMU

Sonadia Island as an
alternative tourist destination of St. Martin's Island

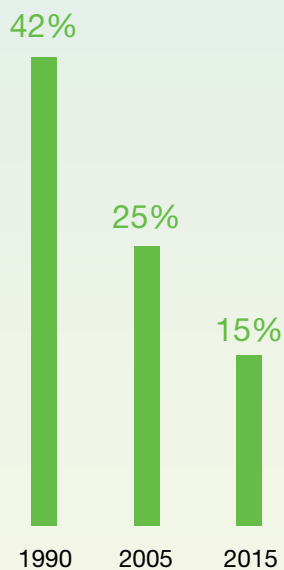
Understanding the dynamics of marine insurance

Why Green Growth?

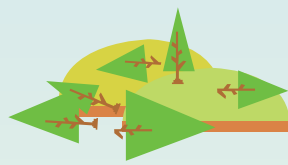
For the past 250 years, economic growth has occurred largely at the expense of the environment. The damage has reached a scale that threatens human welfare and prospects for future growths. Despite impressive gains in the last two decades, many basic needs remain unmet.

Two decades of unprecedented growth have greatly improved welfare...

Poverty Rate



... but not without a significant toll on the environment.



13 MILLION

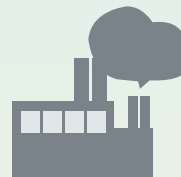
Hectares of forest lost annually between 2000 and 2010, an area the size of Nicaragua lost each year.



3%



Increase in water withdrawals in last 50 years, leading to water scarcity



550 BILLION+

Tons of CO₂ emitted globally from 1990 to 2010.

85%

Ocean fisheries fully exploited, over-exploited, or depleted. \$1 TRILLION

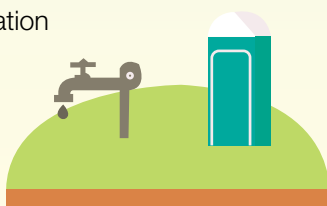


\$1 TRILLION

Spent annually to subsidize over-exploitation of natural capital, including fossil fuels.

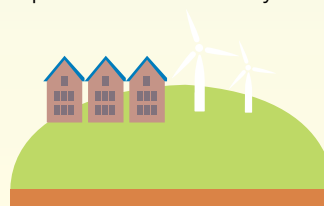
Meanwhile, massive basic needs remain unmet.

People without access to sanitation



2.6 Billion

People without electricity



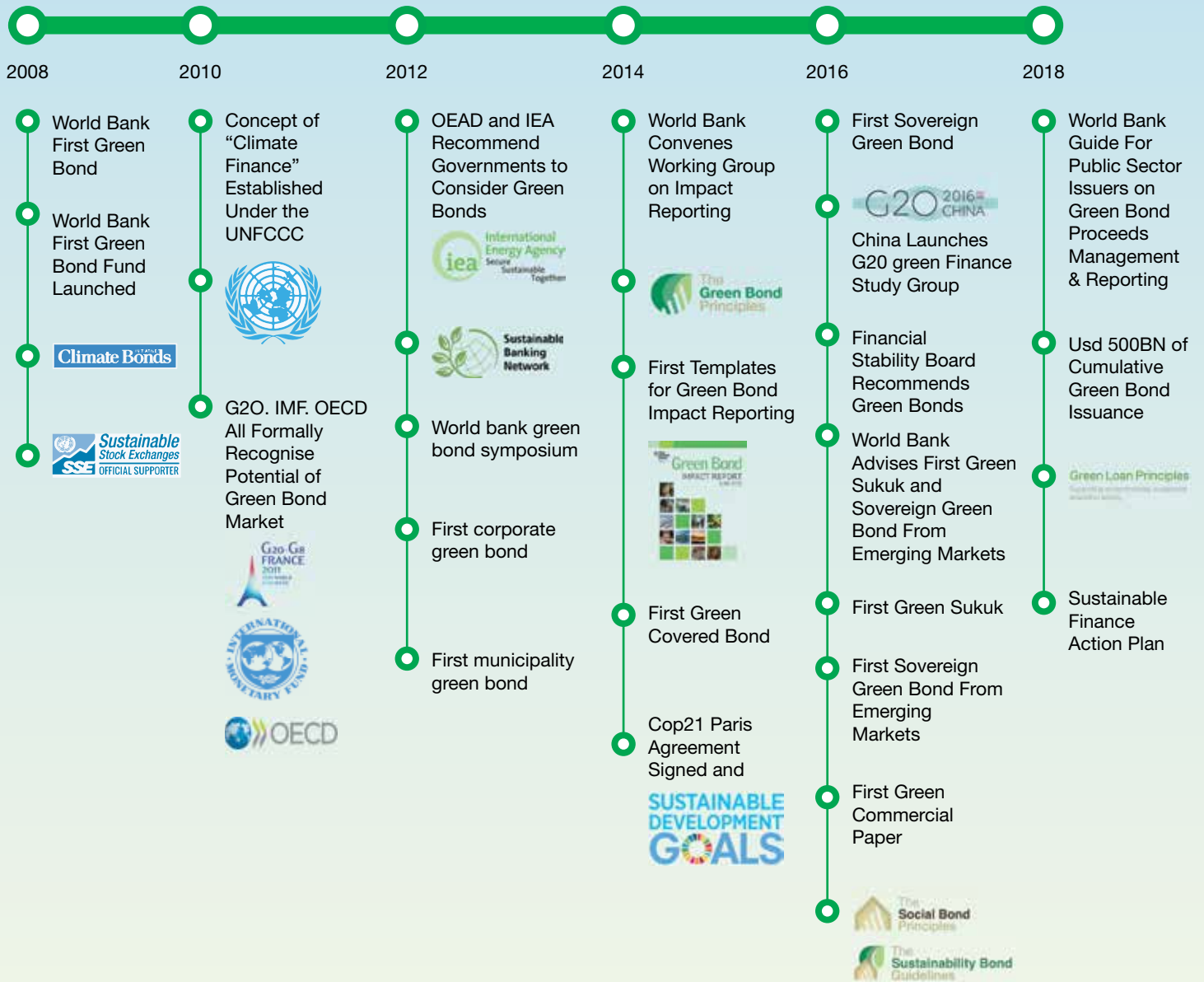
1.3 Billion

People without safe, clean drinking water

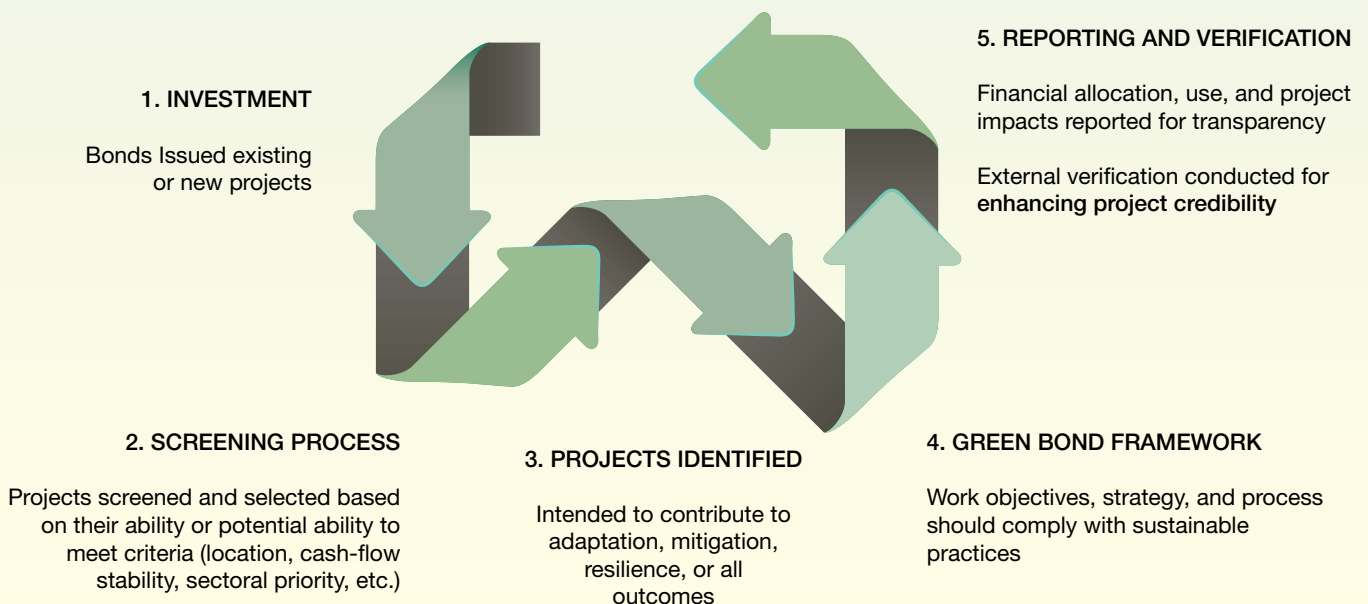


900 Million

Green Bond time-line



Green Bond Mechanism



Maritime Campus

A Quarterly Publication of Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh

**Chief Patron**

Rear Admiral M Khaled Iqbal, NBP, BSP, ndc, psc (retd)
Vice-Chancellor

Advisory Board

Cdre A K M Maruf Hassan, (S), NUP, BCGMS, psc, BN
Treasurer

Cdre Sheikh Firoz Ahmed, (H), NGP, psc, BN
Registrar

Cdre M Neamul Hasan, (L), BN
Dean, FMBS

Cdre Mohammad Sajedul Karim, (E), psc, BN
Dean, FSA

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

Capt Moyeen Uddin
Dean, FEOS

Prof Dr Altaf Hussain
Academic Adviser

Editor

Captain A T G M Sarker, (TAS), psc, BN (retd)
Controller of Examinations

Executive Editor

Prof Dr Mariam Begum
Head of the Department (English)

Assistant Editors

Lt Cdr Sushil Barua, (Edn) BN (retd)
Additional Controller of Examinations

Ahammad Karim
Programmer

Md. Salman Sadekin Choyan
Asst. Registrar

Photography

Amit Mahanta

Content Development, Writing, Editing, Design & Publication:

Enlighten | Vibes

House 06, Road 3, Sector 05
Uttara, Dhaka-1230, Bangladesh.
Tel: +02 48956748

Email: enlightenvibes@gmail.com

Editorial Communique

Plot# 14/06-14/23, Pallabi Mirpur-12, Dhaka-1216
Tel: +880 9666776868, +88 02 58051010,
+8801769721010

Fax: +02 58051010

Email: info@bsmrmu.edu.bd

Web: www.bsmrmu.edu.bd

Editorial

Sustainability of Bangladesh requires integrated delta governance and ocean management

As part of its ongoing commitment to promoting quality maritime education, research, and training, BSMRMU organised a Maritime Seminar on 'Integrated Delta Governance and Ocean Management in the Bay of Bengal- Way Ahead' on 31 July 2022. Attendees discussed the latest developments in maritime law, technology, and safety regulations. It was an enlightening experience that will help shape the future of the industry. This edition's 'Lead Story' provides an enlightening insight into the knowledge-sharing undertaking that effectively links together professionals in the maritime field.

During a visit to her office, the Honourable Education Minister Dr Dipu Moni extended a cordial welcome to the Vice-Chancellor of BSMRMU, Rear Admiral M. Khaled Iqbal (retd). She admired the university's efforts to advance the quality of education and research. They engaged in a timely discussion over the government's plans for the university and its potential for the future. This edition contains an article in the 'Vision' section that elaborates on the details of her words.

Sonadia Island is an ideal alternative tourist destination for people visiting St. Martins in Bangladesh. Located just off the southeastern coast of Bangladesh, Sonadia Island offers an unspoiled and idyllic landscape, with pristine beaches, tropical forests and a variety of wildlife. The island is also home to a wide range of marine life, including seabirds, whales, and dolphins. This edition's 'Focus' section includes an article in which the author argues that Sonadia should serve as St. Martin's alternate destination.

In order to implement steps to combat the menace of climate disaster and maintain and further build our resilience across the coastal areas of Bangladesh, green bonds have the potential to become an intriguing and unusual source of funding. The "Panorama" section article explains why green bonds are essential for developing coastal nations like Bangladesh.

Furthermore, the 'Campus Canvas,' 'Maritime Bangladesh,' and 'Around the World' sections will keep you up to date on all major maritime events and developments that occurred in the third quarter of 2022.

Finally, I'd like to thank the Chief Patron and Honourable Vice-Chancellor for his invaluable support in bringing this issue to light. I'd also like to thank all of the departments for their cooperation in providing information about their individual departments' activities.

Finally, I want to thank the members of the Editorial Board for their tireless efforts to get this magazine published as soon as possible.

Thanking you

Captain A T G M Sarker, (TAS), psc, BN (retd)

Editor and Controller of Examinations

Email: editor.mc@bsmrmu.edu.bd





08

LEAD STORY

International Seminar on 'Integrated Delta Governance and Ocean Management in the Bay of Bengal'

The International Seminar titled "Integrated Delta Governance and Ocean Management in the Bay of Bengal- Way Ahead" was held at the International Mother Language Institute in Dhaka on 31 July 2022. It was organised by the Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU) as part of its regular knowledge-sharing activities. The event is showcased in the article.

06

VISION

Education Minister is optimistic about the potential of BSMRMU

On 5 September 2022, Rear Admiral M Khaled Iqbal (ret'd), the Vice-Chancellor of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), paid a visit to the Honourable Education Minister of Bangladesh, Dr Dipu Moni, at her office. In this essay, Minister's optimism and inspiration for BSMRMU are described.

14

FOCUS

Sonadia Island as an alternative tourist destination of St. Martin's Island

We can play an important role by organising different seminars, and conferences to promote Sonadia as an alternative to St. Martins as well as arrange campaigns in awareness build-up among potential tourists and local people regarding the conservation of the marine environment and pollution prevention.

32

AROUND THE WORLD

Notable development news from the global maritime sphere

16

ACADEMIA

Mercury pollution in the atmosphere and how to save the Bay of Bengal

Humans who consume seafood are at risk of developing health issues due to highly poisonous methylmercury, known to bio-accumulate in marine food chains. This article finds out some solutions to this pollutant.

28

HORIZON

Understanding the dynamics of marine insurance

The shipment was shipped by the shipper, but it was destroyed in transit. Can the shipper demand payment from the ship owner or carrier for all costs? Question like this is answered in the article.

31

NEW WAVES

Importance of cross-country maritime collaboration for more remarkable outcomes

24

MARITIME BANGLADESH

News on maritime progress and activities in Bangladesh

20

INFOBYTES

Recommendation of policy priorities and key action areas for the maritime industry

02

INFOGRAPHICS

Why Green Growth?

22

CAMPUS CANVAS

News on BSMRMU events and developments

36

PANORAMA

Green Bonds to bolster climate resilience of coastal areas in Bangladesh

As investors globally show growing interest in pledging capital to address environmental challenges, green bonds have emerged as the latest blessing to help protect the world from the impacts of climate disasters and expedite an environment-friendly sustainable development.

Education Minister is optimistic about the potential of BSMRMU

On 5 September 2022, Rear Admiral M Khaled Iqbal (retd), the Vice-Chancellor of Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU), paid a visit to the Honourable Education Minister of Bangladesh, Dr Dipu Moni, MP at her office.

During the visit, Rear Admiral M Khaled Iqbal (retd) had an extensive discussion with the Honourable Minister about the government's plans for the university and its future prospects. The vice-chancellor also shared his vision for the university and its role in the maritime development of the nation.

Honourable Minister said that Father of the Nation Bangabandhu Sheikh Mujibur Rahman envisioned a Sonar Bangla and established the foundations for the Maritime Vision of Bangladesh by introducing the Territorial Waters and Maritime Zones Act in 1974. He is justifiably known as the Architect of Maritime Bangladesh.

She also said that Bangabandhu's able daughter, the Honourable Prime Minister Sheikh Hasina, has also designed a scheme called Vision 2041 to help Bangladesh become a high-income nation by the year 2041, carrying on his visionary legacy for a sustainably developed Bangladesh. She gratefully said that under Prime Minister's astute leadership, Bangladesh was able to resolve maritime boundary delimitations with our neighbours, which allowed to open a window of opportunity in the Bay of Bengal to implement Blue Economy initiatives for safeguarding our country's robust economic growth.

Dr Dipu Moni acknowledged that the Honourable Prime Minister has initiated the Bangladesh Delta Plan 2100 (BDP 2100) to support our country's resilience and growth in the face of the increasing threat of climate change. Furthermore, she has been leading the country to achieve the UN's Sustainable Development Goals (SDGs) by 2030, which includes Sustainable Development Goal 14: Life Below Water.





