OCT 2018 . ISSUE 43

Samundra Spirit

QUARTERLY IN-HOUSE MAGAZINE FOR SAMUNDRA INSTITUTE OF MARITIME STUDIES (SIMS), MUMBAI & LONAVALA

IN THIS ISSUE

SAMUNDRA INSTITUTE OF MARITIME STUDIES (SIMS)

A Training Commitment of Executive Ship Management Pte Ltd (ESM), Singapore
(Certified by leading maritime classification society, DNV GL, Germany for ISO 9001:2008)

INVITES APPLICATION FOR:

1-YEAR GRADUATE MARINE ENGINEERING (GME) - MAR 2019 BATCH

Approved by Directorate General of Shipping, Govt. of India & The Maritime and Port Authority of Singapore (MPA)

- One year training in Marine Engineering at SIMS, Lonavala which includes
- 6 months hands-on practical training in the Ship-in-Campus
- 6 months shipboard training before appearing for Class IV examination

4-MONTHS ELECTRO TECHNICAL OFFICERS (ETO) - DEC 2018 BATCH

- Four months pre sea training at SIMS, Lonavala which makes the candidate eligible for 8 months of onboard training as a Trainee ETO on successful completion of the course

1 YEAR DECK CADETS (DNS) - FEB 2019 BATCH

Approved by Directorate General of Shipping, Govt. of India, The Maritime and Port Authority of Singapore (MPA), and affiliated under Indian Maritime University (IMU) Chennai

- One year Diploma in Applied Nautical Science at SIMS, Lonavala
- Minimum 18 months of practical shipboard training before 2nd Mate's examination

4 YEAR B.TECH. (MARINE ENGINEERING) – AUG 019 BATCH

Approved by Directorate General of Shipping, Govt. of India and affiliated under Indian Maritime University (IMU) Chennai

- Four years B.Tech Marine Engineering course at SIMS, Lonavala
- 6 months shipboard training before appearing for Class IV examination

Eligibility	For Deck Cadets	For B.Tech	For Engine Cadets	For ETO Officers
Age	For Class XII: Not less than 17 years & Not more than 20 years as on date of commencement of the course For B.Sc. in PCM or Electronics: Not more than 22 years as on date of commencement of the course For B.E./B. Tech. Degree from I.I.T or a college recognized by AICTE: Not more than 25 years as on date of commencement of the course	Not less than 17 years & Not more than 20 years as on date of commencement of the course	Not more than 25 years as on date of commencement of the course	Not more than 28 years as on date of commencement of the course
Marital Status	Unmarried			
Academic	Results should be obtained at FIRST ATTEMPT All Boards (Class XII): Minimum Percentage – 60% PCM minimum – 60% (Physics &Maths Min 60% each) (For Andhra Pradesh & Kerala State Boards, separate board exams held for each class(11th & 12th) & hence, aggregate of both marks are considered) BSc: Degree in Physics/ Chemistry/ Mathematics/ Electronics with minimum 55% in final year along with Min 55% in PCM in Class XII BE (Mechanical) Engineering: Degree from an AICTE/ UGC Deemed University Approved Institute with min 55% in final year	All Boards (Class XII): Minimum Percentage – 60% PCM minimum – 60% (Physics &Maths Min 60% each) (For Andhra Pradesh & Kerala State Boards, separate board exams held for each class(11th & 12th) & hence, aggregate of both marks are considered)	Graduation in BE (Mechanical) Engineering / Naval Architecture from an AICTE approved Institute with a minimum marks of 55% in final year. Candidate must clear his BE/ B.Tech in 4 years only Numbers of ATKTs / Arrears / Repeats / "E" grades obtained during the entire degree programme: Not more than six attempts	12th Class board approved by Ministry of HRD, Govt. of India Class 12th subjects must include Physics, Chemistry & Maths English percentage in 10th or 12th min 50% 3 years Diploma with 60% recognized by State of Central Government. OR Degree in Electrical Engineering, Electronics Engineering, Electrical and Electronics Engineering, Electronics and Telecommunication/ Communication Engineering, or Electronics and Instrumentation or equivalent recognized by AICTE.
Medical	Physically fit and meet the standards laid out by DG Shipping*			
Language	English shall be one of the subjects with minimum marks scored 50% in class X or XII			
Eyesight	No Colour Blindness , 6/6 vision in better eye and maximum permissible up to 6/9 in the other eye (without visual aids)	No Colour Blindness, Use of corrective lenses permitted but the maximum permissible limits, at entry are 6/12 in each eye or 6/9 in the better eye and 6/18 in the other eye for Distant Unaided Vision. (As given in M.S. Act, Medical Examinations, Annexure B.)		
IMU - CET	Candidates must clear IMU-CET		N.A	

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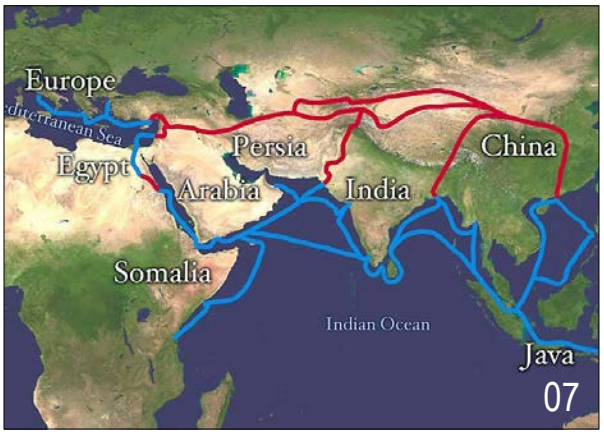

Background of cover picture:
Map illustration of Indus Valley and Mesopotamia trade

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Samundra Spirit is a quarterly in-house magazine produced by Samundra Institute of Maritime Studies (SIMS) for private circulation.

Our Editorial Team wants to hear from you!

If you wish to submit any feedbacks and/or contributions, feel free to write to the Editor at: samundraspirit@samundra.com

**Please note we reserve the right to publish your letters/articles or an edited version of it in all print & electronic media.*

Editorial Note

Not many nations around the globe can trace their maritime heritage to the Third Millennium BCE (Indus Valley civilization) as the Indians proudly do! Indeed it is an incredible story of Indian maritime history which is spread in many known and unknown, told and untold stories, hidden in both written literature, foreign visitors' accounts and in archaeological evidences in various parts of the country and foreign lands.

Although not in a drunken stupor, but obviously in a spirited moment of "we can", we took up the undoubtedly daunting or absolutely preposterous task of bringing out this issue of Samundra Spirit delving into the maritime history of India. The more we burrowed into the past, discovering the layers of history of century after century, exciting topics emerged related to the evolution of the boats and the ships that our ancestors built and took to develop a fantastic trade and commerce within and outside the country – sometimes carrying messages of religion (both Hinduism and Buddhism) or even establishing colonies in the south east or far east Asian countries, remnants of which, can still be seen in many countries including Indonesia and Cambodia.

I am immensely indebted to the contributors for their brave attempts though I unabashedly give the bigger credit to our editorial team for unravelling the articles in the form they are now. Both Capt. Arun Sundaram and Sara Cherian burnt many a midnight oil to conduct research and (forced) fast track history readings for fact checks as well as keep the essence of the stories from the history books. We just had a humble intention of introducing a whiff of the fabulous fragrance of the shipping heritage of India and its various regions, offer obeisance to those ancestors of us who left a legacy for us to cherish and to take a lesson from, if we ever want to revive the glory of the Indian maritime excellence.

As we are aware, the first known chapter of Indian maritime history is over five thousand years old from the pre-Vedic era with no written language or the pictorial language yet to be deciphered. Hence, we could not have run the issue without including an article on Harappa or the Indus Valley Civilization and the maritime expertise that made the Indus Valley a commercial hub of import and export to the contemporary civilizations like the Mesopotamia, Persia and China.

Indian maritime sector thrived till the arrival of the British naval forces and their subsequent use of the new engine (propulsion) technology (steamships). Why and how - could be the topics of another issue of Samundra Spirit someday, but we are now happy in presenting the best of the time in various points of Indian history through our articles.

While all the articles are special, a few highlights include Jims Andrews' Maritime heritage of the Malabar Coast and Capt. Hati's History of Kolkata port and Hooghly waterways. A marine engineer cum master storyteller, Jims has woven an amazing description of the port city of "Muziris" at the Malabar Coast and how it disappeared from the world shipping map. Kolkata, the crown jewel during the British era had an absolutely fascinating shipping history through its own waterways of Hooghly as narrated by Capt. Hati- a son of the soil. The rest of the articles on rivers being used for trade, progress of maritime training as well as Indian shipbuilding history are an equally captivating read.

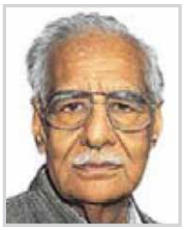
Hopefully, this final issue of the year will be of much interest to all our seafarers who are part of the legacy of the great Indian seafaring tradition.

Till we come back with the next issue in 2019,

Wishing all our readers Happy Navratri, Durga Puja and a safe and fabulous autumn,

Sikha Singh

In remembrance of veteran journalist, human rights activist and diplomat, Mr. Kuldip Nayar, we bring the 'Message to the Cadets' penned by him for our 15th Issue of Samundra Spirit in October 2011. Besides his many prolific activities, Mr. Nayar was also on the SIMS Governing Council from April 2011 to March 2012. He passed away at the age of 95 on the 23rd of August'18.