Collaborating for the future of maritime higher education: The Vice-Chancellor and Education Minister discuss ways to further enhance the student experience.

She recalled that in order to keep pace with Bangabandhu's maritime vision and advance our country's Blue Economy initiatives, the Honourable Prime Minister established BSMRMU in 2013 to produce the experts and skilled human resources needed to accelerate maritime activities.

Coming back to the present, she said that now the university is playing a key role in the fields of producing maritime experts, conducting ocean science research, maritime knowledge exchange, and Blue Economy policy assistance. She also expressed satisfaction over BSMRMU's effort in sensitising the objectives of the UN Ocean Decade 2021-2030 among the students, faculty members and policymakers to realise the importance of a sustainable ocean for our survival. This offers a chance to develop a shared framework that would guarantee Bangladesh achieving the SDGs by 2030.

She furthermore said that BSMRMU has been quickly becoming a prestigious institution for its thriving undergraduate and postgraduate programmes, which are unique in the maritime setting of Bangladesh. She lauded the fact that the university regularly organises seminars, joint research, knowledge exchange between experienced faculty members, and mutual visits of academic interest, with a particular focus on the Bay of Bengal and Indian Ocean Region.

According to the Honourable Minister, the university is making sharp strides toward its aspirational goal to become the centre of maritime excellence in this region.

She assured the Vice-Chancellor that the Ministry of Education will do everything possible to help out the Maritime University in this regard. She considered that it is imperative for BSMRMU to obtain skilled faculty as well as other cutting-edge, state-of-the-art, and futuristic ocean research facilities for producing next-generation maritime experts who will unwaveringly dedicate themselves to modernising exploration techniques, as well as optimising responsible use of maritime resources.

She said that the introduction of a high-tech Oceanographic Research Vessel under the auspices of BSMRMU for research purposes will result in significant advancements in marine fisheries and aquaculture, Marine Bio-technology, Oceanography and other maritime disciplines.

Finally, she expressed her satisfaction and optimism that BSMRMU under its competent leadership and experienced faculty members will make a great contribution to the government's blue economy initiatives by conducting ocean research and maritime education as well as producing young maritime experts who will be able to take up the leadership role in the maritime sector in near future.

The Education Minister taking a break to stay informed on the latest Maritime Campus!





International Seminar on ‘Integrated Delta Governance and Ocean Management in the Bay of Bengal’

Maritime Campus desk

Prelude

Oceans, the primary source of many essential commodities, have a significant role in maintaining the climate and biodiversity. When it comes to global economic growth and food security, the oceans play a crucial role as well. The oceans help alleviate poverty by providing people with stable incomes, nourishment, and mineral resources, and they continue to do so in the present day by reusing nutrients and influencing world weather and climate. International shipping and ports link worldwide supply networks to global markets and facilitate seaborne international trade. However, awareness is developing that the oceans need more care and coordination. Illegal, Unregistered, and Unregulated (IUU) Fishing, land-based and ship-borne marine pollution, and unplanned coastal development degrade ocean health. It is a common observation that ocean resources are grossly overexploited. Additionally, all littoral nations should be aware that all

marine-related issues are interconnected because they may share a common space.

Ocean Management

Ocean management involves policies, actions, and affairs to ensure the sustainable use of coastal and marine resources while minimising the possibility of permanent harm to marine ecosystems. However, few developing nations have begun adopting economic growth policies based on the Blue Economy concept in recent years. Bangladesh is one of these nations, pursuing not only a blue economy policy but also the Delta Plan 2100, a long-term climate change resilience policy. The progress of ocean management in Bangladesh has been encouraging and provides a good example of how a coastal country can effectively manage its ocean resources. Bangladesh has taken strides in establishing its ocean management

framework and has signed several international agreements and treaties for the protection and management of ocean resources.

Delta Plan 2100

One of the world's largest deltas and a coastline stretching 710 kilometres near the mouth of the Bay of Bengal are only two of the many advantages. The people, economy, and way of life in Bangladesh depend on its plentiful rivers, water sources, and floodplains. Being in the traditional path of tropical cyclones, Bangladesh is very vulnerable to natural disasters and the consequences of climate change. These massive occurrences are largely the outcome of fortune, yet they nevertheless need to be nurtured, managed and exploited using sound planning and methods. The Bangladesh Delta Plan 2100 is a strategic planning document created by the government to make the country more habitable for future generations by focusing on water resource management and climate change-related dangers.

The International Seminar

It was a glorious day when the International Seminar titled "Integrated Delta Governance and Ocean Management in the Bay of Bengal-Way Ahead" was held at the International Mother Language Institute in Dhaka on 31 July 2022. The seminar was organised by the Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU) as part of its regular knowledge-sharing activities.

The seminar was attended by a large cross-section of people including government officials, scientists, scholars, professionals, and students from different countries. The seminar was aimed at discussing the importance of integrated delta governance and ocean management in the Bay of Bengal.

Honourable Minister Dr Dipu Moni, Ministry of Education, Bangladesh was the Chief Guest of the seminar. Vikram Kumar Doraiswami, High Commissioner of India to Bangladesh, was the Special Guest.



A warm welcome to the Honourable Chief Guest Education Minister Dr Dipu Moni at the seminar

Bright First Session

Session 1 opened with the screening of a short documentary film on Father of the Nation Bangabandhu Sheikh Mujibur Rahman as an architect of Maritime Bangladesh. He declared the Maritime Policy of Bangladesh in 1974 which was based on the principles of international law and established Bangladesh Shipping Corporation and Bangladesh Inland Water Transport Authority to manage the maritime sector.

Afterwards, presenters introduced the speakers and the guests to the audience as well as invited Rear Admiral M Khaled Iqbal, (retd), Vice-Chancellor, BSMRMU to deliver his welcome speech.

A captivated audience taking in the wisdom of the seminar speakers





The welcome speech

Rear Admiral M Khaled Iqbal, (retd) welcomed all the participants and audiences of the international seminar. He expressed his gratitude for taking part in the event and congratulated everyone for making it successful. He suggested that all the participants and audiences should work together to ensure the success of the seminar by sharing their knowledge, experiences and ideas.

When he discussed the theme of the seminar, he said the Ganges-Meghna- Brahmaputra Delta, situated between India and Bangladesh, is a vital asset for both countries. It is home to numerous aquatic life and provides a rich source of sustenance for many in the region. However, it is highly vulnerable to the effects of climate change, environmental degradation, and socioeconomic factors. As a result, both countries are facing similar challenges in terms of effective ocean governance and delta management.



He emphasised it is clear that an integrated approach is necessary to maximise the mutual benefits of the delta and ensure its sustainability. This could be done through the formulation of an integrated ocean management policy based on a properly functioning regional cooperation mechanism. Such an approach would ensure that all the stakeholders, including Bangladesh and India, benefit from the delta's resources. The two countries must work together in order to ensure the sustainability of the delta and its resources for future generations. Rear Admiral Khalid Iqbal (retd) concluded his welcome speech by wishing everyone a productive and meaningful seminar.



The Keynote Speaker

Rear Admiral Md Khurshed Alam (retd), Secretary (Maritime Affairs Unit) at the Ministry of Foreign Affairs emphasised the need for expanded regional efforts for the Blue Economy. Every morning a lion wakes up, he said, using an African proverb. It is aware that it must outrun the slowest gazelle or perish from hunger. It makes no difference if you are a lion or a gazelle. When the sun rises, you must begin running. Whether it is Bangladesh, India, Sri Lanka, or Maldives, we must all continue to run in the morning, innovate, and pursue the blue economy in order to develop together.



The Special Guest

The Special Guest of the international seminar was Vikram Kumar Doraiswami, High Commissioner of India to Bangladesh. He highlighted the importance of international collaboration in order to make maritime education accessible to everyone. He talked about the various education initiatives for the maritime sector that had been taken by the Indian government to improve the educational standards of the country.

He asserted with certainty that Bangladesh's efforts to develop a maritime policy and a maritime diplomatic policy are complementary. Which India and Bangladesh have needed to concentrate on for some time. If we examine our history, he added, the longest period of colonialism we endured came from the sea. In order to strike a healthy balance between opportunities and difficulties, our strategic and diplomatic initiatives must place a greater emphasis on the marine domain.

The Chief Guest

Honourable Minister Dr Dipu Moni, Ministry of Education, Bangladesh attended the seminar as the Chief Guest. She welcomed the participants from all over the world and thanked them for their efforts in promoting maritime education. She discussed her Ministry's efforts in creating an environment in Bangladesh that is conducive to learning and enabling more people to access quality maritime education.



Gathering the best minds to discuss the present and future of ocean management and delta governance - an inspiring seminar



BSMRMU signed the Memorandum of Understanding (MoU) with Gujarat National Law University (GNLU) and National Maritime Foundation (NMF), Delhi for higher studies and research in maritime science

During her discussion of the seminar's topic, she stated that, while the threat of climate change and rising sea levels looms large, proper planning and management of the delta and the adjacent ocean areas are essential for the economic growth and development of Bangladesh and India. Integrated governance of the Delta and Ocean Management is a subject near and dear to our hearts. The proper usage of marine resources in the pursuit of sustainable economic growth has garnered international interest.

She also informed the audience that the Bangladeshi government has stressed blue growth in recent years as part of our efforts to fulfil the SDGs and Vision 2041. In reality, neither of our countries can accomplish their development goals unless the delta is transformed into a growth engine for the entire regional economy. The Bangladesh government has adopted the Bangladesh Delta Plan 2100 intending to achieve a climate that is both resilient and safe. Innovations, extensive planning, smart investments, integrated management, resolute implementations, and, above all, regional partnerships are required to protect the sea's bounty.

In order to accomplish this, a deeper comprehension of ocean-related sustainable development, governance difficulties, and policy alternatives is required. She also expressed optimism that this conference will provide an excellent opportunity to share knowledge, perspectives, and best practices about sustainable ocean development. She lauded BSMRMU's efforts to cultivate a network of actively and productively engaged researchers.

Crests and souvenirs were presented to the Chief and Special Guests, as well as other dignitaries, at the end of the first session. It was a token of appreciation for their presence and contribution to the event. The crest and souvenirs were also a way to remember the occasion. It was a special moment for everyone involved.

The Second Session Illumines the Audience

The Second Session was led by the Registrar of BSMRMU, Commodore Sheikh Firoz Ahmed. He introduced the topics of this session, which would feature five distinguished speakers from home and overseas. Ocean governance and management, biodiversity and ocean environment, Blue Economy, delta governance and environmental management, and environmental and climate change concerns in the Bay of Bengal were the topics of discussion.

The first speaker of the seminar Prof Dr S. Shanthakumar, Director, Gujarat National Law University, India delivered his thoughts on biodiversity and ocean management in the Bay of Bengal and legal issues. He said that the Bay of Bengal is a highly diverse and productive body of water, with a range of human activities and species living within it. For this reason, it is of utmost importance



Honouring the Chief Guest for gracing the occasion and contributing to the success of the seminar with a memento!



Vice-Chancellor, Special Guest and distinguished speakers at the seminar venue that is decorated with a big Bangabandhu's portrait



Registrar of the BSMRMU Commodore Sheikh Firoz Ahmed conducts the second session of the seminar

that effective legal frameworks are in place to ensure the protection and conservation of its biodiversity. India and Bangladesh, two countries that border the Bay, have region-specific fishing policies that are viewed as declarations of the government's vision, rather than enforceable laws. Prof Dr S. Shanthakumar thinks that this lack of enforcement means that the regulations are not being taken seriously or enforced, leading to overfishing, pollution and other environmental degradation. To combat this, the regional association centring the Bay of Bengal needs to come up with a set of regional legal frameworks and guidelines regarding the regulation of overfishing, tackling climate change and preventing the disposal of pollutants into the Bay. These frameworks and guidelines should be legally binding and enforced, to ensure that the Bay of Bengal remains a healthy and vibrant ecosystem.

Dr Atiq Rahman, Executive Director of the Bangladesh Centre for Advanced Studies spoke about environmental and climate change challenges for the maritime development of Bangladesh as the second speaker of this session. He said that growth and development in Bangladesh are something to be celebrated, although not without caution. Population growth is a challenge, but the country has

managed to achieve economic development, despite the population increase. New cities are being built, and this is evidence of the progress that Bangladesh is making. However, sea level rise and increasing salinity are major threats to the coastal areas. This is a serious issue that needs to be addressed, and innovative and pro-poor strategies are needed to protect the ecosystem services and to ensure that people affected by this can still access the resources they need. Bangladesh must take immediate action to mitigate these issues and secure a better future.

In his remarks at the seminar, the third speaker of the session, Vice Admiral Pradeep Chauhan, (ret'd), Director General of the National Maritime Foundation in Delhi, India, stated that the blue economy is supported by three pillars. He emphasised that the oceans provide the basis for all life on Earth and that any further degradation of the oceanic space would lead to our species' peril. He also urged that the harvesting of all resources must be done sustainably. He concluded by stressing the importance of knowledge acquisition by littoral countries. His remarks suggest that the blue economy is an important and integral part of our global economy and should be embraced and supported by everyone.

Prof Dr Mohammad Rezaur Rahman, Institute of Water and Flood Management, BUET, Bangladesh, the 4th speaker of the second session said that the Delta Plan 2100 is a comprehensive plan to address the water-related challenges in Bangladesh. It has proposed a number of projects in this coastal area that may affect the environmental aspect of that zone. He mentioned that there are sensitive areas like Saint Martins Island and the sanctuary in the swatch of no ground area that needs special attention. The Delta Plan is water-centric, and therefore concerted effort is needed to ensure that the environmental aspects are not overlooked. He also mentioned that Bangladesh needs to go beyond the Delta Plan and develop a Delta Plan Plus to address the environmental challenges in the region. This Delta Plan Plus should include measures to address water-related issues and also to ensure that the environment is protected. With the implementation of such a plan, Bangladesh can look forward to sustainable development in the region.

Prof Dr Mohammad Nazir Hossain, Department of Genetic Engineering and Biotechnology, BSMRMU, Bangladesh presented

Q&A session of the seminar



his short presentation on biodiversity and the ocean environment. He said conservation is not only necessary but essential for the continued health and sustainability of the planet's ecosystems and the species that inhabit them. Without conservation, we as humans and the biodiversity we depend on for everything from food to medicine, will not survive and flourish. We now have the tools, resources and knowledge to implement an integrated management plan – one that not only protects species and habitats but also ensures regional security and stability. For this plan to be successful, neighbouring countries must come together to create and implement it. By working together, we can ensure the preservation of our shared resources and the future of all our species.

Q&A Session

The questions and answers session regarding ocean governance and delta management was a great success. The speakers were enthusiastic in their answers and encouraged by the interest the audience and students had in the sustainable ocean system. It was a pleasure to witness the eagerness of the youth, who were keen to learn more about how to protect and manage our oceans and deltas.

The speakers provided valuable information and insight into the importance of ocean governance, delta management and the impacts of climate change. They explained how human activities can negatively impact the ocean system, and how managing our resources in an ecologically friendly manner can help mitigate the damage and preserve the ocean's biodiversity.

Overall, it was a successful and informative session and it was great to see the youth engaging with the topics and taking an interest in the preservation of our oceans. This is an encouraging sign and we must continue to educate our younger generations on the importance of ocean governance and delta management.

MoUs Signing

BSMRMU signed the Memorandum of Understanding (MoU) with Gujarat National Law University (GNLU) and National Maritime Foundation (NMF), Delhi for higher studies and research in

maritime science on that day. These MoUs will enable students and researchers to take up research projects and receive guidance from experienced academicians from these universities. These collaborations will enable students to gain access to the latest research and studies in the field of maritime science and apply them in their research endeavours. This was an important milestone in BSMRMU's journey towards creating a world-class research environment for students and researchers.

Epilogue

It was an honour to have such a distinguished group of guests at the seminar. Representatives from various Ministries, UGC, high-ranking military and civilian officials, maritime organisations, teachers, students and officials of BSMRMU attended the seminar with great enthusiasm. Their presence was highly appreciated and the event was a great success. The participants discussed the importance of integrated delta governance as a tool to maintain and manage the Bay of Bengal. They discussed the need to develop a comprehensive integrated delta governance and ocean management plan to protect and sustain the Bay of Bengal. Furthermore, they discussed the need to develop a legal framework to ensure that the plan is implemented effectively.

The participants also discussed the importance of marine conservation and the protection of the ocean. They discussed the need to implement effective strategies for mitigating the impact of climate change on the ocean. They also discussed the need to promote sustainable ocean management practices.

The seminar, organised by BSMRMU, was a great success. It brought together experts from both countries to discuss the future of maritime cooperation. The discussions and ideas that emerged from the seminar were vibrant and forward-looking. Participants discussed a range of topics including furthering bilateral collaboration, strengthening maritime infrastructure, and exploring potential areas of cooperation. The event served to deepen the understanding of the potential of maritime cooperation between the two countries, and to identify ways to move forward.

A great day for learning and sharing knowledge with a closing photo session



Sonadia Island as an alternative tourist destination of St. Martin's Island

Commodore Wahid Hasan Kutubuddin



The untouched beauty of Sonadia Island - where nature meets serenity.

Bangladesh has been endowed with a large sea area. As the resources on land are depleting, it has become imperative for the nation to look towards the sea for its survival. Effective exploration and exploitation of maritime resources are therefore paramount towards the economic emancipation of the country in the 21st century. It is mentionable that Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh (BSMRMU) is the only specialised maritime university in Bangladesh, which is promoting maritime tourism as an important component of the Blue Economy. We all know that maritime and coastal tourism is of key importance to developing countries like Bangladesh thus it is imperative for BSMRMU to create public awareness regarding attractive maritime tourism areas.

Nowadays, holidaymakers from all across the country are visiting St Martin's Island for its clear waters with corals submerged underneath. Here, one can claim that it is promoting our maritime tourism and we have an important destination that is contributing towards the Blue Economy but we must look at the other side of the coin too. Where the approx. 4,000 daily visitors are also responsible for the plastic dumped in the water that eventually covers corals and aggravates their state. We must also note that the corals of St. Martins are

subjected to coral bleaching climate change experienced by us. Considering all these, the Govt has already declared St. Martins as Ecologically Critical Area (ECA) as per the Environment Conservation

Sonadia Island is a playground for these vibrant red crabs, making for an unforgettable sight!



Act 1995. We should all be aware that the tourism sector is heavily dependent on the ocean ecosystem and any investment in waste disposal systems would benefit the maritime tourism by improved sanitation, and preservation of the ecosystem. It is my humble submission to all that we must find an alternative to St Martin's Island for our holiday travel plans.

Recently, a social media post attracted my attention where a senior colleague was promoting Sonadia Island as a very attractive tourist destination. I recall my visits to the Island decades back as a small fishing village, where I had to navigate around the beach very cautiously to avoid human discharge all along the waterline. I have learned that the eastern part of the Island is habited by the fisher's community but the western part is all about nature and beauty. You will not find any facility for township there. One can plan to enjoy the calm natural beauty, the sea, and the long white or grey sandy beach on this Island and it may now become the greatest place to spend your leisure time in Bangladesh avoiding the crowded St. Martins.

Sonadia Island is situated about 7 Km from Cox's Bazar. Many Bangladeshis have already promoted it as an alternative tourist destination by sharing their experience visiting this small Island. They claimed it to be very beautiful and a paradise for migratory birds like ducks, seagulls, fowls and geese etc. Besides, many people found eye-catching cactus plants and sea turtles on the Island. This makes the island a very attractive site for camping, beach lovers, divers, nature photographers and fishing.

If anyone is interested to visit then it is a great place to visit between October to April to see thousands of birds, and crabs, beautiful curved sandy beaches and gain the best forest experience. Here again, we must note that Sonadia also has given ECA status as per section 5 of the Environment Conservation Act 1995. From the beginning, this island's beauty should not fall captive to the money-hungry businessmen and be treated like a gold mine. If not, soon it will be exhausted and may lose immense natural beauty. The Govt. and the local authority including the visitors take measures such as banning plastic use and ensuring that all establishments built have obtained an Environmental Clearance Certificate.

Every year millions of domestic and foreign tourists visit the coastal and marine areas of Bangladesh including Cox's Bazaar, Kuakata,



Experience the perfect balance of relaxation and adventure on Sonadia Island - camping on the beach is the perfect way to unwind!

and beautiful islands such as St. Martin's Island. Bangabandhu Sheikh Mujibur Rahman Maritime University can play an important role by organizing different seminars, and conferences to promote Sonadia as an alternative to St. Martins as well as arrange campaigns in awareness build-up among potential tourists and local people regarding the conservation of the marine environment and pollution prevention. The awareness build-up would result in imposing restrictions on unplanned littering and garbage discharges and building hotels in the name of tourism development in Sonadia Island similar to St. Martins.

Commodore Wahid Hasan Kutubuddin

Director IBBBS, BSMRMU



Explore the beauty of nature at the serene and inviting Sonadia Island beach.

Mercury pollution in the atmosphere and how to save the **Bay of Bengal**

Maritime Campus desk

Mercury is a hazardous heavy metal that travels around the world in various ways through water, and soil. Because of the natural cycle, mercury contamination is a worldwide issue as it can harm any location, regardless of the source. In order to reduce anthropogenic mercury emissions and clean up mercury pollution, already recognised as a worldwide concern, an international action plan has been developed.

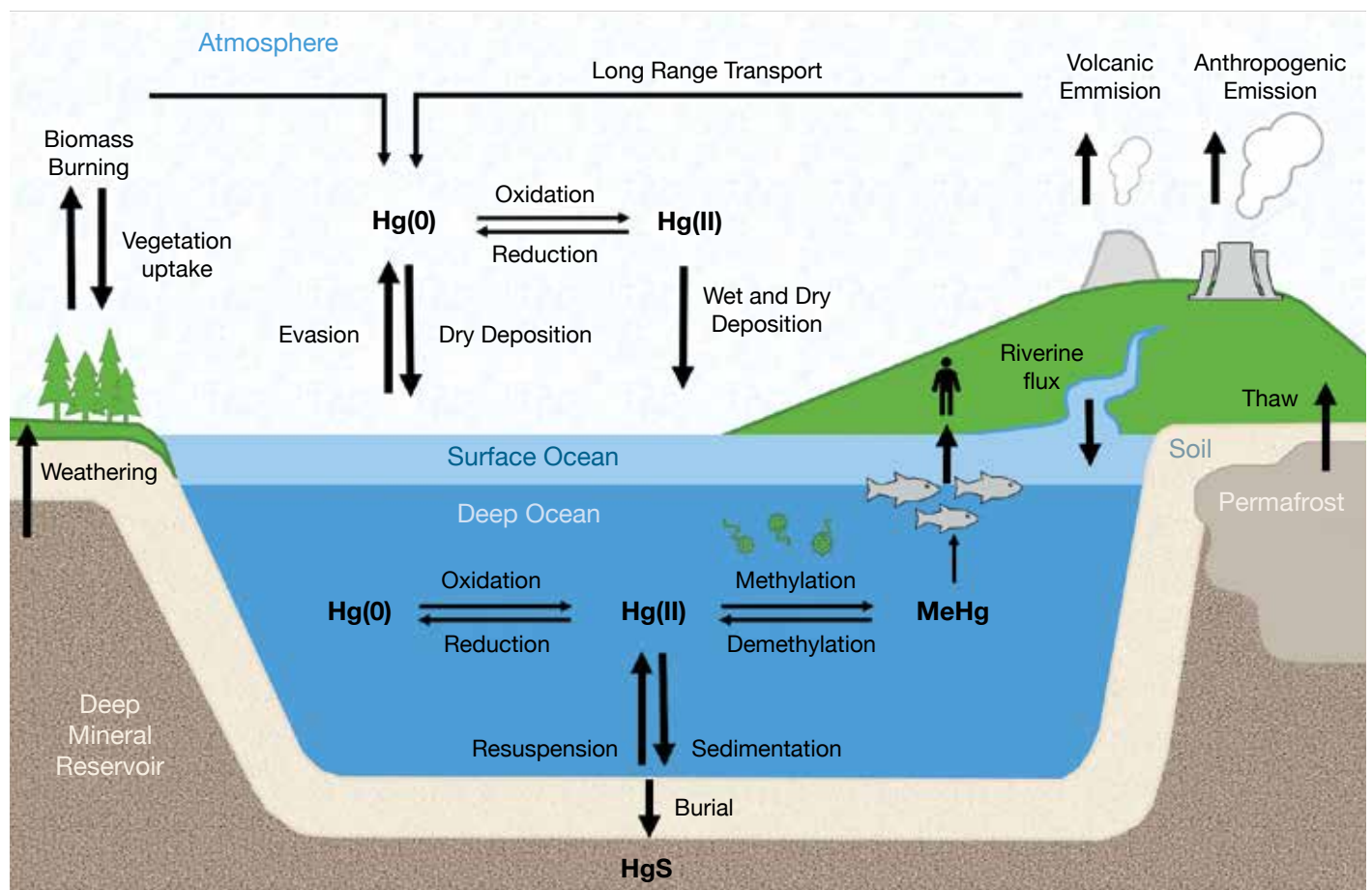
The ocean is one of several habitats affected by mercury pollution, and it cannot be ignored since it can act as a “storage closet” for mercury. Recent model research had projected the overall quantity of anthropogenic mercury released into the ocean to be between 80,000 and 45,000 metric tons. Two-thirds of this amount is discovered in water bodies shallower than 1000 metres – the habitat for most fishes fit for human consumption.

Humans who consume seafood are at risk of developing health issues due to highly poisonous methylmercury, known to bio-accumulate in marine food chains. Statistics show the ocean provides roughly 66 per cent of the world’s seafood. Hence, it is crucial to monitor and control oceanic mercury levels.

Different ways through which mercury pollution spreads

Both natural and man-made processes can release mercury. The majority of natural processes are geogenic, including volcanic eruptions and emissions from the land through the soil. When a volcano erupts, mercury is released from subsurface reservoirs. Nearer to plate tectonic borders, where soils are loaded with minerals

Mercury release into the ocean



like cinnabar (mercury sulphide), land emissions are typically seen. This mercury is gradually released, typically as a salt, either by geothermal processes or the natural weathering of rocks.

A portion of the current emissions is due to natural events, while man-made emissions alone have tripled the amount of mercury in the environment. According to the Global Mercury Assessment 2013, the primary production of non-ferrous metals, burning fossil fuels, artisanal, and small-scale gold mining are anthropogenic sources of mercury emission. Other very minor sources include the manufacture of cement, waste from consumer goods, crematories, contaminated sites, and the Chlor-alkali industry.

Mechanisms of mercury deposition

Numerous pathways enable mercury to reach the ocean.

Apart from atmospheric deposition, mercury can also get into the ocean through rivers, estuaries, sediments, hydrothermal vents, etc. Also, due to downstream movement and the re-deposition of polluted sediments from urban estuaries, mercury can permeate seas and the open ocean.

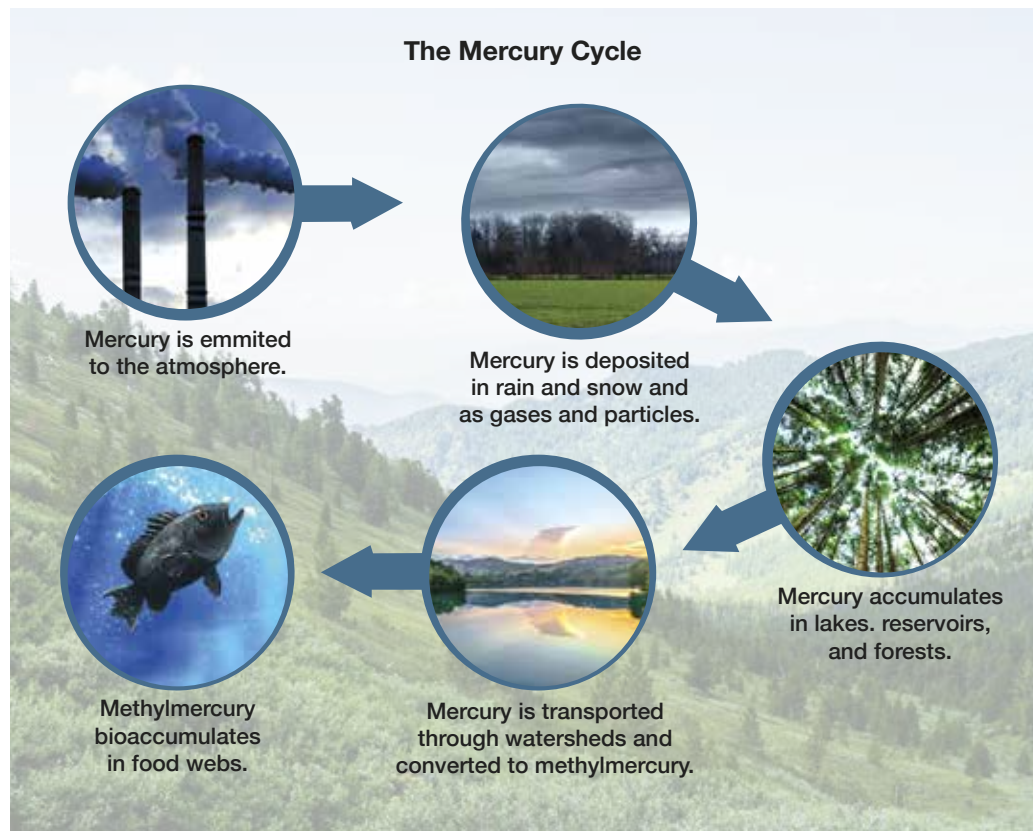
Both sunlight and microbial activity are responsible for how mercury dissolves in ocean water and bonds to other particles, respectively. Mercury is primarily reduced and oxidised closer to the ocean's surface. The specific reaction conditions needed for the oxidation process can be provided by using fine aerosols in the atmosphere, such as ocean water droplets, as miniature reaction chambers.

Mercury reduction is thought to be fuelled by wind and surface layer disturbances. Mercury redox reactions continue at night because of microbial activity. Compared to the aforementioned processes that are driven by sunlight, biological transformations are distinct and occur at a slower rate.

River run-off contributes to the discharge of methylmercury, which can bind to particles, into the ocean. The bioavailability and toxicity of mercury in the water can be determined by measuring the degree of binding between the organic matter.

Studies on mercury methylation in polar regions also revealed a favourable association between methylation and chlorophyll content in water, suggesting that methylmercury synthesis may occur via biogenic mechanisms.

Methyl mercury is extremely hazardous, and because it is highly permeable and does not undergo degradation in other animals that depend on those microorganisms, where it builds up. It is



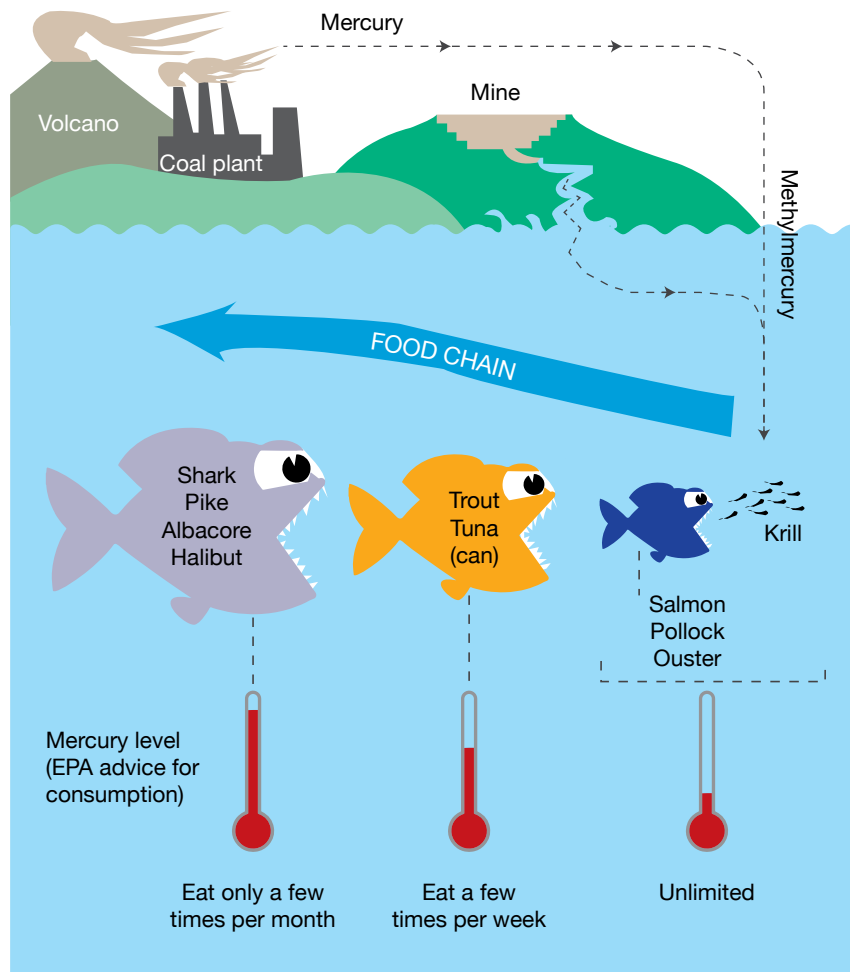
biomagnified via marine food chains to the top predators. Numerous marine fish species that are top predators in food chains are consumed by humans, putting their health in grave peril. Hence, it is crucial to identify potential ways to reduce current mercury contamination and reduce future mercury emissions.