Message from Mr. Kuldip Nayar

I have travelled by sea only once in my life. Then I was a student, returning from London. It was one of the Indian ships which took a fortnight to reach Bombay. I recall that after three days, most passengers did not come to the deck for a walk. The ship was rolling all the time and they were sick.

A couple of days later, the hall in which we ate became mostly empty. I was told that most passengers were in their cabins, vomiting all the time. I do not know how I turned to be a good sailor but I do recall that on the entire bench where I sat for meals was empty! There were only two of us, one from South India. Murti, eating both meals. Both of us became good friends, talking about the ship's whimsical travel.

Food was alright in the first few days. It had freshness and variety. But afterwards the menu was the same everyday, with the egg powder used indiscriminately. There was never any fruit although some dessert was there, again with the egg powder appearing in different shapes.

I am sure things have got revolutionalised since. There are big ships, luxury liners and exclusive boats. I just have not had the time or leisure to go to one of the cruises which I believe they are in great demand. Expensive no doubt but the people who travel through them are affluent, not like the students returning from the studies after exhausting their resources.

Now there are regular cargo ships of various types and sizes. Even then, 65 years earlier, they were there. But their number was small because the trade between the countries was limited. The UK and Europe were sending little but importing huge part of our natural resources. I recall how even our small ship carried many wooden boxes which joggled with us, the passengers, when the sea was rough.

I must admit that I came to know even the concept of a ship or complexity of shipping only about four years ago when I visited Samundra Institute of Maritime Studies, first at Mumbai and then at Lonavala. True, it was a stationary training vessel but it was pulsating with life and giving the experience of being on board. There were no passengers but here we saw the custodians who piloted the ships through difficulties and dangers. I wonder whether the Titanic would have sunk so easily if the training of the crew had been so hard and so disciplined as I saw at the Samundra Institute. The fact that the institution has grown every year and has found more clients than it can serve indicates that the top class training which anticipates all types of exigencies is the secret to tomorrow's shipping industry.

My best wishes to all the faculty and staff in their endeavour to make SIMS the leading force in the world maritime training and to the cadets to train hard to be able to lead not only the Indian but the global maritime industry in not so distant future.

Progress of Maritime training in India from early 20th Century till date

Biju Baben
Engineering Faculty
SIMS, Lonavala

History is witness to the voyages of the Indian sailors of yore towards the east and west for trading, conquering territories as well as spreading tenets of Buddhism. However, unfortunately not much written documentation is available of earlier training methods and not much could be gathered on how those wonderful seafaring skills were developed or honed to perfect them for steering the boats they took to. In this article we have rather tried to trace back the history of Indian maritime training to the British colonial era of the country.

Early years of maritime training

There were no training facilities for Indians seafarers untill the early 20th century. India's first "Marine School" was started by Mohamed Yusuf, then proprietor of Bombay Steam Navigation Company in 1912 at Worli, Mumbai, which later shifted to Nhava, on the outskirts of Bombay. It was affiliated to the Bombay University and conducted classes upto matriculation level to qualify for the Home Trade Certificate of Competency. It went through various trials and tribulations and eventually came to be known as Training Ship Rahaman in 1972.

However, the Indian Mercantile Marine training Ship (IMMTS) Dufferin of Bombay, during the British-Raj is the first known official maritime center. Dufferin was a troop carrier with basic accommodation and shipboard equipment. Training of 50 nautical cadets commenced in December 1927. Engineering cadets were added in 1935 by splitting the intake as 25 cadets each discipline. The training period for each batch was for three years. Most of the training pertained to basic and practical seamanship, developing initiative and critical thinking and involved lot of manual labour in handling of equipment such as rowing boats, sailing boats, shipboard maintenance work besides the theoretical subjects involved with ships

Post-Independence, in 1949, training of marine engineers was shifted to Directorate of Marine Engineering Training (DMET) in Kolkata and Mumbai whilst the training period in Dufferin was reduced to two years. The training at DMET Kolkata was spread over a period of four calendar years and the passing out certificate was recognized as equivalent to a degree in Marine Engineering. Whereas in another stream at DMET, the graduate engineers with B.E. or B.Tech. (Mechanical Engineering) qualification also underwent one-year residential sea-orientation course that covered theoretical training in classrooms and practical training in marine workshops specialised in ship repairs.

In spite of their large numbers (about 50% of seafarers on the ships), there had not been any specific training established for Ratings in the Pre- Independence era. However, three pre-sea training institutes for ratings came up eventually Post-independence:

1. T.S. Bhadra at Calcutta in 1950
2. T.S. Mekhla at Vizag in 1951
3. T.S. Naulakshi at Navalakhi in 1955

Training for the ratings was usually for three months period and with growing requirements of shipping, the duration was increased to six months in 1970. Syllabus was revamped as time progressed and more experience was gathered concerning needs and requirements of their training. According to FOSMA website, as the years progressed, the output from these Ratings Training Ships could not find placement for on-board training as there was surplus of Ratings and the Indian Fleet was not growing at a pace to cope up with the output of these Training Institutes. Therefore, these Ratings Training Institutions were subsequently closed down by the Government.

Institutionalization of maritime training

For a more focused approach to dealing with all executive matters, relating to merchant shipping, the Directorate General of Shipping (DGS), attached to the office of the Ministry of Shipping was established in 1949. The DGS thereby became the supreme administrative body working for the implementation of all standardized courses through stringent guidelines. As a result, the Indian certificate of competency (COC) stands tall amongst all other licenses and reflects the strict scrutiny of competencies standards.

The Dufferin was retired in 1974 due to high maintenance costs and superseded by a new-building Ship named "Rajendra" which was custom built for merchant navy training by Hindustan Shipyard, Vizag in April 1972. This was a more comfortable ship built with better living amenities, containing facilities for modern training. The scrapping of the Dufferin witnessed strong emotions from the community due to its historical value. It

serviced the training of nearly 2600 cadets. Three Chiefs of Naval Staff, over 20 Admirals and several hundreds of senior officials in the Government and the shipping industry were among its alumni.

While the intake of Dufferin was 80 cadets from 1949, Rajendra's annual intake was increased to 125. In view of Indian Merchant fleet's rapid expansion and shortage of officers, duration of training in Rajendra was reduced to one year in 1975 and yearly intake was doubled. However, with the toll taken by long shipping slump in late 70s and early 80s, training was restored to two years and cadets' intake was brought down in the year 1984. Rajendra got affiliated to Bombay University in 1987, training period was increased to three years and cadets passing out from 1990 were awarded B.Sc. (Nautical Science) degrees.

In view of high capital and maintenance cost of ship based training incurred by the Government and an urgent need for a larger premises to accommodate increased number of cadets, saw the emergence of a shore based academy for deck cadets, named T.S. 'Chanakya' in 1993 on the sea front at New Bombay. Affiliation with Bombay University and B.Sc. degree program was continued by Chanakya.

The Nautical and Engineering College, Mumbai was founded in 1948. It was housed in temporary premises at Azad Maidan, opposite V.T. station in Bombay. The college was shifted to its present site at Hay Bunder, in 1966 and was re-named as Lal Bahadur Shashtri (LBS) Nautical and Engineering College in June 1967, then to LBS College of Advanced Maritime Studies and Research in 1994. In terms of students' turnover, this is one of the largest marine training institutions in the world. It offers about 30 post-sea courses, which run almost concurrently.

Opening doors to the private sector

After recognizing the effective turnover of the trained cadets, industry demanded more output from the training facilities and in the early 80's, it led to the onset of dockyard training for engineers. The necessity of developing more professional knowledge-based training arose as new operational devices demanded in-depth competencies. This prompted a structured and productive education scheme for Seafarers in India as well, especially when IMO had formulated convention on Standards of training, certification and watch keeping for seafarers (STCW-78/95).

Maritime training institutes in India were predominantly in the government sector prior to the year 1996. During 1996, maritime training was opened for private sector participation. Since then, a number of institutes have become engaged in conducting various types of pre-sea and post sea courses.

The DMET was subsequently also revamped and brought under National university status as the Indian Maritime University (IMU). Established by the Indian Maritime University Act 2008, it had an All-India jurisdiction over Maritime training activities, and various pre-sea institutes emerged in India with their affiliations to IMU. With DGS's guideline for extending the Maritime education to the private sector becoming one of the turning points in the industry.

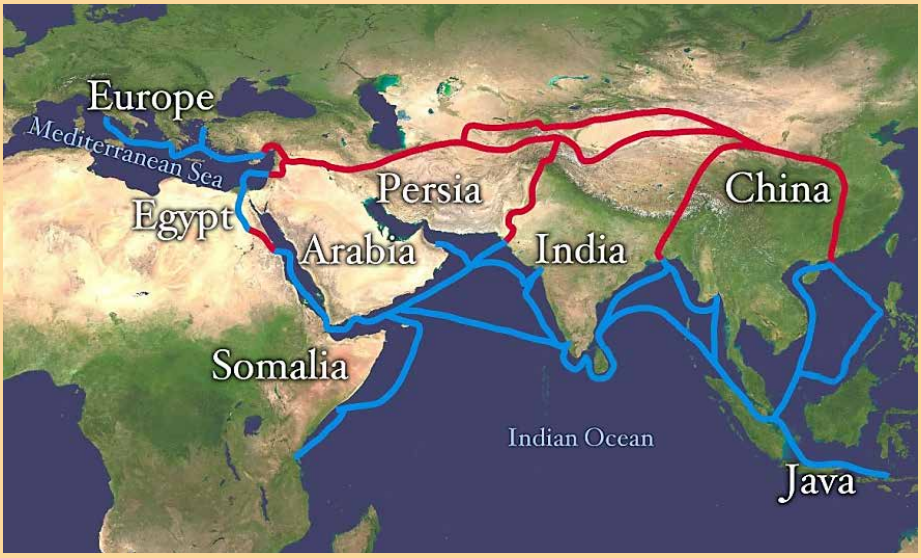
This opportunity was also seized by Executive Ship Management, who opened the modern campus of Samundra Institute of Maritime Studies in 2002 (Post Sea Training)/ 2005 (Pre-Sea Training).