Its adverse effects on human and animal lives

Human health is severely threatened by oceanic mercury pollution. According to the United States Environmental Protection Agency (EPA), consuming mercury can cause people of all ages to lose their peripheral vision, have weaker muscles, have difficulty hearing and speaking, and have worsened motor coordination. Due to mercury exposure's detrimental effects on memory, cognitive thinking, linguistic abilities, attention span, fine motor skills and so on, infants and growing children are at even greater risk concerning major health crises.

Minamata illness – diagnosed in Minamata Bay, Japan, in the 1950s – provided a chilling example of the dreadful consequences of exposure to exceptionally high mercury concentrations. Extreme salivation, limb deformities, irreversible dysarthria, and cognitive loss were among the symptoms encountered by adult patients. Extensive brain lesions were seen in children and fetuses (exposed to mercury through the mother's intake of contaminated seafood). Moreover, patients showed more severe symptoms such as cerebral palsy, mental retardation, and primitive reflexes.

Furthermore, animals affected by severe mercury poisoning in Minamata Bay displayed a range of incredibly bizarre behaviours and experienced high mortality rates as a result.



How mercury enters the food chain of the fish

Sources of mercury pollution in the Bay of Bengal

The Bay of Bengal is located at the northernmost point of the Indian Ocean, bordering Bangladesh to the north, Myanmar to the east, Sri Lanka to the south, and India to the west. The body of water is acknowledged for being extremely active and environmentally rich.

In addition to oil pollution, industrial, agrochemical, and municipal wastes are significant contributors to marine pollution in the Bay of Bengal. Additionally, due to the absence of adequate waste disposal facilities in the neighbouring nations, the Bay of Bengal's several big rivers – the Ganges, the Mahanadi, and the Krishna – serve as significant carriers of domestic and industrial trash into its coastal and marine waters.

Many species of fish are regarded as good bio-indicators of contaminants in the aquatic environment and serve as an effective monitoring tool to evaluate environmental changes since they occupy high trophic levels in the food chain.

Impact of mercury contamination in Bangladesh

According to a recent study that was published in The Journal of Environmental Management, communities in Bangladesh stand

to lose BDT 8 to 144 million in annual earning potential as a result of mercury poisoning.

In Bangladesh and 14 other nations, the aforementioned paper is the first peer-reviewed investigation to estimate economic losses owing to IQ deterioration from mercury poisoning. The study assessed the levels of mercury in hair samples taken from 236 people at 17 sites in 15 different nations.

The results of this study were made public during a news conference held on 8 June 2017, at the Environment and Social Development Organisation (ESDO) headquarters in Lalmatia, Dhaka, by the Environment and Social Development Organisation-ESDO in collaboration with IPEN and BRI.

The Minamata Convention on Mercury, which requires governments to take action to minimise and eliminate mercury pollution to protect human health and the environment, specifically identifies high-capacity cement kilns and a hazardous waste landfill in Dhaka.

Researchers from the ESDO, a non-government organisation of Bangladesh, contributed to the global study by collecting hair samples from participants living in Dhaka. Participants in Dhaka had hair with mercury concentrations ranging from 0.20 parts per million (ppm) to 2.68 ppm. The reference dosage of 0.58 ppm, which has been suggested in light of research demonstrating the deleterious effects of mercury at low levels of exposure, was exceeded by more than a fifth of the participants.

“This study gives us just a small sample of the extent of the damage that is happening throughout similar sites in Bangladesh. The high cost of

mercury contamination should trigger actions to address pollution sources in our country,” says Dr Shahriar Hossain, Secretary General of ESDO. He and ESDO Chairperson Syed Marghub Murshed had emphasised taking immediate steps to adopt and implement the Minamata Convention for preserving the earning capacity of Dhaka and other communities in Bangladesh. The Convention was ratified by 50 nations on 18 May 2022, and will enter into force on 16 August 2023, after becoming part of international law.

Humans are usually exposed to mercury through the consumption of tainted seafood, while other sources also include rice and direct contact with mercury vapour. Although nearly all organs are susceptible to mercury exposure, the developing organ systems – such as the embryonic nervous system – are particularly vulnerable.

Ways to address the problem of mercury contamination

It might take a long time to remove the already-existing mercury pollution. However, several current research offers scope for optimism. One of these studies uses nanotechnology, where artificial aluminium oxide nanoparticles are used to model coral formations.

Because of the high surface-to-volume ratio and the superior surface quality of these structures, heavy metal poisons are effectively absorbed. Also, due to their surface structure, corals can naturally

absorb heavy metal ions, and this new process uses nanotechnology to build “synthetic corals” that may help remove mercury from the ocean.

Australian researchers at Flinders University think they have finally identified an effective solution. They have developed a brand-new substance that can draw mercury out of both soil and water and is made of waste products from the petroleum and citrus industries.

Other substances to create the dark red polymer substance include limonene, a substance present in orange peels, and sulphur. The latter may be used for both mercury detection and clean-up since it turns yellow when mercury is absorbed into it.

The research claims the material is extremely cost-effective to produce as the components come from large waste streams, resulting in its use in numerous applications like lining pipes for domestic and wastewater, large-scale environmental clean-up projects, and even for lowering mercury levels in large water bodies, such as the ocean.

To reduce mercury emissions in the long term and on a wide scale, it is essential to reduce the use of coal power and switch to cleaner energy sources, reduce small-scale artisanal gold mining, properly handle industrial mercury waste, and adopt legislation.

In order to accomplish this goal, public knowledge is essential. Using mercury-free bulbs and batteries, buying consumer goods with zero or low mercury emissions to the environment, and safe disposal of mercury-containing items like medical packaging and thermometers can all significantly reduce the mercury pollution left in the ocean, and lead to a better future.

In Bangladesh, the dangers of mercury pollution have not yet been addressed. The risk of mercury is not considered in policy or by the general public due to a lack of knowledge and awareness. However, the usage of mercury and goods containing mercury is expanding quickly in Bangladesh’s industrial processes and a wide range of applications: the Chlor-alkali industry, coal-fired power plants, medical equipment (thermometers, sphygmomanometers, etc.), and other measurement devices, electrical equipment and switches, batteries, dental amalgam, as well as in the synthesis of various compounds and consumer goods (like cosmetics and beauty products).

Even the most fundamental occupational safety regulations are frequently broken, while there has not been any attempt made to phase out mercury from consumer goods and industrial operations. There is no particular data and information on the import of mercury and its application in various industrial processes and consumer products. Mercury is not extracted from ores or produced in Bangladesh. Thus, it is crucial to evaluate the country’s mercury sources, uses, hotspots, and regulatory gaps.

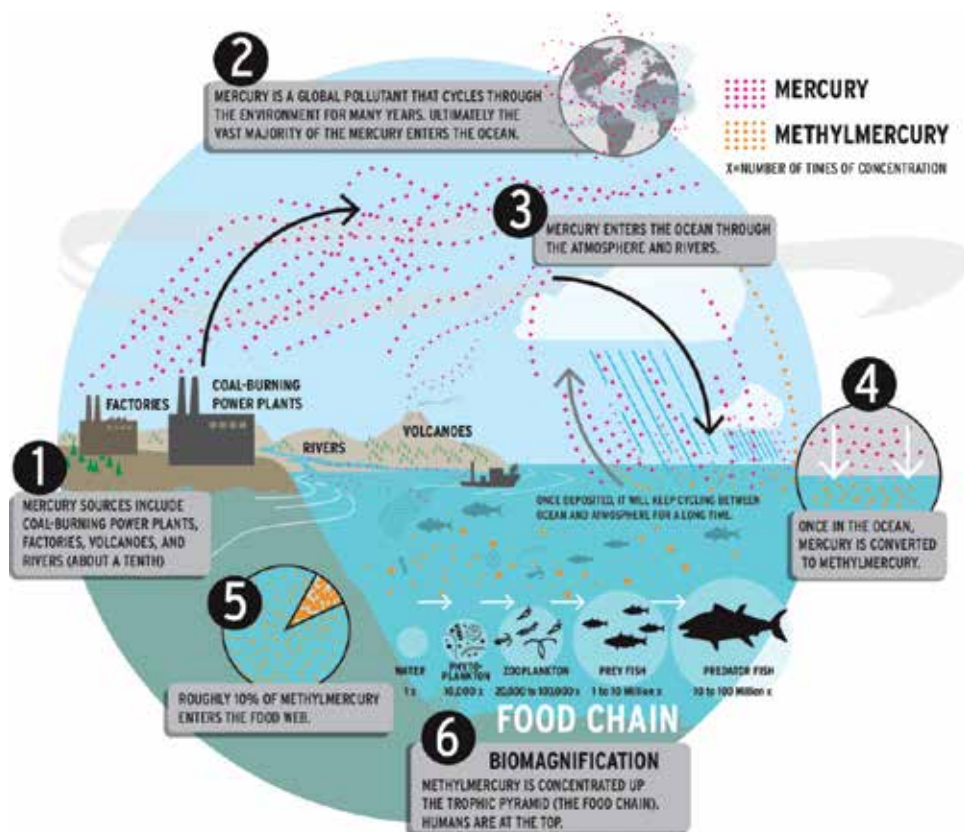
Nevertheless, additional studies and initiatives might be beneficial to

enhance our comprehension and coordination in a variety of areas, such as:

- Inventories of the nation’s consumption use, and environmental mercury discharges
- Information about mercury’s movement, change, cycling, and eventual outcome in different compartments
- Evaluation and monitoring of mercury levels in various media, including the air and air deposition, and biota, including fish, as well as any effects on humans and wildlife

Additional steps to cut back on the use of mercury-containing goods

- Product management
- Legislation and regulations
- Mercury reductions programs
- Mercury in products phase-down strategy
- Mercury product labelling
- Mercury-added product white paper
- Recycling or disposing of mercury-containing products
- Safe management and disposal of mercury-containing products
- Technology requirements for disposing of mercury-containing equipment
- Information on the national commerce and trade of mercury and mercury-containing materials
- Collaboration among nations dealing with scientific and technical issues, including mercury waste management and remediation

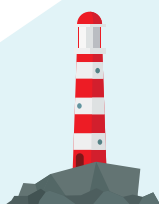
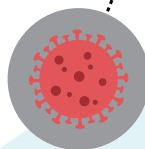


Recommendation of policy priorities and key action areas for the maritime industry

Beyond the immediate challenges of the war and the pandemic, policymakers will need to cover many fronts and keep sight of longer-term goals – promoting maritime trade while enabling sustainable and resilient transport systems.

1. Control the COVID-19 pandemic

Mitigate its impact by widening access to vaccines, testing, and therapies.



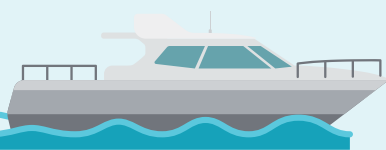
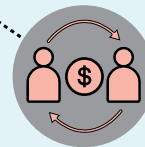
2. Strengthen macroeconomic frameworks

Promote economic growth, with accommodative fiscal stances. Alleviate the impact of shocks, tame inflation, reduce financial vulnerabilities, coordinate international debt relief, and help the most vulnerable by avoiding food insecurity and setbacks to poverty reduction.



3. Keep trade flowing

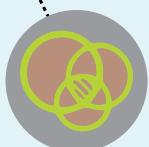
Avoid export and import restriction. Facilitate trade and streamline procedures and maintain access to finance and enforce contracts. Enable trade through multilateral and regional frameworks.





7. Reconfigure supply chains

Strike a balance between efficiency and cost on the one hand, and security, autonomy, self-reliance and resilience, on the other.



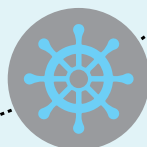
6. Build resilience

Take an integrated and proactive approach to 'resilience by design'. In particular, accelerate update of digitalisation to tap the potential of e-commerce and enable smart maritime logistics.



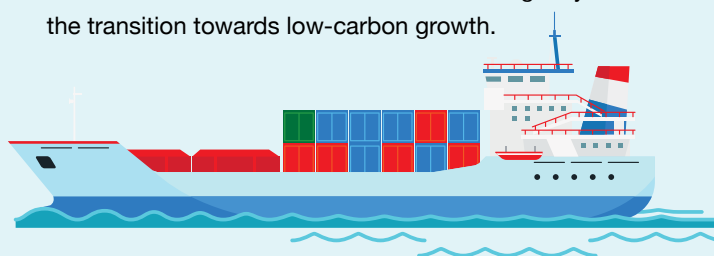
5. Cooperate multilaterally

Promote coordinated and multilateral approaches and solutions. Prevent fragmentation in the face of geopolitical risks. Coordinate action on the climate emergency and enable the transition towards low-carbon growth.



4. Help the maritime industry transition

Help companies embrace digitalisation, and advance the decarbonisation and energy transition agendas, while ensuring preparedness and resilience. Monitor trends in industry structures and services to ensure level playing fields. Ensure that the industry continues to generate value and expand its footprint without undermining smaller players, including shippers in developing countries.



BSMRMU observes National Mourning Day 2022



A delegation of Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh headed by the Vice-Chancellor Rear Admiral M Khaled Iqbal (retd) paid homage to the Father of the Nation by placing floral wreaths at the portrait of Bangabandhu Sheikh Mujibur Rahman in front of Bangabandhu Memorial Museum in Dhaka's Dhanmondi as a part of observing the 47th martyrdom anniversary of Bangabandhu and National Mourning Day-2022. After placing the floral wreath, the delegation stood there in solemn silence for some time to show their deepest respect for the great leader.

In addition, a documentary screening, a book exhibition on the life of the Father of the Nation, a painting show, a student essay reading, and a poem recital were all held at the university to commemorate the day. The Vice-Chancellor of the university Rear Admiral M Khaled Iqbal (retd) graced the occasion as the Chief Guest and Professor Dr Md. Mashiur Rahman, Vice-Chancellor of

National University, attended as the Special Guest. A special prayer was offered for the eternal peace of Bangabandhu and other members of his family martyred on 15 August 1975. Faculty members, officers, students and staff of the university were present. Prizes were distributed among the winners of essay writing, recitation, painting and quiz competition. The event was streamed live on BSMRMU's official Facebook page.

A workshop held on 'Multi Stake Holder Co-Creation Session'



On 15 September 2022, a daylong workshop on "Multi Stake Holder Co-Creation Session" was arranged by BSMRMU in partnership with NUFFIC, Netherlands. The workshop was actively participated by representatives of various ministries, government institutions, different maritime organisations and faculty members of BSMRMU. The participants discussed on various ideas and need for Academia-Industries interaction and joint collaboration on common maritime issues. The Vice-Chancellor of the university Rear Admiral M Khaled Iqbal (retd) graced the occasion as the Chief Guest. On the sidelines of the occasion, BSMRMU signed four separate Memorandums of Understanding (MoUs) on institutional collaboration with the Chittagong Chamber of Commerce and Industry, East Coast Group, Bangladesh Oceangoing Ship Owners' Association (BOGSOA), and Akij Shipping.

On the 31st Syndicate Meeting



The 31st Syndicate Meeting of BSMRMU was held on 21 July 2022 at the temporary campus of the university. The meeting was presided over by the Vice-Chancellor Rear Admiral M Khaled Iqbal (retd). A number of important academic & administrative decisions were taken like approval for additional manpower, affiliation of newly



established government Marine Academy of Barishal, Rangpur, Pabna and Sylhet. On the development ground, discussions and approval on budget for 2022-2023 and Annual Procurement Plan (2022-2023) of the university were given. Besides, the meeting approved the adaptation of UGC policy to appoint teachers as well as MoUs with National Maritime Foundation, India and Gujarat National Law University, India.

8th Senate Meeting expressed enthusiasm



The 8th Senate Meeting of the university was held at the university on 14 September 2022. The meeting was presided over by the Vice-Chancellor, Rear Admiral M Khaled Iqbal (retd), in

the presence of honourable members of the Senate. During the meeting, several important issues like the budget of the university, the 8th Annual Report, the Annual Procurement Plan, and others were discussed. The honourable senate members expressed their satisfaction on the university's gradual development. They reiterate their enthusiasm and expectation that it will create competent human resources in maritime-related fields and so aid in the development of the nation.

BSMRMU students published a wall magazine



As part of the academic curriculum of the BBA in Port Management and Logistics programme, an illustrative wall magazine was published on 24th August 2022 on the 'History

of Genesis of Bangladesh' as part of the 'History of Emergence of Bangladesh HUM 1202' course. Rear Admiral M Khaled Iqbal (retd), Vice-Chancellor, BSMRMU was present as the Chief Guest. Pictorial articles of seven historic events including the great freedom struggle are presented on the wall magazine. The Treasurer, Registrar, Dean FSA, Dean FET, Head of the Department of Port and Shipping Management and other faculty members along with the BBA 3rd Batch students were present.

Faculty of Shipping Administration organised a seminar on marine accidents investigation



Nearly every country in the world, including Bangladesh, experiences regular accidents on waterways, air routes, and other modes of transportation. There have been numerous sad mishaps in recent years that have resulted in fatalities as well as monetary losses on waterways. To prevent such occurrences from happening again in the future, it is imperative to identify the accident's true cause. In this context, a seminar titled "Analysis of Marine Accidents Investigation of Bangladesh" was held on 24 August 2022, organised by the Faculty of Shipping Administration of BSMRMU. In this seminar, Rear Admiral M Khaled Iqbal (retd), Vice-Chancellor of the university was present as the Chief Guest. Resource persons were Captain A. K. M. Shafiq Ullah, Marine Consultant, Former Director General of the Department of Shipping and Captain Mohiuddin Abdul Kadir, Marine Legal Consultant and Maritime Lawyer, Bangladesh Supreme Court. The teachers and students of the Department of Port and Shipping Management and the Department of Maritime Science were present in the seminar.

On the 36th Academic Council Meeting



The 36th Academic Council Meeting of BSMRMU was held on 28 September 2022 at the temporary campus. The Meeting was presided over by the Vice-Chancellor Rear Admiral M Khaled Iqbal (retd). At the meeting, a lot of important academic decisions were made. Decisions include an online Master's programme in port and shipping studies, committees for programme self-evaluation from all faculties, results from various exams, thesis subjects, and supervisors, as well as employment of female cadets on ships, among other things.

Connectivity, water resources, energy and robust supply chain were discussed during PM's visit to India



Bangladesh and India have agreed to work expeditiously to resolve pending issues like water-sharing agreements, water transit, joint economic partnership, maritime trade facilities, maritime defence, border security, energy supply, and road and rail connectivity during Prime Minister Sheikh Hasina's high-profile visit on 6 September 2022.

- Proposed agreements on Feni and Teesta rivers water sharing.
 - Proposed high capacity 765 KV transmission line from Bihar to Assam through Parbatipur in Bangladesh.
 - Proposed India-Bangladesh Friendship Pipeline.
 - Adding Indian Oil Corporation Ltd as a registered G2G supplier of refined petroleum products to Bangladesh.
- Explore direct shipping links between the two countries. Full operationalisation on the agreement to use the Chittagong and Mongla Ports.
 - Implementation of the decision to start riverine services under the Protocol on Inland Water Transit and Trade routes 5 & 6 (Dhulian to Rajshahi -extension to Aricha) and 9 & 10 (Daudkandi to Sonamura).
 - India requested Bangladesh to complete the remaining infrastructure, immigration, and customs facilities for the operationalisation of the Maitri Bridge over River Feni, connecting Tripura with Bangladesh, at an early date.
 - Both sides agreed to work towards bringing the border killing number down to zero and directed officials to complete all pending developmental works within 150 yards of the Zero Line, including fencing starting with the Tripura sector to maintain a tranquil and crime-free border.
 - New Delhi requested Dhaka for implementing the 2019 MoU for providing a coastal radar system for greater maritime security at an early date.

Chittagong – Colombo Direct Shipping Service



Foreign Affairs Minister AK Abdul Momen has called for introducing regular commercial and cruise shipping services between Chittagong and Colombo ports to enhance trade and tourism between the two countries.

He also underscored the necessity of affordable air ticket prices with enhanced air connectivity in participation with more airlines of Bangladesh and Sri Lanka.

These issues were discussed when he went to attend the 5th BIMSTEC Summit in Sri Lanka and paid a courtesy call to Sri Lankan President Gotabaya Rajapaksa at the Presidential Palace in Colombo on 19 July 2022.

Both sides also agreed to expedite and complete the negotiations and approval process of pending bilateral instruments for the greater benefit of the people of the two countries and to increase bilateral engagements.

Rajapaksa thanked Bangladesh for its continued support in various multilateral forums and both sides further agreed to closely work together in the future. The Foreign Affairs Minister reiterated his request for the continued support of Sri Lanka for the immediate repatriation of forcibly displaced Myanmar nationals to their home country with safety and dignity.

Hundreds of dead jellyfish found on Cox's Bazar Beach



Hundreds of dead jellyfish weighing 10-15 kilograms have been spotted washing up ashore on Cox's Bazar Beach in Bangladesh since a government-imposed fishing ban ended in the Bay of Bengal. The unusual deaths of sea creatures in such big numbers have raised concerns among experts and officials.

Following the 65-day ban on fishing, which was aimed at ensuring a safe environment for fish during their breeding season, more than 4,000 fishing boats have entered the sea since 23 July to catch fish such as hilsa. Some local observers suspect that the sea creatures got caught in the fishing nets in the deep sea and died and floated to the beach.

Recently, a number of deep-sea whales and dolphins were found dead onshore, which means the Bay of Bengal is being highly polluted. Such pollution is also an increasing threat to the country's "Blue Economy" policy, which offers the country huge prospects and potential.

A ministry dedicated to the blue economy is proposed to tap potential



State Minister for Planning Shamsul Alam on 21 July proposed creating a new authority – either a ministry or a division under a ministry – to help dedicatedly tap the potential of the blue economy.

Though the country's maritime disputes were settled in 2014, the private sector is not coming up with investment focusing on the immense associated potentials, including fishing, shipping, mineral resources and marine food and tourism, he said.

Alam was addressing a seminar titled "Blue Economy and Maritime Security: Bangladesh Perspective" organised by the Bangladesh Institute of International and Strategic Studies (BISS) on its premises.

While small boats are now the prime mode for fishing, fish of higher economic value can be caught at deep sea but this potential is largely untapped, said Khurshed Alam, secretary (maritime affairs) to the foreign ministry.

Given Bangladesh's location and international trade, shipping holds enormous potential. As a deep-sea port is in the offing in Bangladesh, it is high time for the private sector to make new investments, he said.

It is crucial to conduct comprehensive studies on different sectors of the blue economy and draw investments, said Khurshed Alam.

The Bay of Bengal may become a theatre of great power games in the future with changes in global geopolitics, said Prof Delwar Hossain of the Department of International Relations at the University of Dhaka.

Bangladesh is equipped to fish within just 60 square kilometres off the coast whereas it has exclusive rights to about 118,813 square kilometres. Bangladesh's share in global fish production is limited to only 2.6 per cent while its oceanic economic zone is equal to 81 per cent of its mainland, states the BISS.

In his recent budget speech in parliament, Finance Minister AHM Mustafa Kamal announced a "Pilot Project on Tuna and Similar Pelagic Fishing in the Deep Sea".

Prof Dr Abul Kalam Azad of the Jahangirnagar University, BISS Chairman Kazi Imtiaz Hossain, Director General Mohammad Maksudur Rahman, Research Director Dr Mahfuz Kabir and research fellow Moutusi Islam also spoke.

Bangladesh co-hosts seminar on the blue economy in Lisbon

Bangladesh along with some other countries co-hosted the side event titled 'Fostering international and regional cooperation in support of the sustainable development of the blue economy in LDCs, LLDCs and SIDS' organised by the International Seabed Authority on June 29 of the 2nd UN Ocean Conference in Lisbon, Portugal.

The foreign affairs ministry's maritime affairs unit secretary Rear Admiral Md Khurshed Alam (retd) co-chaired the panel discussions.

In his delivery, Khurshed Alam remarked that oceans and seas are the potential and versatile resource frontiers for humankind, which remained under-explored and unexploited.

Through a blue economy approach, humankind can harness untapped resources that can be useful in tackling poverty, food insecurity, unemployment, energy crisis and ecological imbalances towards strengthening the sustainable development process, he said.

He emphasised the need for fostering international and regional cooperation to develop strategies in support of the sustainable development of the blue economy in LDCs (Least Developed Countries), LLDCs (Landlocked Developing Countries) and SIDS (Small Island Developing States).

Panelists opined that regional and international cooperation is crucial to develop marine scientific knowledge and research capacity to leverage the benefits offered by the blue economy, said the release.

They remarked that the transfer of technology could create enabling conditions in the LDCs, LLDCs and SIDS to participate effectively in existing and emerging ocean sectors of the blue economy.

Representatives also viewed strongly that strategic partnership was necessary for harnessing the benefits of the blue economy.

The seminar concluded with commitments to forging wider regional and international cooperation, devising a mechanism for technology transfer and financing the blue economy.



Bangladesh government decides to build two more LNG-import terminals

One goes to local cynosure Summit Group and another to US firm Excelerate Energy's share under deals sans tender as the Bangladesh government decides to build two more LNG-import terminals on the bay.

One of the floating liquefied natural gas (LNG) import terminals will be built at Moheskhal island in Cox's Bazar and the other at Payra in Patuakhali, as the country now heavily banks on LNG import to cater to growing gas needs against slowing local production.

Bangladesh initiated importing LNG in August 2018, in the wake of a stalemate in prospective gas exploration in the country's onshore and offshore hydrocarbon turfs.

Bangladesh has a 15-year contract with Qatargas to import around 2.5-million-tonne-per-year LNG, at a 12.65-per cent slope of the three-month average Brent price plus a 50-cent constant.

A similar contract also stands with Oman's Oman Trading International (OTI) for 10 years at an 11.9-per cent Brent slope plus 40 cents.

Bangladesh plans to set up three more marine academies: State Minister for Shipping



State Minister for Shipping Khalid Mahmud Chowdhury said the government has the plan to set up three more marine academies in the country

aiming to develop skilled manpower for operating commercial ships.

The state minister said this while attending a meeting on development, financial and administration affairs of Bangladesh Marine Academies located at Chattogram, Barishal, Rangpur, Sylhet and Pabna held at the ministry's conference room in Dhaka on 5 September 2022.

"We will develop skilled sailors as the country has ample scope to produce expert sailors and it will help us to earn huge foreign currency," said the state minister who chaired the meeting.

The meeting also discussed various things including land requisition, manpower appointment, budget, and simulator purchase of the four new marine academies.

A total of 359 marine cadets who have passed from the 54th batch of the Bangladesh Marine Academy have already been recruited by local and foreign ships, he said, adding "the female cadets have also got appointments in the US, Australia, and Singaporean ships."

There was only one marine academy in Chattogram, now the country has five marine academies. Affiliated by Bangabandhu Sheikh Mujibur Rahman Maritime University, the new four other marine academies are Barishal, Rangpur, Sylhet, and Pabna.

The ministry's high officials including Secretary of the Shipping Ministry M Mostafa Kamal and Commandants of the marine academy, among others, attended the function through the zoom platform.

Mongla Port sees huge activities after the inauguration of Padma Bridge

Mongla Port, the country's second-largest seaport, has seen huge activities during the last three months, after the inauguration of the Padma Bridge.

Huge pieces of machinery, equipment, raw materials of some mega projects including Rooppur Nuclear Power Plant, Rampal Power Plant, metro rail, Bangabandhu and Khanjahan Ali railway bridges and huge imported cars have so far been unloaded through the Port during the last three months. Huge readymade garment items, shrimp, vegetables, fruits and other items have already been exported during the last two months through this port.

Chairman of the Mongla Port Authority Rear Admiral Mohammad Musa said that the government has taken many initiatives to enhance the ability of the Mongla Port.

"The port sees the arrival of a record number of foreign ships due to the intervention of Prime Minister Sheikh Hasina, special directives from the Shipping Ministry, cooperation by Mongla Port users and hard work by the employees of the organization," he said.

The number of foreign ships in the port has been increasing day by day after the inauguration of the Padma Bridge and industrialization boosted the area centring Padma Bridge, Mongla Port and Rampal Power Plant. Investors are importing different production materials like machinery, cement clinkers, cars, fertilisers and equipment for industrialization, he added.

Bangladesh to lose USD 570m every year due to climate change: World Bank report

Because of climate change, cyclone-induced flooding could cause damages worth USD 570 million across coastal areas every year in future, said a new World Bank report released on 12 September 2022.

The report, "Bangladesh: Enhancing Coastal Resilience in a Changing Climate", analysed the effects of a 0.5-metre rise in sea level, which is "equivalent to the conditions likely to occur in the second half of this century".

In that event, Hatiya and Subarnachar upazilas in Noakhali; Mirsharai, Bakalia, Chandgaon, Hathazari and Sandwip upazilas in Chattogram; Galachipa in Patuakhali; Amtali in Barguna, Char Fasson in Bhola and eight other upazilas across Satkhira, Cox's Bazar, Khulna and Bagerhat will each experience yearly damages of at least USD 25 million.

According to the report, these are the upazilas that will be hardest hit by a half-metre rise. Of them, the worst affected will be Galachipa, Amtali and Char Fasson.

In the report, there are three categories of floods brought on by cyclones, based on their magnitude. A 10-year cyclone flood event is likely to occur once every 10 years; a 25-year flood once every 25 years; and a 100-year one occurs once every century.

On observing World Maritime Day 2022



World Maritime Day 2022 was observed in the country on 28 September as elsewhere in the world with the theme 'New Technologies for Greener Shipping'.

The Department of Shipping of the Ministry of Shipping of Bangladesh arranged a high-level seminar at

InterContinental Dhaka where Law Minister Anisul Huq, State Minister for Shipping Khalid Mahmud Chowdhury, Major Rafiqul Islam (retd) Bir Uttam and other stakeholders and experts, among others, took part.

The speakers emphasised the UN's Sustainable Development Goals, particularly SDG 13 and SDG14 on the sustainable use of climate, oceans, seas and marine resources.

Law Minister Anisul Huq said: "The faster we can properly adapt to environment-friendly technologies; the sooner our maritime sector will flourish."

State Minister for Shipping Khalid Mahmud Chowdhury said: "Like the other sectors the maritime sector is advancing rapidly under the leadership of Prime Minister Sheikh Hasina. The growth of Chittagong port is almost twice the national growth. To meet growing demand, several multi-billion dollar projects have been launched, including the construction of new jetties and terminals, the construction of deep-sea ports, etc. Bangladesh is now being compared to countries like China, Japan and South Korea due to its shipbuilding potential."

In 1948, the International Maritime Organisation (IMO) was founded to oversee the shipping sector. The IMO upholds a thorough structure that covers technological collaboration, environmental regulation, legal recourse and safety for every member of its workforce.

The first World Maritime Day was observed on 17 March 1978 to commemorate the day on which the IMO Convention came into effect.

Government is working to phase out single-use plastic in coastal areas: Environment minister

The Minister of Environment, Forest and Climate Change Md Shahab Uddin said the government has endorsed a roadmap through a gazette notification to phase out single-use plastic in coastal areas.

"The government of Bangladesh has also finalised 'Towards a Multisectoral Action Plan for Sustainable Plastic Management in Bangladesh'. 'The National Action Plan for Sustainable Plastic Management' has focused on the circular use of plastic, based on a 3R strategy: Reduce, Reuse, Recycle. This will help to create new value chains, skills, innovative products and green jobs while addressing social and environmental challenges," the minister said speaking as the chief guest at the National Stakeholder Consultation Workshop on Plastic Free Rivers and Seas for South Asia (PLEASE) Project on 8 September 2022.

"Government has proactively responded to this challenge by formulating a number of legislations, rules, regulations and policies. The 8th Five Year Plan has focused on improving solid waste management," he added.

Secretary of the Ministry of Environment, Forest and Climate Change Dr Farhina Ahmed presided over the function. Deputy Minister Ministry of Environment, Forest and Climate Change Habibun Nahar were present as the special guest.

Bengal Water Machine: Bangladesh basin offers a nature-based solution that rivals the world's largest dams

A group of researchers have empirically identified a nature-based solution, described as the Bengal Water Machine, to seasonal freshwater storage capture that rivals the world's largest dams. The study showed that the collective operation of around 16 million smallholder farmers in the Bengal Basin of Bangladesh from 1988 to 2018 has induced cumulative freshwater capture which is 75 to 90 cubic kilometres in volume, or equivalent to twice the reservoir capacity of the Three Gorges Dam in China.

In 1975, researchers R Revelle and V Lakshminarayana proposed an alternative solution to freshwater storage in the River Ganges Basin in which incremental increases in dry-season groundwater pump for irrigation near river channels lower groundwater levels and enhance leakage under the gravity of river flow during the subsequent monsoon. Dubbed the Ganges Water Machine, this intervention seeks to increase the capture and storage of seasonal freshwater surpluses while mitigating the monsoonal flood risk.