Today, about 70% of Indian officers afloat are employed on foreign flagged ships because of the high quality of maritime education imparted to them by institutes such as SIMS.The Indian mercantile training, with its British-era influence has come a long way in raising the standards and professionalism of the industry. ■

Maritime heritage of the Malabar Coast

"The city where the beautiful vessels,
The masterpieces of the Yavanas (Ionians),
Stir white foam on the Periyar, river of Chera,
Arriving with gold and departing with pepper,
When that Muciri, brimming with prosperity,
Was besieged by the din of war!"

The magnificence of the port city of Muziris, aka Muciri, along the Malabar coast, was thus immortalized by a bard in Akanaṉūṟu, a collection of early Tamil poems penned around First Century.



Trade routes of the past. Shown in blue are the water routes that linked civilizations of the Old World and India

Post-Independence India has established itself as a mighty seafaring nation, and this is manifested by its strategic presence in the various facets of modern day shipping. What many of us have not given much thought to, but etched in the annals of world maritime history nevertheless, is the fact that we were a formidable presence in the industry as far back as bard itself!

Shipping, since time immemorial, had been a derived demand and it continues to be so in the modern times as well. If all the resources and manufacturing facilities were uniformly distributed along the globe, there would not be any demand for shipping as such. Apart from the availability of sought-after finished goods and raw materials, factors like favorable geographical and topographical settings, political will, cultural inclinations etc. play a pivotal role in the evolution of a shipping hub.

The Malabar Coast in Southern India, was strategically placed to tap into most of the monsoon winds, which catapulted it to prominence in maritime trade, with an earliest record of trade found in 30th Century BC. Due to its topography, the Coast directly faced ports of southern Arabia and East Africa, making international trade easier. Abundant resources were exported from the forests of Western Ghats, including the mighty Teak. The rich haul of quality timber from these forests also paved way for Malabar pioneering in allied industries such as shipbuilding. Of all the cargoes, black pepper held a special place. Such was the significance commanded by this spice that Greco-Roman ships of the time were built large in size to transport voluminous cargoes of pepper. Spices such as ginger and cardamom, precious and semi-precious stones, ivory etc. also were coveted as prized cargo from the Malabar Coast

The city and the port of Muziris (generally agreed by historians to be situated near Kodungalloor in present day Kerala) was arguably the most prominent of the shipping hubs along the Malabar Coast. Muziris of those times had maritime trade with domestic ports such as those on the Gujarat coast, but more importantly it catered to international trade with a host of ancient civilizations including the Phoenicians, Persians, Chinese, Greeks, Romans and many more. During its heydays Muziris eclipsed other prominent ports along the Malabar Coast namely Naura (modern day Cannanore) and Tyndis (possibly Kadalundi or Beypore, falling south of Calicut).

Muziris, with so many foreign traders choosing to reside within its vicinity, also prospered as an urban center. The vivid descriptions from the Greek travel book "Periplus of Erythraean Sea", also from the First Century, attests Muziris as a prominent maritime destination. Located at the confluence of river Periyar with the Arabian Sea, this port city provided a safe harbor for the waiting foreign ships. The impenetrable mountain peaks of the Western Ghats accorded natural shield from marauding armies from the north. The cosmopolitan nature of the Malabar Coast, an outcome of centuries of fruitful contact with the outside world, further provided the reassurance needed for the international maritime trade to thrive.

It was a pity that when on the pinnacle of its magnificence, Muziris suddenly disappeared from the world shipping maps. This occurrence is attributed to the great floods in the river Periyar in the 13th Century which altered the geography of the region. But the Malabar Coast still commanded the significance as a strategic transit location between the East and the West, and the loss of Muziris paved the way for Calicut (Kozhikode) to emerge as an important maritime destination in the 14th century. Calicut's rise was orchestrated by Zamorin, the most powerful ruler of the Malabar Coast towards the end of 15th century. Zamorin was shrewd enough to acknowledge the role of maritime trade and commerce in the building of a powerful and prosperous nation, and thus accorded his patronage for facilitating Calicut's elevation to the space left vacant by the eclipse of Muziris.

The emergence of Calicut was well recorded by the foreign travelers, most of whom visited the port city multiple times. The illustrious list of travelers includes the likes of Ibn Battuta (14th century, 1342-1347 AD), Ma Huan (15th century, 1403 AD), Abdur Razzak (1442-43 AD), Niccolo de Conti (1445 AD) and Athanasius Nikitin (1468-74 AD). Ibn Battuta, the great Moroccan scholar and explorer, was lavish with his praise for the port city of Calicut which he described as one of the great ports of

Kozhikode, from Georg Braun and Frans Hogenberg's atlas Civitates orbis terrarum, 1572

Malabar. The reputation of Calicut as the City of Spices soon travelled far and wide, and was the principal reason for the fabled Vasco da Gama charting a sea route round the Cape of Good Hope to finally land in Kappad, a little to the north of Calicut, in the year 1498.

As Muziris did for one and a half millennia before it, Calicut too enticed the foreign traders with its rich haul of pepper and other spices. Calico was one other prized commodity which originated, got its name from, and was exported in bulk from this ancient port city. Calico was the plain-woven textile made by the traditional weavers in Calicut from unbleached cotton and was in great demand in the cities of Europe. Post Vasco da Gama, the European (predominantly Portuguese) bid for control over the coast of Malabar led to many a bloody battle with the local King, the Zamorin. The Zamorin, with the aid of trusted naval lieutenant Kunhali Marakkar, thwarted these attempts successfully for most of the time.

This era also witnessed the evolution of a strong shipbuilding tradition centered in the minor port city of Beypore, a little to the south of Calicut harbor. Beypore over the centuries has specialized in the craft of building wooden ships or Dhows (Uru in local language) made of teakwood from the forests of Nilambur. Built painstakingly with the human hand, at least a fifty of craftsmen engaged for more than a couple of years, these are easily the largest handicraft made in the world today. For these craftsmen, Uru is more a work of art than a commercial cargo vessel. Surprisingly, the ship building industry in Beypore has survived

Traditional ship building in progress in Beypore

to this date, by evolving with the times. The Dhows which leave the shores of Beypore now are not cargo ships, but are luxury vessels made to order for the aristocracy of the Middle East.

Muziris faded into oblivion in the fourteenth century and so did the port of Calicut more recently. Cochin and Mangalore emerged as the prominent ports to the south and north respectively. Beypore still lives on as a quiet port with minor shipping activities, mostly limited to trade with the Lakshadweep. ■

Mr. Jims Andrews
Vice Principal
SIMS, Lonavala

Effective Master Pilot Information exchange II

A Practical note from an experienced master

Capt. Mahendra Singh is a long serving master of Executive ship management successfully commanding vessels under various challenging situations. We are delighted to bring out the second of the three parts of his notes on the Master Pilot information exchange- indeed a very critical area of navigation.

We continue on the issues that, in my understanding from my experience, may hamper effective Master pilot information exchange

Pilot not willing to share the information

Politely request him "it is in the best interest of Pilot as well as ship to share the information so that ship staff can be in better help to him". Don't go in front of him with check list and pen in hand , instead ask information verbally. If he is still not willing to share anything for no reasons, please tell him firmly that in such cases ship does not wish to take his services. Many Master may wonder why to lock horns with pilot, as cancelling pilot may lead to many questions from owners, charterers, company and ship may be delayed , off hired.

I would like to quote one such example which happened with me in Singapore in 2017. Vessel was in Singapore anchorage planned to berth for discharging cargo. When pilot came on board at anchorage for shifting vessel to the berth, self requested him for information exchange as per Master Pilot information exchange check list, he straightway refused to share any information.

Instead he stated "These information must be in your passage plan why are you asking from me"?

I politely replied, "Sir I have tried my best to include most of the port information from various recourses but these are some which only you can give me and they are vital for the safe movement of vessel in port". He now started shouting, seeing me polite but firm. Now it was time for me to exercise my supreme authority and command. I told him, "Pilot I don't want you to pilot the vessel, please leave my ship" and I went to the phone to call agent to cancel this pilot and book another one. Believe me it changed his entire demeanor with folded hands he was now ready to share all the information that I needed. Obviously he was made aware that everything is recorded in the VDR as per my company regulation and by law he is at fault and is answerable to port authority for such non compliance. Please remember this kind of incident also lowers pilot's grading in port and puts his job at risk.