The latest study, published in Science magazine on Sept 16, extended the concept of freshwater capture of monsoonal flows beyond perennial rivers to include a range of surface waters, such as ponds, canals, and seasonal rivers, diffuse recharge through enhanced local drainage, and irrigation return flows in the Bengal Basin. The researchers described this broader set of recharge pathways induced by dry-season groundwater pumping as the Bengal Water Machine, or BWM. Evidence of its operation in the Bengal Basin of Bangladesh has been noted previously where amplification of seasonal groundwater recharge occurs as a consequence of dry-season groundwater-fed irrigation for rice cultivation. The new analysis shows how the collective action of millions of smallholder farmers abstracting shallow groundwater to irrigate a dry-season rice crop in a tropical alluvial plain has achieved freshwater capture that rivals the world's largest dams. In doing so, the study confirmed the vision of this nature-based solution to seasonal freshwater capture, following a broader set of pathways than first proposed in Science in 1975 by Revelle and Lakshminarayana.

The researchers who authored the study are Mohammad Shamsudduha, Richard G Taylor and Md Izazul Haq of University College London, Sara Nowreen of Bangladesh University of Engineering and Technology, Anwar Zahid of Bangladesh Water Development Board and Kazi Matin Uddin Ahmed of Dhaka University.

Understanding the dynamics of marine insurance

Md. Mostafa Aziz Shaheen

People were concerned about the cost of automobile insurance; imagine how ship owners felt!

Consider how much money they will need to pay for ships' insurance. However, this is an unavoidable expense. These expenses are for the protection of the ship's hull and machinery. The good thing about this insurance is that the ship owner knows what the costs will be and can plan for them. But when a ship is at sea, carrying cargo, and doing all of these other things, the ship's owners are exposed to a number of claims.

For instance, a port may assert that the ship damaged its fenders or a buoy during berthing or, the port can assert that the ship polluted its waterways. Also included are all allegations that can be made against the ship owner. There are a variety of additional claim types. Some are logical, and some are illogical. But ship owners must ensure that they are covered for all of these.

How do Protection and Indemnity (P&I) clubs function within marine insurance?

There are three general categories of maritime insurance.

- Insurance for the Ship (Hull and Machinery)
- Marine freight insurance (taken by the shipper)
- Protection against third-party claims

Hull and Machinery Insurance

Hull and Machinery (H&M) underwriters provide protection for the hull and machinery of the ship. This type of marine insurance is the oldest and most fundamental. This policy covers damage to the hull and machinery of the ship. In H&M insurance contracts, ship owners only have to follow a few rules.

For instance, the H&M policy includes the International Navigation Limits that show where ships can trade without having to pay a surcharge.

As another illustration, H&M policy prohibits ships from proceeding to war zones without telling H&M underwriters. Again, this is due to the elevated risk posed by these places.

Cargo insurance

The shipment was shipped by the shipper, but it was destroyed in transit. Can the shipper demand payment from the ship owner or carrier for all costs?

Here, understanding 'Hague-Visby regulations' gives the ship owner various protections. So, if these defences apply to a case, the shipper would have nobody to claim these damages from. The shipper insures the cargo at each leg of the voyage for this reason.

Protection and Indemnity (P&I) Insurance

Third-party claims against ship owners are covered under P&I insurance. Ship owners provide the service of carrying the cargo of the shipper. A ship owner may be susceptible to a variety of third-party claims when providing this service. Some of these claims could be that the ship caused damage to the jetty, polluted the water, or was fined by the government. All of these third-party claims must be insured by ship owners. All of these claims are insured by P&I clubs on behalf of ship owners.

Why P&I clubs?

Before the 1800s, the term "marine insurance" only meant protecting a ship's hull and machinery. During that period, the majority of ships were sailing vessels. The chances of collision between two sailing vessels were less. As more and more steamships entered the water, however, the likelihood of ship collisions rose. This heightened risk caused underwriters to be concerned. In the event of a collision between two vessels, H&M insurers must cover not only the damage to the insured vessel but also the damage to the other vessel if the insured vessel was at fault. To take care of part of this risk, they introduced a clause in their policies.

This provision was referred to as the "3/4ths Collision Clause" or the "Running Down Clause." In the event of an accident, the insurers will pay out no more than three-quarters of the ship owners' total claims or liabilities.

Even current Hull & Machinery policies contain this clause. As an illustration, there has been a collision between two ships. The H&M insurance of both ships will look at the investigation into the crash to figure out who was at fault.

Consider that the liability was determined as follows:

Ship A: 70% of the blame for the collision

Ship B: 30% of the blame for the collision

The following are the repair expenses for both ships:

Vessel A: USD 100,000

Vessel B: USD 250,000

USD 350,000 in total costs for repairs


Both ships will be liable for damages.


Ship A: USD 245,000 (70% of total costs).

Ship B: USD 105,000 (30% of total costs).


Consequently, ship A must pay USD 145,000 to ship B in addition to the USD 100,000 in damages to its ship, which will be covered by

MARINE INSURANCE

 Covers damage to ship due to any mishap like crash, collision or piracy attacks

 Provides coverage to cargo against any damage, loss or misplacement

 Covers the loss of freight

 Covers life of crew members and others on ship



WHAT IS NOT COVERED UNDER MARINE INSURANCE?


 Delivery issues

 Renovation & repairs

 Bad quality goods

 Intentional loss

 Personal insolvency

 Wars and situations

H&M insurance. In accordance with the 3/4ths Collision Clause, the H&M insurance company will only pay 3/4 of the total cost. Thus, the amount due by H&M insurance is USD 108,750 and USD 36,250 is due from the ship owner. The ship owners desired to insure this additional amount without incurring a substantial premium increase. This additional premium was necessary for ship owners to obtain this 1/4th liability coverage. Ship owners desire to avoid this in many cases. This led to the creation of P&I clubs, which were based on the idea of pooling or sharing risks. Over time, the P&I clubs started covering a wider range of risks that ship owners faced in the course of their business.

How do P&I clubs operate?

Generally, non-profit organisations operate P&I clubs. It is the club of ship owners that acts as both an assurer and an insurer. P&I clubs operate based on the premise of risk sharing and pooling.

Imagine that ten ship owners form a club to share each other's risks. Each of these ten ship owners has a ship of the same type, size, and worth. One ship had a USD 1,000 third-party claim to settle at the end of the year. Each of the ten ship owners will receive an equal portion of the USD 1,000 claim. Consequently, each ship owner would contribute USD 100 to settle this lawsuit. This means that for just USD 100, each ship owner was able to cover the risk of third-party claims. This is the fundamental tenet of how P&I clubs operate. In a more realistic situation, the P&I club can't ask each owner for a contribution only when a claim needs to be paid. To avoid delivery delays, a claim for USD 1,000, for instance, would have to be paid immediately. This means that the P&I club's account must include sufficient funds to pay for third-party claims. P&I clubs establish a fund to which ship owners are asked to contribute,

- when a new ship owner joins the club or
- when the fund money goes down because of the settled claims or/and
- annually or as per the rules of the P&I Club

All of these demands to ship owners for payment are referred to as 'calls'. So, these may be,

- Advance calls (paid when a ship owner joins the club or at the beginning of the year)
- Supplementary calls (paid when the funds have gone down because of claims paid)
- Release calls (to settle the account of a ship that is sold, scrapped, or the ship owner leaves the P&I club)

Deductibles:

Deductibles are a standard feature of all types of insurance policies. A deductible is a predetermined amount that is subtracted from the insured loss. Suppose, a P&I club has set a deductible for claims resulting from jetty damage at USD 5,000. Now, if the amount of the claim against the ship owners for one of these incidents is USD 30,000, the P&I club would then pay USD 25,000 for this claim after deducting the USD 5,000 deductible.

Deductible has two functions.

- It discourages ship owners from submitting small claims.
- It ensures ship owners have a heightened interest in reducing casualties and claims.

Now consider this from the point of view of a ship owner who just bought a ship and needs to join a P&I club.



An entry by a new ship owner into the club

All risks associated with the operation of a ship must be insured by the ship owner. In addition to H&M insurance, membership in a P&I club is essential. So, the ship owner would first talk to a P&I club about having his ship join the club. Before deciding whether or not to admit this ship owner and this vessel, a P&I club will evaluate all relevant factors. The club would consider a number of variables, including:

- Suitability of the cargo spaces for the intended cargo
- Proficiency of the crew
- Previous track record of the ship owner and/or ship managers
- Standards of classification society

Once the club determines that the ship is eligible for coverage, the terms of the club's coverage would be sent to the ship's owner. Included in the specifics would be the call rate (the call rate is provided per gross tons) and deductibles for each risk level. Upon agreement, the ship owner will pay the 'advance call,' and the P&I club will issue the 'certificate of entry' to the ship owner.

Finance of a P&I club

Incomes

As previously mentioned, a P&I club maintains a fund with a pre-set sum that is used to settle claims. This fund is managed by the P&I club, which gets money from its members in the form of advance calls and extra calls. Some of this money is also invested in order to generate a profit, which is then reinvested into the fund. All of this contributes to the club's profits.

Thus, the revenue portion of a P&I club consists of:

- The annual contribution from the members
- The contribution of new members or vessels joining the club
- Profit or interest earned on the fund's investments

Expenditures

It is too evident to assert that P&I clubs will incur a great deal of expense. The bulk of which is allocated to the settlement of claims against its members. Aside from this, another expense of P&I clubs is the cost of running the club's administration. The costs associated with management might include personnel pay, office rent, etc. Some of its risks are reinsured by P&I clubs. These reinsurance costs are also categorised as expenditures.

Thus, the spending section consists of:

- Payments made as claim settlements,
- Management costs
- Reinsurance costs

Income and expenses in balance

Once the incomes and expenditures are determined, the balances are just a matter of addition and subtraction. At the conclusion of the year, each ship owner contributes the difference between the agreed-upon sum and the amount needed to sustain the fund. The contribution made by a ship owner is equal to the 'call rate' multiplied by the total gross tonnage of his P&I-insured ships. Various ship owners and vessels would be charged different rates for port calls. The call rate for a ship owner is influenced by variables, including

- history of claims of the ship owners,
- the age of the ship,



International Group of P&I Clubs

- crew proficiency and knowledge, and
- trading patterns of the ship

International Group of P&I Clubs

The International Group of P&I Clubs exists to arrange collective insurance and reinsurance for P&I clubs, to represent the views of ship owners and charterers who belong to those clubs on matters of concern to the shipping industry, and to provide a forum for the exchange of information. This is a group of 13 P&I clubs. All these P&I clubs are bound by an agreement called the 'International Group Agreement'. The group collectively offers liability insurance for more than 95% of all ocean-going tankers and more than 90% of all ocean-going tonnage.

This organisation's objective is to

- set the rules of engagement and cooperation between the clubs,
- offer a unique and important place for sharing information about things that clubs and their members care about, and
- provide a pooling agreement between clubs for claims exceeding USD 10 million.

So, if a claim is worth more than USD 10 million, the extra money will be split among the teams in this group. As this is a huge group, it allows the group to economically share the large claims.

It is normal practice for marine experts to interact with P&I club correspondents. When there is a claim or an incident, they are asked to call for the attendance of P&I club representatives. Dealing with these issues becomes simple if we understand how the P&I club operates and, more significantly, if we know that they are on our side. This makes knowledge about the functioning of P&I clubs so important.

The write-up is prepared with the website assistance of myseatime, Gard, International Group of P&I Clubs.

Md. Mostafa Aziz Shaheen

A former mariner and a faculty of port and shipping management in BSMRMU

Importance of cross-country maritime collaboration for more remarkable outcomes

Over 70% of the Earth's surface is covered by oceans and seas, making our globe blue. We are fed by the oceans, which also control our temperature and produce most of the oxygen we breathe. In addition to these facts, the sea is also essential to the global economy. It provides work for millions of people and is used for over 90% of trade routes. "The rise of maritime trade and its correlation with the development of colonial powers like the British, Portuguese or Dutch" proves that maritime trade & exploration is one of the biggest reasons, if not the biggest one, behind the rise of the countries which we call the developed countries nowadays.

The ever-growing demand for resources, continuous search for new ways to reduce carbon footprint and gradual depletion of resources found on the land Etc., are the reasons behind ocean exploration and extraction of resources from seas becoming far more important than before. For developing countries like Bangladesh, it's vital to extend the capabilities to explore the oceans they possess under national borders and extract resources to meet the needs of the enormous population and give the economy an edge over global competition. But, this task is easier discussed than done. There are various barriers related to exploring and extracting resources from the seas. Ocean exploration alone can cause expenses without factual findings from the research teams. For example, Research Ships are essential for improving marine science but come with huge costs connected to their operation. According to a report released by UNESCO last year, operating costs for ocean research vessels range from USD10,000 to more than USD40,000 per day. These charges can be a significant barrier for developing nations. Besides, lack of safety & security, unwillingness, insufficient skilled human resources and unavailability of initial data & information hinder the growth of the maritime sector.

Cross-country collaboration can be a great way to overcome these barriers and enter into the revolutionary era of Maritime Advancement. International Cooperation with foreign maritime developing nations, including the signing of Agreements/MoU for bilateral cooperation in the Maritime sector, holding of regular Joint Working Group meetings and negotiations with international trade and development blocks for overall Maritime Advancement can provide developing countries with chances of taking their masterplan for maritime excellence to the next level. The International Maritime Organization (IMO) is responsible for creating worldwide standards for shipping safety, security, and environmental performance. It ensures that these standards are just and practical and widely accepted and put into practice. But for developing nations, more than the direct cooperation that the IMO provides can be required in particular situations because the set of standards that they set depends upon the global context rather than focusing on a specific region. Also, pursuing IMO for an individual country's needs can often be rigorous and time-consuming. As a result, cross-country collaboration can be a great way of overcoming

the barriers together in a short amount of time and pursuing the set of standards settled by IMO later on.

Agreement on coastal shipping between Bangladesh and India, an MoU between India and Bangladesh on the development of a fairway from Sirajganj to Daikhowa and Ashuganj to Zakiganj on Indo-Bangladesh protocol route, an MoU between India and Bangladesh on passenger and cruise services on the coastal and protocol routes, an MoU relating to the use of Chittagong and Mongla ports for movement of goods to and from India are great examples of cross-country collaborations. These agreements can be an excellent boost for the regional economy if appropriately implemented. Further cooperation on marine research and exploration of resources from the sea can benefit developing countries like Bangladesh and India as it will be an excellent way of sharing knowledge and information safely and soundly.

National security concerns, complexities related to changes in foreign policy, and global tensions might act as the barricade to a cross-country collaboration. With the help of global governing bodies like the United Nations, the International Maritime Organisation, International Court of Justice, national security concerns can be dissolved. Nations must be self-concerned about the better outcomes that might come after the hurdle and develop human resources to address better the barriers related to cross-country collaboration between developing countries. Cross-country collaboration can provide a massive opportunity for various stakeholders to jointly harness ocean resources and tackle the global challenges facing the marine industry.

It is indeed an urgent need for the Bay of Bengal littorals to seek the advancement of marine science and protect the marine environment by fostering the sustainable development of the global maritime sector of developing countries.

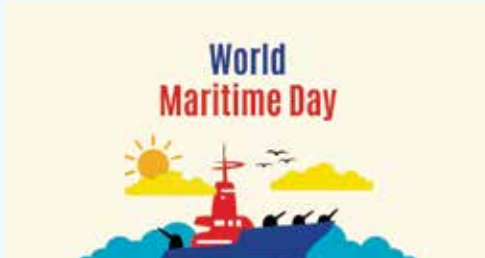
Rakib Rahman

Student

Bachelor in Business Administration in Port Management & Logistics
Department of Port & Shipping Management
BSMRMU



World Maritime Day 2022: Know history, significance and theme



Every year on the final Thursday in September, which falls on the 29th of this year, people around the world commemorate

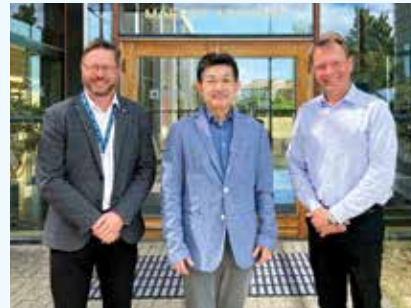
World Maritime Day to recognise the hard work of those who work in the maritime industry. The English term 'maritime' originates from the Latin word 'maritimus,' which means 'of the sea.'

In 1948, the International Maritime Organisation (IMO) was founded to oversee the shipping sector. The IMO upholds a thorough structure that covers technological collaboration, environmental regulation, legal recourse, and safety for every member of its workforce. The first World Maritime Day was observed on 17 March 1978 to commemorate the day on which the IMO Convention came into effect.

One of the IMO's top priorities for the upcoming years is the promotion of sustainable shipping and marine development. Therefore, the development and implementation of international standards covering several issues will support IMO's commitment to providing the institutional framework required for a green and sustainable global maritime transportation system.