Capt. Mahendra Singh
Master
FS Endeavour

By citing above example, I am not asking to be rude to pilot. It is very important to be polite and show the necessary professional courtesy while remaining firm on your ground without fearing any repercussion from anywhere. A Master must appreciate that if any mishap occurs due to any such non-compliance then the consequences will be much more worse than little bit of time loss or off hire. ESM also firmly supports Masters in such circumstances.

Non-compliance with Company check list and Procedure

Check lists are in fact, well thought plans

drawn by the company taking into account all the safety factors, difficulties faced, hazards involved with countermeasures and best practices, derived from same activity carried out many times in the past. Check lists empower one with a smart plan without missing anything. So it is in best interest of ship to diligently follow the check list to complete any activity safely and efficiently.

Critical stage which demands immediate attention when Pilot comes on board

This applies when pilot boards vessel underway and requires her to bring in certain position immediately, in such cases, let him execute the manoeuvre but be extra cautious, closely monitor the situation, have contingency plan ready if something goes wrong. Once he completes the manoeuvre, carry out information exchange immediately.

Pilot in a hurry for next shift or going home

In this case, make pilot known that effective information exchange is vital which will let him use shipboard resources to best of his abilities and we all can help him better. If he is still in hurry and refuses to carry out information exchange please execute your authority as in point stated earlier.

Pilot with questionable competence

How to judge this in the beginning is a question.

Below are some of the signs

a) Pilot is too talkative backed by very poor situational awareness as some people try to cover their incompetence by this weapon.
b) A nervous and jittery Pilot
c) When carrying out information exchange, pilot is not sure of any information.
d) There is serious language problem affecting smooth communication.
e) Pilot under the effect of alcohol or any drug.
f) Any health condition that can be seen as a concern.
g) Poor Communication skill
h) Very poor fitness level
i) Appears very tense and preoccupied with issues other than the ship at hand.

Distractions:

This is one of the Major factors which not only hampers effective information exchange but also puts overall ship's navigational safety at

Continued on Page 12

SIMS participates in Beach Clean Up Drive

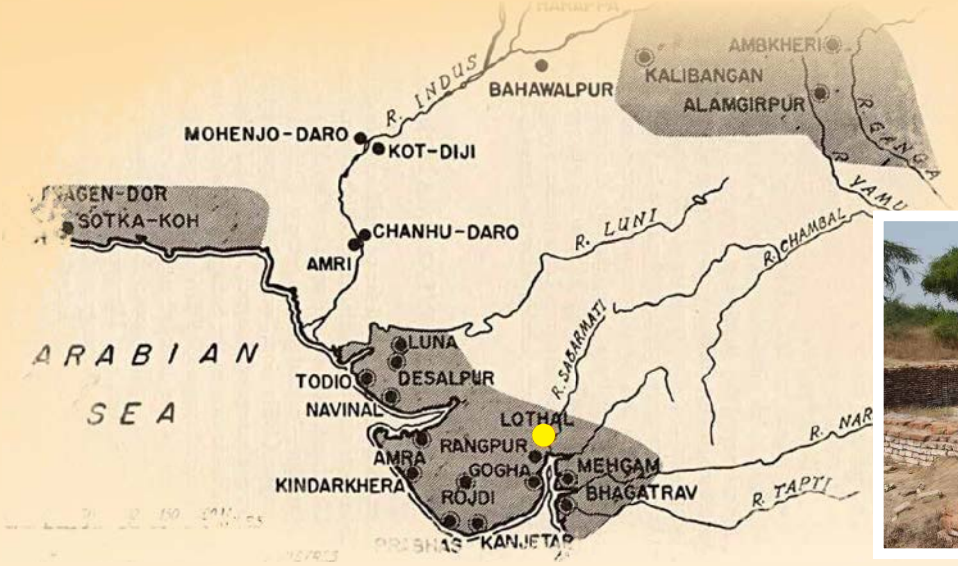
SIMS partook in the Versova Beach Clean-up drive to mark the occasion of Gandhi Jayanti. The team of 25 enthusiastic cadets collected wastes from the famous beach of Mumbai, only to comprehend the seriousness of the effect in marine life due to improper garbage disposal.

Plastics, rubber parts, jute materials, and wastes in packaged form, clothes, shoes, etc were found on the beach, which was strategically removed by the many small units of SIMS cadets. In addition to the wastes on top of the sand bed, the cadets also removed the buried trash with the help of excavators.

The Versova beach clean-up drive, is an initiative launched by the Mumbai based lawyer and Environmentalist, Mr Afroz Shah since 2015 and has been lauded by the United Nations Environmental Program (UNEP) as the World's largest beach clean-up drive. The 02nd October'18 initiative was organised in collaboration with Directorate General of Shipping of India.

Maritime legacy of Harappan civilisation: Discoveries at Lothal Port in India

Capt. Manab Kumar Sarmah
Nautical Faculty
SIMS, Lonavala



Location of Lothal *(Source: www.harappa.com blog)*

Actual remains of the dock (Source: www.harappa.com blog)

India's earliest maritime history finds its roots in the Indus Valley Civilisation, also known as the Harappan Civilization, which existed between 3300–1300 BCE. Archeological findings have established that it was a highly advanced society with a sophisticated level of maritime expertise and a flourishing trade with other West Asian regions.

Thriving Trade

The discovery of the remains of canals and docks with possible warehouses, excavated at Lothal, present day Bhal region in Gujarat, revealed the maritime capabilities of the civilisation, besides its thriving township and marketplace. Harappan seals and jewellery found at various sites in Mesopotamia region (note: Term applied to all the lands between the Euphrates and the Tigris rivers, thereby incorporating not only parts of Syria but also almost all of Iraq and southeastern Turkey.), also provided confirmation of a thriving maritime trade network across the Arabian Sea, Red Sea, Persian Gulf and even Indian ocean.

The Lothal port, according to estimations, existed about 4,500 years ago, at plain level between the Bhogava and Sabarmati rivers, about twelve miles from the present Gulf of Khambat coast. However given the high siltation rate of the Sabarmati delta region, the port would have been much nearer to the sea. The port linked the city to an old trade route that passed through Sabarmati river connecting Harappan cities and the peninsula of Saurashtra. Bead making, ivory and shell artistry and bronze-smithy were the important industries of Lothal and it is believed that along with these local products, jewelry, textiles and mineral ores were exported from this port by locally built ships.

Navigating the Rivers and Sea

Five terracotta models and some engravings found in a few sites give some indication of the kind of ships built during the era. In one of the seals found in Mohenjo-Daro, the engraving depicts a sail ship with a high stem and a stern made up of reeds and a square cabin in the center. One complete model of a sail ship has a pointed bow, high flat stern, a sharp keel and two blind holes for sails, possibly used in choppy sea conditions. A damaged model shows high curved stem and stern, a pointed keel with raised margins and a hole little away from the center for housing of the mast. The high stem presumably protected from high seas breaking onboard. The other three damaged models were with flat bottom and a pointed brow without any hole for housing of mast, implies that this type of boat did not use sail and would have plied in rivers and creeks.

Iron had not been discovered in the Bronze Age, hence the navigators did not have a compass at their disposal for steering a course. The Harappan ships probably followed the coastline during daytime. In the event of accidentally losing way and drifting off to open sea, they seem to have kept birds on board, which on being released, flew towards land and thus showed them the way.

Port design for optimum use

The Lothal dock was a trapezoid shaped reservoir, three meters deep, made of burnt brick walls that connected the old riverbed of Sabarmati to the Harappan cities. The construction of the dock progressed in different stages as it was used for various watercrafts, both seafaring and river boats. In the first stage of its development, the design allowed passage of two ships 18-20 meters long and 4-6 meters wide to simultaneously pass and enter. In the second stage, the channel was narrowed to accommodate larger

Models of boats and ships found (Source: Expedition Magazine, Poompuhar, Bharatkalyan 97, www.harappa.com, & Vishvkosh Wordpress)

ships permitting entry of only a single ship with flat bottom, at a time. It has been further established that there were other smaller ports such as Bhagatrav, Sutkagendor, Balakot and Surkotada, and maybe a large one at Dholavira, all in present day Gujarat state.

It is apparent that the ancient engineers of the port, had a good understanding of movement of tides. Satellite imagery indicates that large volume of water would have flowed in through the now dried river channel during high tide filling up the basin that would have enabled large ships to sail upstream from the Gulf of Khambat. An inlet and an outlet at the northern and southern end of the basin respectively maintained sufficient water level in the dock for the movement of ships. Remains of stone anchors, marine shells, seals etc, which find their origin in the Persian Gulf, have also been found in the dock. These along with the structure on one side, identified as a warehouse, further substantiate the existence of an advanced functioning port at this site.

Experts are of the opinion that the Harappans operated ships nearly the size of the modern country crafts, which used to bring timber from Malabar to Gogha. It can thus be inferred that these ships were capable of carrying loads up to 60 tons as suggested by the sizes of the anchor stones found in the Lothal dock.

The Decline

The decline of the civilisation has been debated over many reasons including possible climate change, Aryan invasion to earthquakes. However the considerable drying of rivers and estuaries has been widely attributed to the decline of their maritime trading activities which also is the key reason for the disintegration of the thriving society. Some archaeologists also opine that urbanism, resulting in influx of large numbers of people into close proximity, encouraged the spread of endemic diseases. There is evidence from the bones of people from the later levels at Mohenjo-daro that malaria was endemic there. Poor health in the administration centres could have negatively affected the smooth functioning of Harappan bureaucracy and societal control. Despite the eventual end of the civilisation, the technological and sea/ river trading capabilities has left a rich legacy of being the most advanced in its time and age.