The theme for this year is 'New technologies for greener shipping'. The need to promote a green transition of the maritime industry into a sustainable future while leaving no one behind is reflected in this year's theme for the day. It offers a chance to concentrate on the significance of a sustainable maritime industry and the necessity to rebuild better and more sustainably in a post-pandemic world.

ClassNK Signed MOU with Maersk Training A/S for offshore wind personnel and alternative fuel seafarer education



ClassNK has signed an MOU (Memorandum of Understanding) with Maersk Training A/S regarding training for offshore wind farm operators and education for alternative fuel ship crews.

With the signing of the MOU, the two parties will cooperate proactively towards enabling high-quality training which satisfies the international standards to be provided and thus a competent local labour force to be supplied to the growing offshore wind industry in Japan as well as in the APAC region. Based on its expertise and experience in ships' survey and certification, ClassNK will work with Maersk Training to develop a set of guidelines including the safety of boat transfer, which is one of the most frequent HSE risks across the offshore wind sector. Furthermore, research will be carried out on seafarer training for ammonia-fueled vessels jointly.

Maersk Training is an international industry leader in developing competencies and increasing skills, with over 16 locations worldwide. It is a part of the A.P. Moller Maersk Group, a Danish shipping giant with over 100 years in ocean and inland freight transportation and associated services.

ClassNK has already been providing certification services to the maritime training sector to fulfil its mission to provide support to the ever-changing needs of the maritime industry to ensure the safety of life at sea and to promote the protection of the marine environment.

India, UK sign MoU on mutual recognition of educational qualifications



India and the United Kingdom on 21 July signed a Memorandum of Understanding (MoU) on Mutual Recognition of Educational Qualifications including maritime. Under the MoU, the agreements aim to facilitate closer alignment on education between India and the UK as well as enhance short-term bilateral mobility and ensure mutual recognition of qualifications.

This MoU provides for mutual recognition of educational qualifications and duration of study undertaken by students within duly approved and recognised higher education institutions in the two countries.

On a reciprocal basis, Indian Senior Secondary School/Pre-University Certificates will be considered suitable for entry into UK higher education institutions. Similarly, the Bachelor's degree, Master's degree and Doctoral degree of India and the UK will also be considered equivalent to each other.

Apart from encouraging student mobility, the mutual recognition of qualifications would also promote excellence in higher education through cooperation, and academic and research exchanges.

This MoU paves the way for the two governments to mutually recognise the certificates of maritime education and training, competency and endorsements of seafarers issued by each other. It will also be beneficial for the employment of seafarers of both countries and would make them eligible for employment on ships of either party.

PIL launches initiatives to enhance efficiency and safety



Pacific International Lines (PIL) launched two new initiatives on 15 July to enhance its operational efficiencies and strengthen the capabilities of its sea crew in navigation safety.

The first initiative launched is the opening of its new

Centre for Maritime Efficiency (CME). The key role of CME is to enable PIL to grow its competencies in managing ship and fleet energy-efficiency performance as part of PIL's commitment to lowering its carbon footprint.

With the safety and security of its people as a top priority, PIL inked a Memorandum of Understanding (MoU) with Singapore Polytechnic's Centre of Excellence in Maritime Safety (CEMS) to collaborate on a 'Training with Technology' project.

PIL and CEMS will jointly explore the effectiveness of using immersive, simulation and remote technology to deliver safety-related and ship navigation training in demanding traffic and sea states. The data and knowledge collected from this project will be utilised for research and collaboration between the two partners towards the objective of strengthening the standards of maritime safety.

Maritime cadets urged to embrace social cohesion over digital remoteness



Maritime cadets attending a Sailors' Society Wellness at Sea conference were exhorted to embrace social cohesion over digital remoteness onboard, to meet the mental challenges of a sea career.

Former master and Indian Maritime University (IMU) campus director Captain Subroto Khan shared his experiences of life at sea on crude and chemical carriers of various sizes across the globe.

In his address to more than 1,600 cadets from 21 Indian and Sri Lanka maritime colleges – attending the first of the charity's 2022 global online wellness and mental health conference series – he urged trainees to ensure they did as much as possible themselves to become mentally prepared for their life onboard once graduating. That could mean embracing the routine of socialising within a multinational crew, keeping healthy with exercise, being aware of the dangers of fatigue, and learning how to recognise the tell-tale signs of stress 'creeping into your wellbeing'. He also said some 'age-old shipboard practices' now fading away, such as the 'smoke room culture' where the crew met in the evenings to socialise in their leisure time, had traditionally helped to ensure mental wellbeing. They were now being replaced with more time alone as the crew preferred to spend time on their electronic devices during their leisure.

KDI to deliver simulation suite to Maritime Industry Authority in the Philippines



The Maritime Industry Authority in the Philippines (MARINA) will roll out Kongsberg Digital's (KDI) simulation technology for research,

operations, and training to increase the knowledge and competency of its workforce.

Under the recently signed Memorandum of Understanding (MoU), Kongsberg Digital will deliver its suite of simulation systems to MARINA. The solutions provide efficient and realistic training for maritime students and crew, building vital skills, and promoting safety, cost-efficiency, and sustainability in operations at sea.

This MoU aims to contribute towards the realisation of the Maritime Industry Development Plan (MIDP) through the use of innovative and modern simulation technologies and the two partners will cooperate in several areas.

India's first manned ocean mission 'Samudrayaan' to send humans in 6 km ocean depth



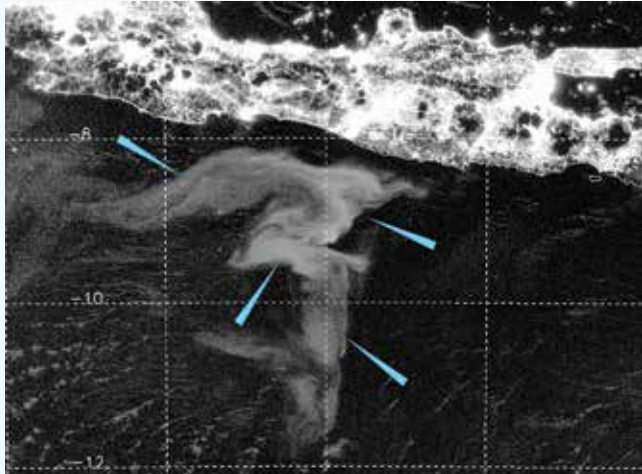
India's first manned ocean mission was launched by the Ministry of Earth Sciences (MoES). As part of the mission, a self-propelled manned submersible viz

'MATSYA 6000' is being developed to carry 3 human beings to a water depth of 6,000 meters in the ocean with a suite of scientific sensors and tools for deep ocean exploration.

Other state-of-art instruments for underwater exploration by NIOT include an Autonomous Coring System (ACS), Autonomous Underwater Vehicle (AUV) and Deep Sea Mining System (DSM) for the exploration of the deep sea.

The Indian government had approved the Deep Ocean Mission (DOM) to be implemented under the aegis of the Ministry of Earth Sciences. With an emphasis on the development of deep-sea technology, the Deep Ocean Mission consists of the development of a manned Submersible rated for 6,000-metre water depth along with technologies for deep-sea mining, exploration of deep-sea mineral resources, and marine biodiversity.

First images of mysterious ‘Milky Seas’ captured



After spending decades searching for evidence of a rare marine phenomenon called the “milky seas,” an atmospheric scientist at Colorado State University finally got to see in-person photos of the event.

Milky seas are massive glowing tracts of seawater,

which until recently, researchers had studied by relying on a combination of satellite imagery and maritime lore. But after researchers published a 2021 study in Scientific Reports documenting potential milky seas, including one off the coast of Java in August 2019, a researcher was contacted by a first-hand witness to the event.

The 2019 Java milky sea appeared to last for at least 45 nights, which suggests these things are not just a shot-in-the-dark, one-night event, which would make it almost impossible to get out to one in time. Researchers hope that more individuals will be able to experience the magical milky seas for themselves.

IORA meeting in Seychelles tackles framework for effective search and rescue coordination



Officials involved in search and rescue operations, disaster management and maritime assistance services in the Western Indian Ocean met in Seychelles to produce better-coordinated efforts in tackling maritime disasters.

At a four-day workshop at the Story Hotel on the

main island of Mahe, participants from the Seychelles Coast Guard (SCG), Seychelles Civil Aviation Authority (SCCA) and Disaster Risk Management Division (DRMD) met colleagues from Comoros, France, Iran, Kenya, Madagascar, Mauritius and Mozambique to build a collaborative Indian Ocean Rim Association (IORA) maritime safety and security framework.

The meeting in Seychelles was the first in two IORA is holding – the second will be for the Eastern Indian Ocean countries of Australia, Bangladesh, India, Indonesia, Malaysia, Maldives and Singapore.

Through both workshops held for the different regions of the Indian Ocean, those taking part will be able to identify ongoing mechanisms that they may later adopt to address the gaps and areas for improvement in regional maritime safety and security arrangement.

Vietnam’s target for carbon-neutral transportation: Opportunities and the path forward

In July, Vietnam’s Deputy Prime Minister Le Van Thanh approved an action plan to reduce carbon emissions in transportation as part of the country’s wider strategy to actualise its climate change commitments made at the 26th UN Climate Change Conference of the Parties (COP26). At the conference, Prime Minister Pham Minh Chinh pledged that Vietnam would strive to achieve net-zero emissions by 2050.

The government’s strategy will see a gradual reduction in the manufacture, assembly, and import of fossil-fueled vehicles. By 2050, all transport will run on electricity or another form of green energy, such as hydrogen power. The transformation of the transport sector requires substantial investment in all parts of the transport ecosystem, from a network of electric vehicle charging stations to the complete overhaul of mature railway assets.

Vietnam will soon be embarking on a considerable project, costing more than US\$100 billion, following the recent approval of plans to reach carbon-neutrality in transport. The government has set out its targets and now requires ministries and partners to come together to develop plans and realise the state’s ambitious, but necessary objectives.

However, Vietnam is leading the transition in the region. Between 2017 and 2021, the share of electricity generated by photovoltaic (solar) technology in Vietnam increased from practically nothing to nearly 11 per cent, making the country the tenth-biggest producer of solar power worldwide.



Coastal community alarmed by frequent whale shark stranding in the Bay of Bengal



The fishing community in Andhra Pradesh, along the Bay of Bengal, have spotted an increasing number of whale sharks, stranded on the coast in recent years.

The whale shark (*Rhincodon typus*) is a shark species and not a whale. It can grow up to 50 feet in length. This largest shark species are listed

as “Endangered” by the International Union for Conservation of Nature (IUCN).

Since 2021, the fishermen in Andhra Pradesh (AP) have noticed an increase in whale shark sightings along the coast of Visakhapatnam (also known as Vizag). Researchers say that not much is known about this largely depleted species, making it all the rarer to spot it.

But fishery experts, researchers and local fishermen say that until late 2007, the whale shark was a rare visitor to the coastal Andhra region (East Godavari River Estuarine Ecosystem), but the number of sharks has increased in recent years.

There is evidence of various marine animals such as baleen whales, Risso’s dolphins, and different shark species showing up at landing centres and getting caught in fishing nets on the coast of Andhra Pradesh. Despite that, the space lacks research and surveys to protect endangered species such as the whale shark. It is found in some research that rapid industrialisation, fishing nets, collision with ships, microplastics and other pollutants cause of impact on whale shark populations.

Indonesia urged to update fisher training programme



Fisheries and human rights observers in Indonesia are calling for a revamp of the country’s fisher training programme ahead of a scheduled evaluation of measures to protect maritime workers at home and overseas.

Indonesia, one of the world’s largest fish producers, is home to some 2.3 million people who identify as fishers and boat crews working on domestic and foreign-flagged fleets. However,

many of them lack proper training for safety and fishing operations, which experts say leaves them vulnerable to exploitive employment practices and endangers their lives.

A survey from February to April 2022 by the NGO Destructive Fishing Watch (DFW) Indonesia found that only 6% of 45 deckhands working at the country’s largest fishing port, the Nizam Zachman port in Jakarta, had government-issued basic safety certification. The relatively high cost for the basic training and certification, combined with low awareness of the benefits and poor inspection at ports are some of the reasons fishers aren’t enrolling in the certification programme, DFW found.

In recent years, the Indonesian government has encouraged fishers and deckhands across the archipelago to take formal courses at training centres or institutes. It has also rolled out free-of-charge training for small-scale fishers all over the country and moved to overhaul training and certification facilities as well as update the fisher training curriculum to conform to international standards. But experts say more efforts can be made to facilitate potential maritime workers in enrolling themselves in the programme, including getting local governments more involved in allocating funding for the certification.

AET awards maritime scholarships

Tanker shipping company AET has awarded 10 scholarships in partnership with the Texas A&M Foundation at the Texas A&M University Galveston Campus.

The university is home to the Texas A&M Maritime Academy, one of seven maritime academies in the United States, offering a specialised maritime training and education programme. The scholarship initiative supports undergraduate students majoring in Maritime Transportation for their bachelor’s degree programme, aspiring to become deck officers.

According to AET, by awarding scholarships, the shipping company aims to empower students with skills to become valuable members of the global maritime sector.

Germany aims to train more inland waterways boatmasters



Seeking to grow its inland navigation workforce, Germany is offering new programmes to train inland waterways boatman/boatwoman and boatmasters.

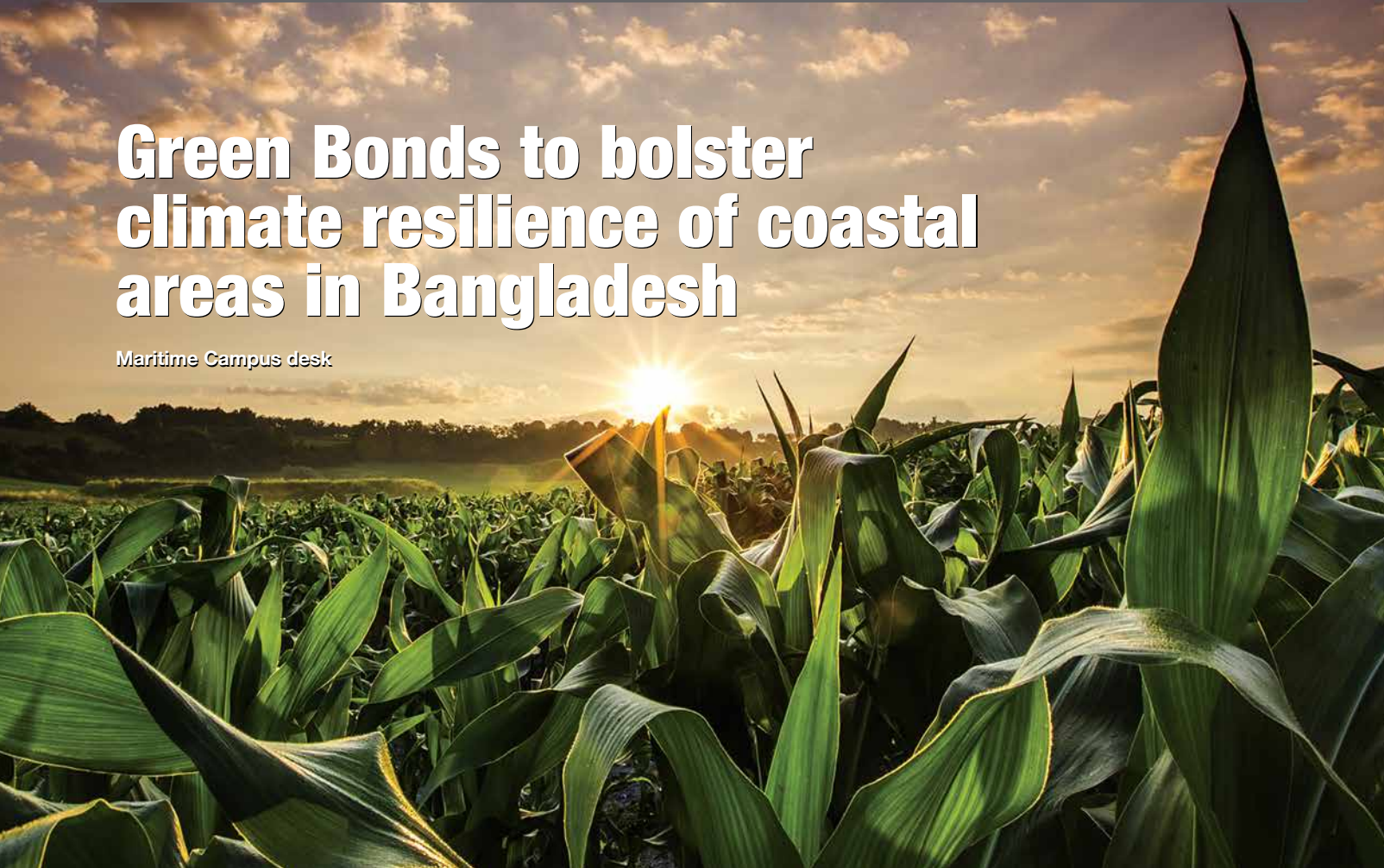
Apprentices will receive up to 65,000 euros for a 3-year training programme for inland waterways boatmen/boatwomen and up to 76,000 euros for a 3.5-year programme for inland waterways boatmasters.