Continued from Page 9

risk. Masters know very well that there are many situations where total focus, undivided attention, 100% situational awareness is must where even a little distraction can result into disaster.

What Masters can do to minimize the distractions on the bridge:

Identify Critical stages of Navigation in port, for example passing close to some danger, shallow patch, Sharp course alteration, navigation in Narrow channel, Heavy traffic density. Carry out in advance, comprehensive passage plan meeting, discuss and emphasize on 'No distractions at all when passing these areas, there must be total focus on the navigation'.

Reporting is one of the very important tools to do away with distraction, bringing one back to the scene again. For example if pilot is talking on the phone during approaching critical area, make loud and clear reporting, this will force him to come back to the job for which he is on board. Good reporting also helps one to come out of focus attention, for example pilot may go to focus attention when taking avoiding action for a vessel which is on collision course ahead, missing a fast overtaking vessel approaching from stern. If lookout reports "Sir there is one overtaking vessel approaching very fast from stern". This will immediately pull Pilot out of that focus attention and now this danger will also be accounted for when taking action.

Another example is Navigating in Narrow channel when approaching and passing of channel buoys is reported, it helps pilot also to have better situational awareness and double check the passing correct buoys.

Phone calls from Office:

This really haunts me as I have noticed about 90% times, calls from shore-office are received when vessel is involved in critical navigational activity with or without pilot on board. Charterers, Owners, Shore Office should be well aware about ship's intended time of departure or arrival in port as ETAs, ETDs are regularly shared with these parties. Hence shore office must refrain from calling vessel during manoeuvring. It is one of the biggest distraction that has caused many disasters so far.

If any phone call is received during manoeuvring, please don't attend it. Other side must understand that bridge is always manned where the phone is kept and if call is not answered in the first attempt, it means vessel is busy in some important navigational activity. Shore office must call at a different time and keep good eye on vessel schedule in port which is promulgated through various messages.

The third part of this article will be published in our next Issue (44).

SIMS Lonavala celebrates Graduation of 23rd batch of GME

Thirty successful cadets from the 23rd batch of Graduate Marine Engineering (GME) attended the Passing out Ceremony on the 31st of August, as their families, friends and faculty cheered on.

Chief Guest Mr. SM Iyer, Resident Director ESM India, encouraged all graduating cadets to continue exercising their strength of knowledge and practical skills acquired from SIMS in the diversified machineries and systems onboard. Mr. Maneesh Jha, Principal SIMS Mumbai, was also present at the ceremony and shared valuable wisdom on the seafaring life and work ethics.

The ceremony concluded with prize distribution and group photograph of the batch. Hearty congratulations to the graduating cadets and we look forward to their placements on-board ESM managed vessels in the months to come.

Following Prizes were given to graduating cadets.

GME 23 BATCH PRIZE LIST

Best Cadet: Harkaran Singh
Best in Academics: Harkaran Singh
2nd Best In Academics: Nithin Subramani
Best Hands On Training: Jibin Chacko Thomas
Best Sportsman: Utkarsh Sharma
Best Orator: Akash Krishnaraj Rao
Best Music: Muhammed Sulfisha
Best Cadet Captain: Spandan Mishra
Best In HSSE: Haridwar Singh
Best In Marine IC Engine: Kunal Beri
Best In Marine Auxiliary: Sahil Razak Satvilar
Best in Automation & Control: Kiran Davasam Ramesh Babu
Most Popular Cadet: Noronha Ralston Lyod Raphael

GME 23 batch passing out function, "Chief Guest inspect the guard of honour"

Chief guest meets cadets' parents

GME 23 passing out function at auditorium

Mr. Maneesh Jha, Principal, SIMS, Mumbai address the gathering

Cdt. Kunal Beri, GME23, receives certificate from Mr. Maneesh Jha, Principal, SIMS, Mumbai

Cdt. Hemant Kumar receives certificate from Mr. Jims Andrews, Vice Principal, SIMS, Lonavala

GME 23 batch passing out cadets with Chief Guest and faculty

Cdt. Kunal Beri GME23 receives “Best in Marine IC Engines” from Chief Guest

Cdt. Noronha Ralston GME23 receives “Most popular cadet” award from Chief Guest

Cdt. Harkaran Singh GME23 receives “Best Cadet” award from Chief guest

Chief Guest conferring oath to GME 23 passing out batch

Photo by:
Cdt. Pukkala Madhubabu
GME-24
SIMS Lonavala

Photo by:
Cdt. Omkar Mane
GME-25
SIMS Lonavala

Photo by:
Cdt. Rohit Kumar
GME-24
SIMS Lonavala

Photo by:
Cdt. Paras Sharma
GME-24
SIMS Lonavala

Case Study on Faulty Main Air compressor

* We invite responses from our learned readers as to the causes and lessons learnt through this case study. Please send your responses to samundraspirit@samundra.com.

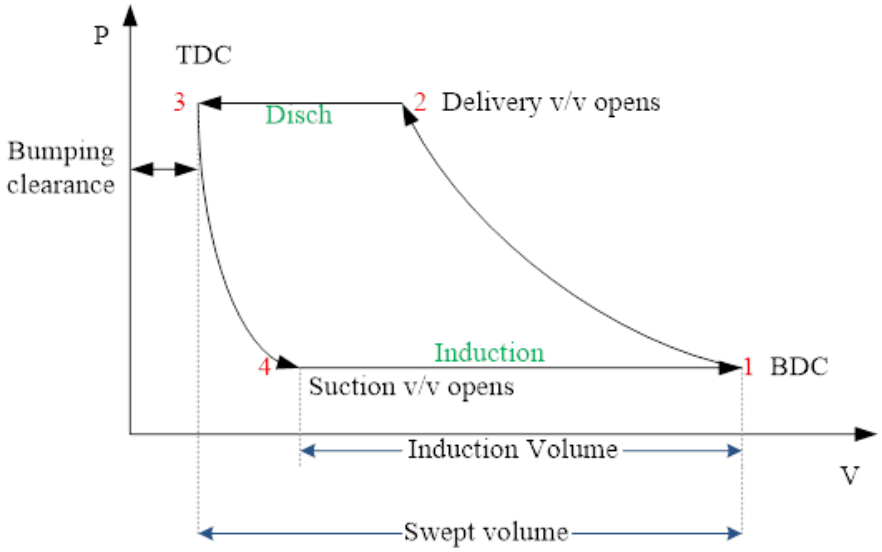
The following incident took place more than two decades ago, when the author was sailing as Second Engineer.

After joining the vessel, initial few days were spent to familiarise myself with systems and machineries in the Engine Room. In the process of familiarization, it was brought to my knowledge that out of the two main air compressors, one air compressor (No 1) was not in good health. The problematic compressor (Hatlapa two stage) was taking unusually long time to press up the air bottles. This meant that the vessel was in effect without the standby compressor, and critical operations like manoeuvring were entirely dependent upon the reliability of the one remaining good compressor.

Engineers reported that every possible check had been carried out previously and no defects were found. The LP and HP stage suction and delivery valves were replaced with new ones, air cooler was cleaned, and every possible consumable was replaced. But all in vain as the compressor performance had not improved a bit.

It was high time that we started looking into the history of that particular compressor. The compressor was completely overhauled around 6 months previously. Being curious to troubleshoot the problem and with an intent of finding out a solution, we started checking each aspect in more detail. We found that cylinder head gasket which was used at the time of last overhaul was not standard maker's supply. The gasket thickness was significantly more than that of the original gasket.

We promptly replaced the cylinder head gasket with the original one and the problem was solved. ■



Responses to previous issue case study

Cargo Theft At Lagos, Nigeria – A Case Study: Issue 42 (July 2018)

Thank you readers for the feedbacks and responses on the previous case study. Here's a compilation of the answers received:

Q1. What could be the various root causes of ships staff failing to detect the pirates activity until they had boarded the vessel?

(a) The ship's staff was not vigilant enough, despite the ship being in an area well known for cargo theft. The boat was noticed quite some time after the robbers boarded the vessel, since 6 gallons of IS COT had already been siphoned off by the time the boat was noticed. No small boats are to be permitted to come close to a ship. The duty personnel failed to notice the boat approaching the ship for boarding by the robbers.

(b) There were no credible measures taken by duty personnel to make it apparent to an outsider that the ship's staff was vigilant. Robbers will not attempt boarding a ship, if they feel that the ship's staff is vigilant.

Q2. How can such boarding & thefts be positively prevented?

To prevent boarding by any thieves/ robbers, it should be made obvious to them that the ship's staff is very vigilant and they are likely to be caught if they attempt boarding. Following measures may be taken towards this:

(a) Frequent upper deck rounds by roving duty personnel, who would frequently switch on torch light and wave it around and over the side.

(b) Sounding of whistle every now and then by the roving duty personnel on upper deck.

(c) If any suspicious boat object is found in the vicinity of the ship, it should be illuminated and asked to move away.

(d) Switching on off of deck lights

From the details provided and your knowledge about the operation and maintenance of marine equipment onboard, please provide answers to the following regarding the case study:

1. **What was wrong with the cylinder head gasket used during overhaul and how that could have affected compressor's performance?**
2. **Apart from the issue of inadequate performance of compressor, is it possible that a thicker gasket can also lead to premature gasket failure? If yes, how?**
3. **Why reciprocating air compressors may emit little sound while running unloaded, which disappears when the compressor is loaded?**

Mr. Maneesh Jha
Principal
SIMS, Mumbai

(e) Switching on searchlight/ beacon, if fitted on board, and rotating it every now and then.
(f) Keep a look out for early detection of any suspicious boat/ object approaching vessel and deter it from coming close to the ship. Lights may be used for this purpose.

Q3. Which II parties, Master should inform in West Africa in case of security incidents?
Master should inform:
(a) Local port authorities
(b) NIMASA – Nigerian Maritime Administration and Safety Agency
(c) Maritime Organisation for West Africa and Central Africa (MOWCA)

Q4. Which Company Circular provides detail on security measures for West Africa?
A4. Security Circular No. SEC- 14 Rev.12 Dated 28.06.16 ■

First Six Months at SIMS

I belong to Rajasthan where we do not have much knowledge about Merchant navy, but I was inspired by my brother, who is SIMS alumni and currently serving in ESM as Third officer. I decided to follow him in making my career in merchant navy and so my journey started.

After clearing due selection and admission process, I joined SIMS on 28th February'18 and realised life at SIMS is not just like any other college and you have to constantly put efforts and hard work.

Although it was the first time, I was away from my state but the kindness showed by people, administration officials, teachers, security guards was so good that I never felt that I am away from home.

From the first day to present, I haven't realized how fast time has gone by as we have been busy with classes, assignments, games, etc.

Our daily routine starts with physical training as well as yoga, followed by eight hours of classes and sports activities where we can release our stress. I play cricket and have been mindful about my fitness, as I know it will help me in my career ahead on ship. During rainy season, I keep myself busy in the gym.

Mentoring sessions by our beloved course in-charge are conducted time and again that gives us new wings to stick to our aim. All subjects which we studied have great importance on board ship and these were new not only for me but also for all. But I feel so lucky to have good and experienced faculty who teach us.

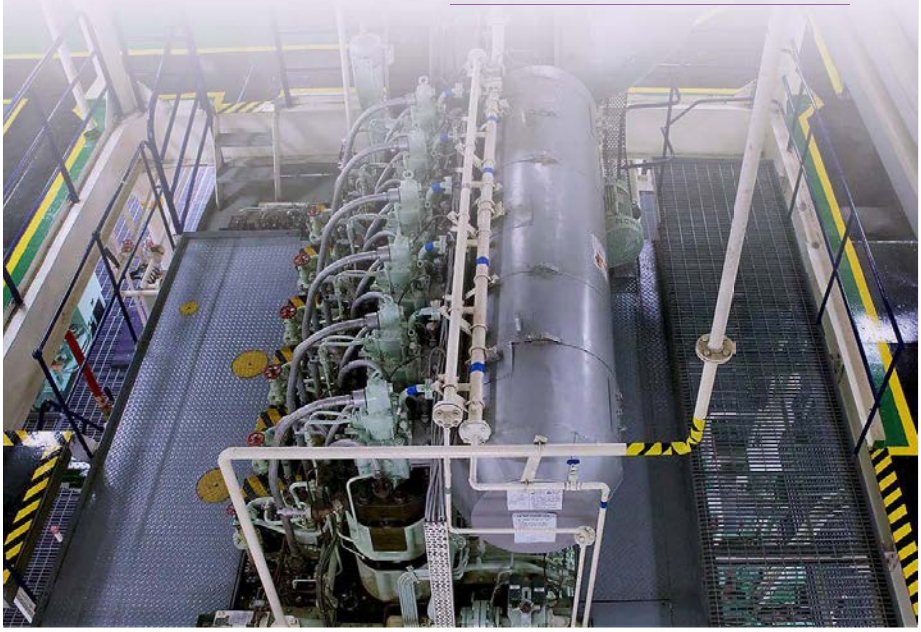
Subjects like Automation, Marine auxiliaries, Marine IC engines, Boiler, Refrigeration etc. have enhanced my knowledge to a greater extent. With this knowledge provided to us, I am confident to work and perform well on ship.

With technological advancement and automation onboard ships, we are familiarized with the concepts as a separate subject.

Lectures, assignments, mid-terms, quarterly exams have given us an opportunity to see where we stand and where to improve.

This schedule and discipline that we regularly followed for 6 months has improved me a lot and I can only say that I am getting fully prepared to go on board ship as the routine we follow here will be same on ship. ■

Cdt. Arvind Mahla
GME-24
SIMS, Lonavala



Hooghly waterways: a brief history of its pinnacle

The present-day river Hooghly originates as a rivulet of the mighty river Ganga and passes by Kolkata before reaching the Bay of Bengal at Sagar Islands. The river and her tributaries are witness to the rise and prosper of the City of Joy as a major trading hub in the Southeast Asia.

Kolkata and surrounding areas remained as one of the busiest trade centers for more than four centuries as the Hooghly waterways provided a convenient and economical means to connect to the high seas. Ocean going ships were able to reach at the doorsteps of the factories and market places for delivering and receiving goods.

Colonial countries with trading interests such as the Portuguese, French and Dutch made inroads in creating commerce, however it was the British East India Company that further developed the waterways and established Calcutta as the capital of British India and a trading hub.

Aerial photo of the Hooghly River, a distributary of the Ganges River, taken above Bally, West Bengal, India (Credit: Greg O'Beirne)

Mythology and Origins

The Ganga is considered holy in Hindu mythological narratives. As per folklore, Prince Bhagirathi of the Sagar dynasty brought river Bhagirathi to earth from heaven to release his 60,000 grand uncles from a curse of the Kunti muni (a saint). The river Bhagirathi then joined river Alaknanda at a place called Devaprayag and came to be known as the river Ganga.

However the great river Ganga in fact, rises from western Himalayas, flowing through the states of Uttar Pradesh and Bihar and enters the state of West Bengal at a place known as Farakka. Here a small stream flowed southwards and later added many smaller streams from the central plateau to form River Hooghly.

Trade and European settlements

Many historians believe Mahmood Shah, the Nawab of Bengal, in 1537, asked for military assistance from the Portuguese representatives in Goa to keep Sher Khan, a famous lieutenant of the Mughal emperor Babar, away. Admiral Sampayo came for support through the river Hooghly with nine Portuguese vessels and helped Mahmood Shah. In return, the Nawab allowed the Portuguese to set up factories and trade centers on the banks of the river. This was the region's first contact with the Europeans.

The Portuguese established their first facility at a place called Satgaon (a small town today known as Saptagram) further up the river from

Fort William of the Kingdom of Bengal of East India Company Colony. Engraving by Jan Van Ryne. 1754. Courtesy: British Library

present day Kolkata. Due to high siltation of the river, Satgaon became unreachable by big vessels which prompted the Portuguese to develop a new settlement down the river at Hooghly. They developed storehouses that were found on the river's banks. The region turned into a major commercial center and the largest port in Bengal. The Portuguese influence on the city and its culture is still visible in its architecture and Churches on the river banks and approach to the commercial centers.

Attracted by the promising prospects of the area, wealthy merchants with their families, traders, catholic priests, etc. settled in the area. The period lasted for about fifty years until Emperor Shah Jahan, concerned by the Portuguese influence and trafficking of Bengali slaves, ordered his general Qasim Khan to attack and drive out the foreigners in 1632. The defeated Portuguese fled the region subsequently.

But the, news of the tremendous business prospects in Bengal had reached the other European nations and towards the end of the 17th century, the French, the Dutch and later the English settlements had been founded by appeasing Shah Jahan via payment of hefty taxes by the settlers.

Heavy investments were made by the British and their first settlement promoted by the dominant East India Company, came up at a place then known as Kalikata on the left bank of the river. In 1757, they defeated the last Nawab of Bengal Siraj-ud-ullah in the battle of Plassey. Under the British rule, Calcutta became the second most important city after London. Among many contributing factors, behind the rise of this city in the field of trade and commerce was the silently flowing river Hooghly.

Paddle Steamer Enterprise

Steamer Mayo entering Kidderpore docks

High siltation

The earliest topographical map of the Hooghly River was found to be prepared by Capt Mark Wood of the East India Company, which made clear of their intentions of taming the waterways to reap maximum benefits from it. By the early 19th century, the high siltation rate, dangerous bends, unpredictable shallows and the thick fog during winter was recognised as a growing deterrent for successfully navigation by the British traders.

Above Calcutta, even the tidal flow from smaller tributaries proved insufficient. The British tried various techniques including raking the riverbed and placing bamboo sticks to change the current of the river. Latest irrigation technologies were also used to control the river's decline and its continued trading profitability.

The first steamship

On 7th December 1825, the first steamship to arrive in Calcutta amidst much fanfare, was the "Enterprise" under the command of Capt. James Johnston. The first upstream steamship expedition from Calcutta was attempted in 1828 via a specially designed flat bottomed vessel at the recently operational Kidderpore docks. Even though it ran aground twice and struggled against the strong currents of the rivers, she successfully made it to Allahabad and back, completing some 800 miles over a couple of months.

Apart from being a commercial port and a gateway to eastern India, including the Himalayan areas and Assam, the port also had a militarily strategic location.