“The importance of inland navigation for the supply of goods to our society has become once again more than clear. Unfortunately, the sector has been suffering under an extreme lack of young professionals for years,” said Oliver Luksic, Parliamentary State Secretary to the Federal Minister for Digital and Transport of Germany on 22 August 2022. He said a sound inland navigation system plays a key role in achieving climate change targets in the transport sector as well.

Digital course formats, such as live online learning, blended learning and online self-study, will be available for crew members of inland waterway vessels who want to continue their education while underway and will be funded to the same extent as traditional classroom courses.

Green Bonds to bolster climate resilience of coastal areas in Bangladesh

Maritime Campus desk



Once a country with catastrophic cyclone-related death tolls, Bangladesh today has become a world leader in coastal resilience and an inspiration for other climate-vulnerable nations. A primary school that doubles as a cyclone shelter—capable of withstanding winds over 260 km an hour— is just one strategy that this delta nation of 170 million is employing to shore up its coastal resilience. Situated at the triangular head of the Bay of Bengal— a magnet for cyclones and a storm surge amplifier— the country now has an early-warning system that is capable of evacuating millions of people in 24 hours with its 76,000 volunteers, half of whom are women.

However, with the coastal population and economy expected to grow, and the intensity and the magnitude of extreme events projected to increase due to climate change, hazard impacts still pose a great threat to the development ambitions of the country and require massive investments to mitigate the threat and expedite its ongoing march towards sustainable development. The current expected annual damage from cyclone-induced storm surges is still very significant at about USD 300 million. From climate change alone, this risk will increase by 90% in the coming 50 years.

Hence, further actions are needed to boost investment to improve resilience as well as explore other avenues with new perspectives and insights into how to bolster climate resilience in the coastal zone of Bangladesh.

To that end, the following write-up highlights how we could accumulate the finance indispensable for the implementation of works needed to address these climate challenges and enhance our coastal resilience by making the best use of the newly introduced financing mode for green projects, called the Green Bond.

What is a green bond, aka, climate bond

Bonds are a kind of financial instrument issued by governments and big corporations when they want to raise money. By buying a bond, you are giving the issuer a loan, and they agree to pay you back the face value of the loan on a specific date and to pay you periodic interest payments along the way.

So, how does it become a green bond then?

Well, green bonds are as good as any other bonds in the market, an innovative climate-friendly financing instrument where the funds raised from the sale of the bonds are earmarked exclusively for projects deemed environment-friendly. On a functional level, green bonds operate like any other debt instrument by providing capital to issuers who repay the debt with interest over time.

As investors globally show growing interest in pledging capital to address environmental challenges, green bonds have emerged as

the latest blessing to help protect the world from the impacts of climate disasters and expedite an environment-friendly sustainable development.

Globally fast becoming popular

The world only came to know about it first in 2007, when European Investment Bank (EIB) introduced its Green Bonds termed Climate Awareness Bond (CAB).

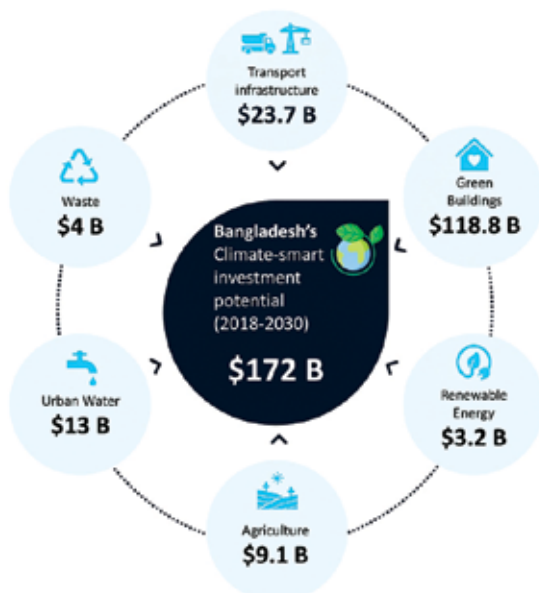
This was immediately followed by the World Bank in 2008 raising funds worth 2.3 billion Swedish Krona from fixed-income investors 'to finance or refinance, in part or in full, new and/or existing eligible green projects provided by transparent green credentials.'

Since then, the green bond market is growing as the fastest-growing financial instrument in the global debt securities market, today boasting a market size of more than USD1.6 trillion, growing at an astonishing rate of 120% each year.

Big corporations like China Three Gorges Corporation, have issued USD2.98 billion green exchangeable bonds to finance their large hydropower projects. Toyota already issued six green bonds totalling USD 7.6 billion to support the sale of environment-friendly Toyota vehicles. On par with the global trend towards the promotion of sustainable economic activity, Bangladesh too recently approved its first green bond to finance environment-friendly projects including renewables.

Bangladesh Securities and Exchange Commission (BSEC) approved a Non-Governmental Organisation (NGO) named Sajida Foundation, a first for Bangladesh, to raise money from the capital market by issuing green bonds. The BDT 100 crore bond will be used to expand Sajida's financial services and support green projects. Beximco and other private commercial institutions finance their green initiatives by issuing green bonds. Our local electric vehicle manufacturer can follow the same model to finance its project cost.

Bangladesh Climate Smart Investment Potential



Climate commitment of Bangladesh

Being a signatory of the Paris Climate Agreement, Bangladesh submitted updated Nationally Determined Contributions (NDC) last year, offering a 6.73% (27.56 MtCO₂e) emission reduction by 2030 from the sectors of energy, industrial processes and product use, agriculture, forestry, other land use and waste.

International Finance Corporation (IFC) estimates, to meet the ambitious NDC commitment of Bangladesh, approximately USD 172 billion investment needs to be mobilised within the timeline of 2018 to 2030. At the same time, Perspective Plan 2021-2041 and Bangladesh Delta Plan 2100 also put great emphasis on climate change mitigation and adaptation.

Whereas, by virtue, green bonds finance green projects that primarily bring environmental benefits such as pollution prevention, renewable energy, energy efficiency, environment-friendly transport, climate change mitigation, green buildings etc.



Bengal Delta and the Bay of Bengal

Implementation of green projects generally requires long-term financing. The problem is, the banking industry in Bangladesh is the major source of green finance in the country for whom long-term financing has always been a big challenge. Besides, this sector alone cannot channel this large amount of funds. Hence a major change in investment pattern is required to meet the huge green investment gap. Experts opine a vibrant green bond market can be instrumental here.

The Government's call

To fulfil the NDC commitment the government needs to implement 911.8 MW (Grid connected 581 MW Solar, Wind 149 MW, Hydro 100 MW and others) renewable energy-based projects by 2030. Green Bonds could help us achieve this goal.

With finance raised by green bonds, we could move away from our reliance on fossil fuels in favour of renewable energy, such as solar power, and wind and wave energy. This will also help us with recycling projects and technology that captures and stores carbon from the atmosphere.



Erosion is a regular event in coastal areas of Bangladesh

The sustainable finance department of the central bank of Bangladesh in a circular, dated 18 September 2022, addressed to all scheduled banks and financial institutions explained in detail the current government policy on Green Bond.

Trust issue remains

Although several challenges exist to soliciting green investments in Bangladesh, green bonds can offer a distinctive opportunity to support low-carbon environment-friendly projects.

Building trust among investors is pivotal. Considering the comfort and perspective of potential investors, the challenges are even bigger. In a country where depositors sometimes even do not get their money back from the conventional and highly regulated financial industry, building trust in a new and specialised financial instrument can be a massive challenge.

The people of Bangladesh have become a face of the climate crisis, their lives forever changed by the rising waters of the rivers and coasts.



Next, the use of the proceeds of the green bond could be another concern.

According to the conditions that come with green bonds, third-party assurance providers, such as specialised research agencies, would be responsible for verifying the 'green bond' status and monitoring the use of bond proceeds by issuers. There, potential issuers may not be fully aware of how to complete the third-party review process.

The third-party opinion will also incur a cost. Particularly, for small-size issuers, it will be another challenge. Regulators in this aspect can establish grants to cover the costs of external review.

Nonetheless, at this early phase of the inception of green bonds in Bangladesh, regulators mainly need to attract and encourage both the private and public sectors by enabling the environment, introducing coherent policies and capacity development.

Climate-resilient coastal areas

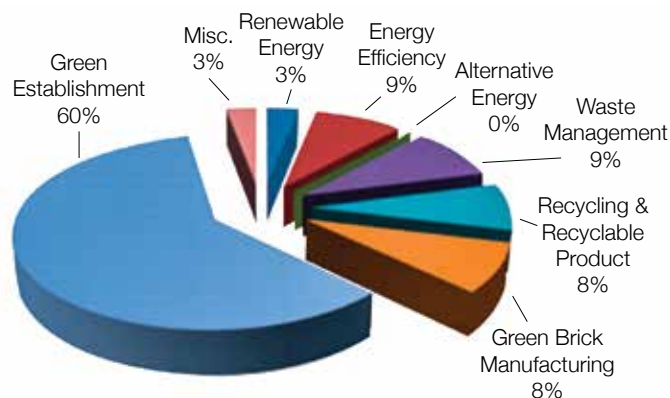
The development of a safe and habitable coastal zone is an indispensable priority for Bangladesh. Spanning more than 710 kilometres and given that a quarter of the country's population lives in the coastal belt- a climate hotspot- reducing risk and building resilience is vital to the future of the thousands of lives, the key to its social, economic, and environmental well-being.

Coastal areas in Bangladesh could gain the most from green bonds for projects such as forest planting and conservation, building and modernising cyclone shelters, strengthening flood defences, enhancing early warning systems, and empowering livelihoods across the coastal area.

Bangladesh is a country already on the frontlines of climate change, experiencing growing salinity and water scarcity in coastal areas, more frequent and intense natural disasters, and erratic rainfall

patterns. It is one of the top listed countries most vulnerable to global warming and climate change and needs rigorous measures to address the issues.

For green sector development



Areas to work on to achieve climate resilience in coastal areas



According to World Bank recommendations, the following are the seven areas that we need to focus on for a resilient coastal zone in Bangladesh:

1. Investing in solid operation and maintenance (O&M) of all existing natural and human-made structural and non-structural assets i.e., forests, embankments, drainage systems, shelters, and EWS, is the foundation of coastal resilience.
2. The unique landscape and dynamics of coastal Bangladesh require a thorough understanding of how the present system functions and how future scenarios of the coastal environmental conditions might change the system. Continuous development of knowledge and the application of state-of-the-art tools and guidelines should be prioritised, including knowledge transfer of these developments
3. Adaptive Delta Management (ADM) should be the cornerstone of any approach to achieving coastal resilience.

4. Acknowledging that the coast is highly dynamic but also very rich in terms of natural resources and assets is essential. Smart hybrid combinations of traditional infrastructure with nature-based solutions like sediment solutions (such as nourishments) and mangrove restoration for protection against cyclones and erosion should be pursued in future programs.

5. Risk-sensitive land-use planning should be at the core of coastal zoning policies.

6. Strengthening the adaptive capacity of coastal livelihoods ensures that coastal inhabitants have the ability and means to make a living under the various shocks and stressors they face.

End words

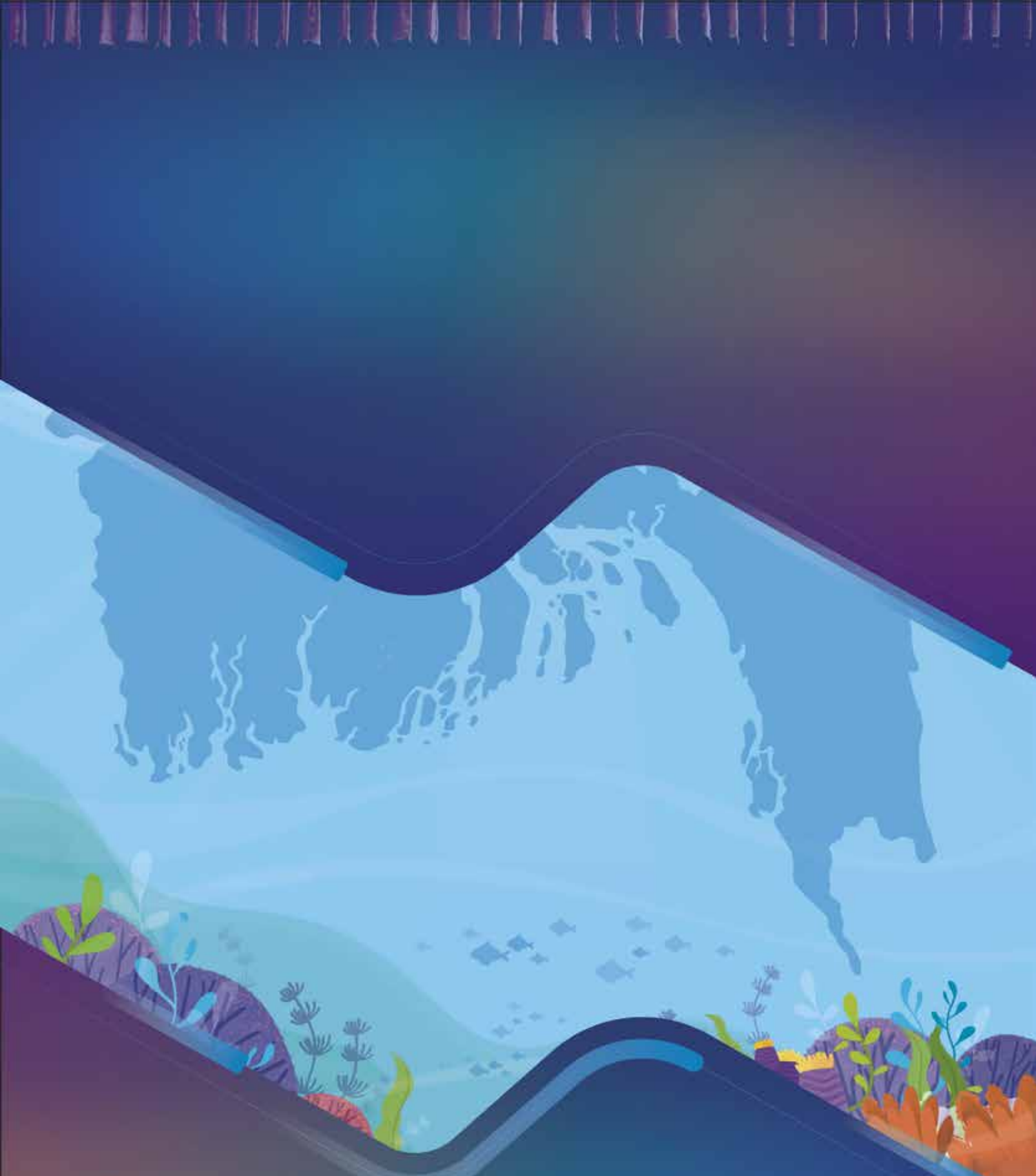
Addressing climate change and improving the resilience of the coastal zone is a national priority for Bangladesh. Since Independence, the country has invested more than USD 10 billion in climate resilience actions implementing structural interventions, such as constructing and strengthening river embankments and coastal polders, building multipurpose disaster shelters and resilient houses, with a variety of non-structural measures such as strengthening hydrometeorological services, implementing Early Warning System, awareness-raising systems, emergency management systems, and enhancing community-based disaster management programmes.

A recent report (PwC 2017) forecasts that Bangladesh will become the 23rd largest economy in the world by 2050, advancing from 41st place in 2020, because of steady projected economic growth. This period, however, coincides with a rapidly changing climate and its associated potential increase in the intensity and frequency of climate-induced disasters, uncertainty in water availability from upstream, and an accelerated rise in sea levels along the coast.

Green bonds have the potential to become an interesting and unconventional source of financing for implementing measures to tackle this menace of climate disaster and maintain and further strengthen our resilience across the coastal areas of Bangladesh.

Cage farming of salt water fishes can transform the living standard of the coastal fishermen





**Bangabandhu Sheikh Mujibur Rahman
Maritime University, Bangladesh**

Web: www.bsrmu.edu.bd