Today, the Hooghly River remains an important feature in the art, culture and naval activities of the region, however factors such as shift in industries, high siltation and over pollution has led to the eventual decline of its status as a notable post. ■

Capt. Subhendu Hati
Dean, Nautical,
SIMS, Lonavala

Progression of Propulsion in Indian Ship-building History

Mr. Abhijeet R Soman
Lecturer
Mechanical Engineering
SIMS, Lonavala

The oldest recovered boat in the world, the Pesse canoe was a dugout made from the hollowed tree trunk of a Pinus Sylvestris that was constructed somewhere between 8200 and 7600 BC in Netherlands. And in the Indian subcontinent, watercrafts were used for commerce as early as 3000 BC by the Indus Valley civilization with a thriving trade with Mesopotamia, as evidenced by the unearthing of numerous seals of boats in the sites. It is believed that the discovery of sails had proved to be the biggest turning point in seafaring development as it substituted human efforts, enabling longer trips with substantial loads. Formerly square sails were used for sailing downwind; while fore and aft sails were devised later.

Historical narratives of our glorious seafaring have seriously suffered from non-maintenance of written records and most of our ancestors' maritime exploits of the BC and initial AD eras have been reduced only to educated guess or speculation. One of the ancient art of making Uru (a wooden dhow) in Beypore, on the coast of Kerala, has been passed down generations and is presumed to be as old as the beginning of India's maritime trade with Mesopotamia. It is arguably the biggest handicraft in the world, constructed solely of teak, with a transport capacity of 400 tonnes. Uru helped connect ancient Kerala to the lucrative spice trade route.

Ancient annals of maritime capabilities

Ship/ boat construction has been vividly described in the Yukti Kalpataru, an ancient Indian text on shipbuilding written in Sanskrit during 11th Century AD purportedly by King Bhoja of Dhar. This text provides technical descriptions about the techniques of shipbuilding. It contains precise details about the various types of ships, their sizes, the materials from which they were built. The Yukti Kalpataru sums up all available shipbuilding information in a condensed form. Besides describing the qualities of the different types of woods and their suitability in shipbuilding, the text also provides an elaborate classification of ships based on their sizes.

The primary division is into two classes viz. Samanya (ordinary) and Vishesha (Special). The ordinary type was for sea voyages and classified into, Dirgha type of ships having a long and narrow hull and the Unnata type of ships having a higher hull form. Three classes of ships are described according to their lengths and the position of cabins. The ships with cabins extending from one end of the deck to the other are called Sarvamandira vessels. These ships were recommended for the transport of royal treasure and horses. The next are the Madhyamarnandira vessels which had cabins only in the middle part of their deck. these vessels were recommended for pleasure trips. Third category of Agramandira vessels were used mainly in warfare.

Regrettably there remains a huge gap in our maritime and shipbuilding history, even though these enterprising seafarers and artisans had made India into one of the foremost maritime nations of those days and spread Indian culture overseas by the dint of their superior shipbuilding and seafaring skills. In glorious days of maritime ascendancy during reigns of Maurya, Gupta and Chola kingdoms, Indians established prosperous colonies, in Cambodia (Kambuja in Sanskrit) in Java, (Chavakam or Yava dwipa) in Sumatra, in Borneo, Socotra (Sukhadhara) and even in Japan. Indian traders had established settlements in Southern China, in the Malayan Peninsula, Arabia, Egypt, and Persia.

The British conquest and influence on India's maritime activities

Promotions Onboard ESM-Managed Fleet During Third Quarter


JE JOEL RAJESH NORONHA
GME 18


JE AMAN GODARA
B Tech 002


JE KAMJEET SINHA
GME 17


JE SUVADEEP PANTY
GME 16


JE PANKAJ PANDURANG SALGARE
GME 18


JE ARITRA DAS
B Tech 002


JE DIVYANK RAVI JETLEY
GME 17


JE VARUN ATHMAKURI
GME 18


JE JAY NAROTAMBHAI TANDEL
GME 17


JE KETANKUMAR H TANDEL
GME 17


JE DIVYANSHU PANDEY
GME 18


JE BALDEV CHAND
GME 17

From the beginning of 17th Century, the naval supremacy of Indian kings had been diminishing slowly due to infighting and influence of foreign traders such as the Portuguese, British (East India Company), Dutch and French. Finally, British East India Company became a dominant power to usurp almost entire Indian subcontinent by 1757. All the shenanigans by the colonial powers impeded any technological advances as far as indigenous knowledge and technology about maritime innovations was concerned. Indian shipbuilders eventually followed the technology handed down by the British whilst building ships for them.

Up until the early 19th century human efforts (oars) or the wind were still the principal resources for watercraft propulsion which later advanced to steam propulsion significantly. The advancement of piston-engine steamships was a difficult and time-consuming process. In early days steamships were fired by wood, later ones by coal or fuel oil. Originally ships had stern or side paddle wheels, which gave way to advent of screw propellers. Steam propulsion advanced expressively over the rest of the 19th century. Noteworthy developments include the steam surface condenser, which eradicated the use of seawater in the ship's boilers.

As far as the Indian seafaring history is concerned, "Diana" was the first steam paddle steamer procured by the Bengal government in 1824. The ship was a merchant vessel with 133 tons of weight and side-lever engine producing 16 horsepower (12 kW). Later, she turned out to be the first warship during the Anglo-Burmese war.

In 1842, Peninsular and Oriental (P&O) Steam Navigation Company started their steamship service to India. Hindostan was the paddle-steamer weighing 2,017 tons gross and producing 520 horsepower. She sailed between Calcutta, Madras, Ceylon and Suez. With the increasing demand of carrying passengers in addition to goods, steamboat experiments began building and operating passenger ships. The Scindia Steam Navigation Company, incorporated at Mumbai was one of the oldest Indian shipping companies found in 1919, projected by Walchand Hirachand.

Later, Scindia started a collaboration service of India — Europe package by launching the first steamship SS Loyalty, but was forced to sign a 10-year agreement with British companies and its route was constrained to the Indian coastal shipping trade for this period. SS Loyalty journeyed to United Kingdom on 5th April 1919, which is celebrated as National Maritime Day of India

Post-Independence and Nationalization of Maritime Assets

In 1948, Scindia Shipyard built "Jal Usha", the first steamship constructed entirely in India after independence. Indian government took over the Scindia shipyard subsequently, as it was a sensitive and strategic sector related to the defense of the country and nationalized it in 1961, retitling as Hindustan Shipyard Limited (HSL). HSL has erected over 180 vessels till date (including TS Rajendra) and repaired almost 2,000 ships. Moreover, it builds bulk carriers, offshore patrol vessels, survey ships, drill ships, offshore platforms and repair and support vessels.

India's prime shipyard, Mazagon Dock Shipbuilders Limited (MDL), formerly called Mazagon Dock Limited, established in the 18th century, was owned by various entities including the P&O and British India - two big ship owners of British vintage. The shipyard was also subsequently nationalised in 1960. It manufactures warships and submarines for the Indian Navy as well as offshore platforms and associated support vessels. It also builds tankers, bulk carriers, passenger ships and ferries.

In the early 20th century, heavy fuel oil began to replace coal as the fuel in steamships because of its convenience to use, reduced manpower by eliminating trimmers and compact space for fuel bunkers. In the second half of the 20th century rising fuel costs led to the demise of the steam turbine. Ships built with diesel engines became more common in 1960 in India.

India, today has progressed with a robust network of assets and technologies in the maritime sector that continues to build capabilities par International standards. ■


JE KARTHIK NAYAK
GME 18


JE VISHNU SANKAR NAGARAJAN
GME 18


JE AJIT DEVRUKHKAR
GME 19


JO AMIT KUMAR
DNS 15


JO SHIVAM GANDHI
DNS 17


JO VINEET JAMWAL
DNS 17


JO GOWTHAM SR BALASU-BRAMANIAM
DNS 15


JO RANDEEP SINGH
DNS 16


JO GLADVIN RAJU
DNS 15


JO AKSHIT SINGH
DNS 17


JO DHAKSHNAMOORTHY JAYASANKAR
DNS 17


JO ALFRED JAMES
DNS 10


JO MANOHAR GURU
DNS 15


JO SHIVENDRA KUMAR CHATURVEDI
DNS 14


JO MAYANK MISHRA
DNS 15


JO AJAI SREEDHAR
DNS 15

River transportation as arteries of Trade: Chronicles of Pre Independent India

Rivers have played an important role in providing habitat and livelihood for humans and in India, major rivers have facilitated the establishment of civilizations and thriving dynasties in and around their banks. Fertile lands and development of modes of transportation via the rivers led to booming trade, conquests for kingdoms and prosperity.

Mr. Prasad Godbole
Engineering Faculty
SIMS, Lonavala

Origin of trade via rivers

The earliest record of river transportation is from the ancient Indus valley or Harappan civilisation which sprung around the river Indus in 33rd century BC. They have been noted for trading as far as the Mesopotamia region, where Harappan seals and tablets have been found, as well as using the river estuaries for inland trading. Terracotta models depicting long and narrow boats with cabin in the middle have been found, that depict inland trading or transportation. These flat bottomed boats with pointed prow, seemed to have been made of reed for carrying light cargo and men. The decline of the civilisation in 17th century BC to 13th century BC was triggered by a few possible causes - the change in the course of the river or its drying and high siltation rate which thereby affected the livelihood and lives of the people.

Prosperity of the Indo-Gangetic plains

With the rise of agriculture in the Indo-Gangetic plain and religious philosophies in the Indian subcontinent during the Vedic era between the 13th century BC to Fifth century BC, trade as well as travel of people was noted. Consolidating this trade route, Chandragupta Maurya from the Mauryan dynasty in the Third century BC, established the Grand Trunk (GT) Road. This linked the kingdom from the mouth of the Ganges in east (present Bangladesh) to the north west of the empire (present Afghanistan). This road covered around 2600 kilometres and connected six rivers of the time – Indus to Jhelum, Beas to Sutlej, Sutlej to Yamuna/Jamuna, Yamuna/Jamuna via Hastinapur to Ganges. The sheer magnificence and prosperity of the networked kingdom was recorded by the Greek traveller, Megasthenes in his book, 'Indika'. Although the GT Road is still used for transportation in India, most of the rivers that connected it have either declined or dried up.

Transportation and cultural influences

The Third century AD saw the rise of the Gupta Empire that thrived in trade with the east whilst also opening up seaborne trade in the west as far as East Africa. Various ports that facilitated transportation were the ancient city of Tamralipta (present day West Bengal) near the Rupnarayan River that empties itself on the Hooghly River, Kaveripattnam port (present day Tamil Nadu) located at the convergence of River Kaveri and Bay of Bengal as well as the Muziri port (present day Kerala) also at the confluence of Periyar river and Arabian Sea. As trade and transportation grew with its neighbouring regions, the Gupta Empire established cultural centres and colonies in Sri Lanka, Burma and other South East Asian regions. This period has also been called as the Golden Age of India by Historians.

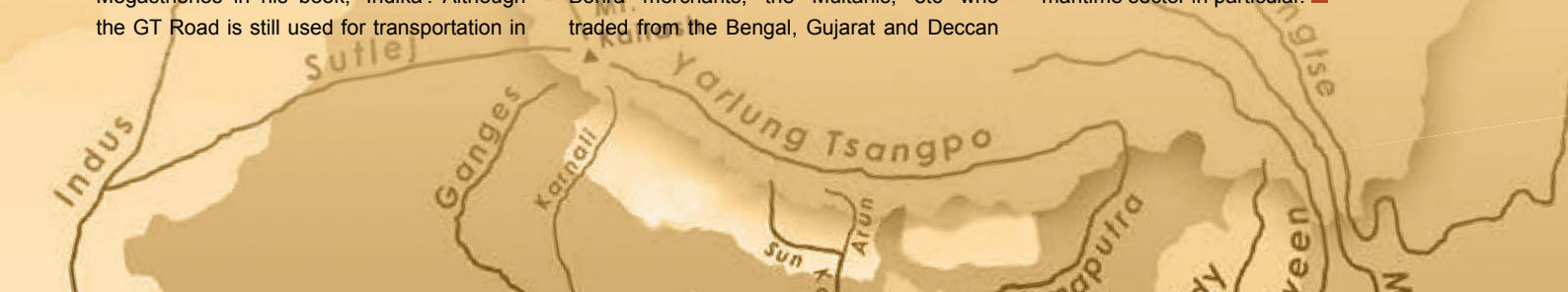
Further east, between Fourth to 11th centuries, the Kamarupa Kingdom established trade in the river Brahmaputra stretching from the Bengal valley up to Bhutan. Collection of tolls from boats transiting the river became the main source of income at the Pragjyotishpur port – present day Guwahati for the Ahom Kings (12th to early 19th century). The Governor of Bengal in mid-19th century, Sir Richard Temple noted in his memoir, the thriving trade of tea being shipped on this route and the boats that flocked the river, making it almost a floating city. The route was subsequently closed after the Indo-Pak war in 1965 by East Pakistan (which subsequently became Bangladesh after 1971 liberation), leading to the end of the trade.

The Mughal accession and expansion of trade

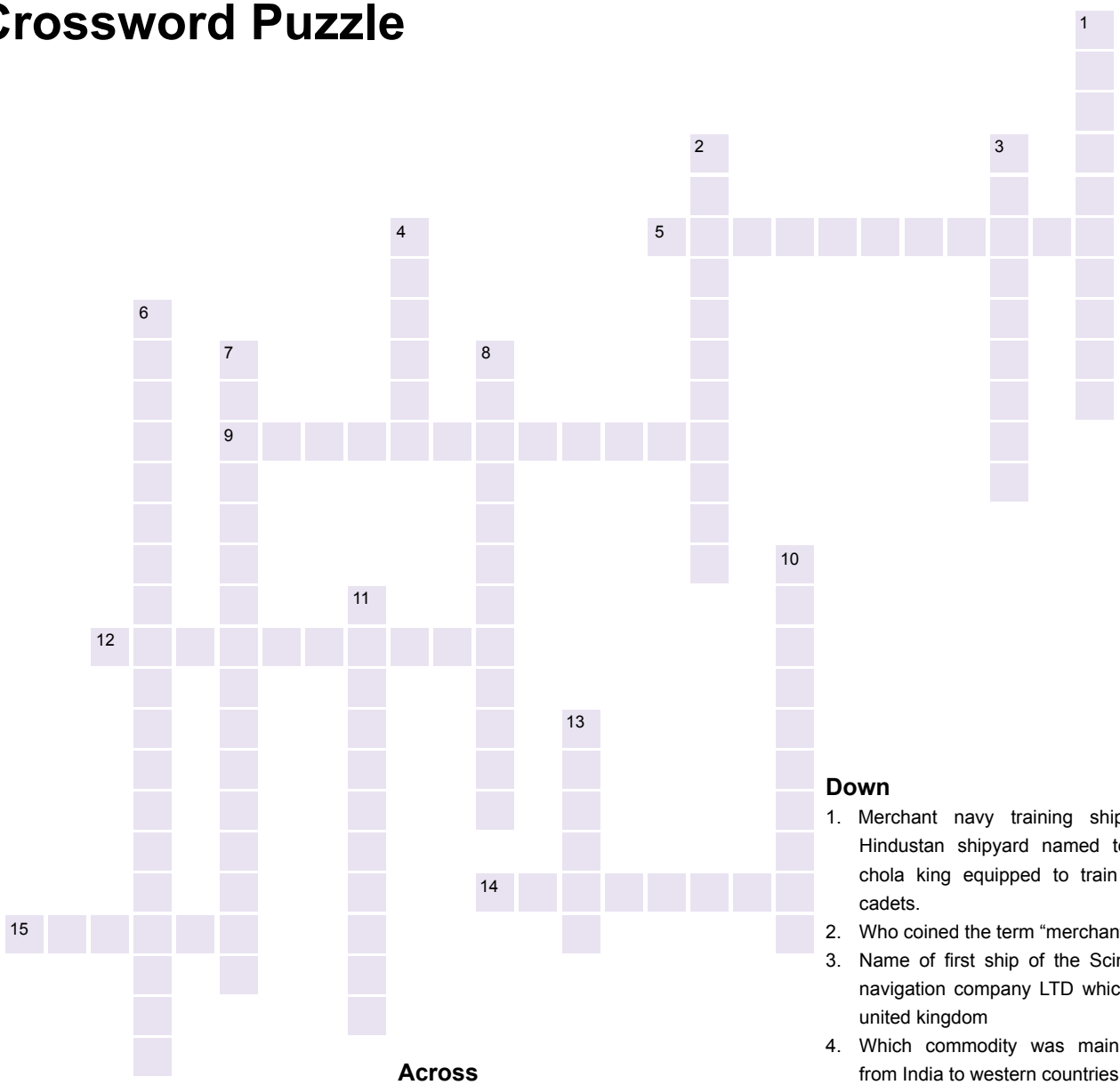
The Mughal era from the 15th to 18th century established a unified currency and massive road transportation, amongst other things, that flourished industries and trade. International trading continued with West and Central Asia and various internal trading classes sprung up such as the Marwari's and Gujaratis, Muslim Bohra merchants, the Multanis, etc who traded from the Bengal, Gujarat and Deccan ports. Perhaps due to the well networked royal roads and thriving sea trade, any mention of river transportation has been all but sparse. Although the Bengal delta region continued to be the epicentre of commerce, overseas trade expanded between the 16th to 18th centuries to the European companies, which ironically and subsequently also led to the demise of the Mughal Empire.

Both the Ganga and Brahmaputra as well as its tributaries consisted of the Bengal delta region of trade and utilized canals for inland transportation. Through various historical accounts of Bengali scholars and European sailors, terracotta depictions of boats used in the era, have been noted for different uses including leisure and merchant boats. Ornate passenger boats with cabins of wooden walls and furnishings as well as houseboats were in use, possibly, by the rich Lords and Chiefs. Most of the records found for vessels on the region are represented as flat bottomed, smooth round hull with raised ends including rafts, cargo vessels and fishing boats.

With a 7,500 km coastline and almost double (14,500km) of inland navigable waterways, the Post-Independence era is yet to witness a robust network of inland waterways as was in its glorious past. Besides reaching the hinterlands and creating a cost effective transport solution, river transportation facilitated progress of its settlements around. Recognising the missed opportunity, the Indian government has now undertaken the ambitious project 'Sagarmala' from the year 2015. Greenfield ports at strategic locations, rail and road connectivity to these river ports, etc. are part of the project where dredging will be a continuous process, and specialized vessels suitable for river navigation will be designed and built. This aims to provide a fillip to the Indian economy in general and to the maritime sector in particular. ■



Crossword Puzzle



Across

5. During 3rd millennium BCE which inhabitants initiated maritime trading contract with Mesopotamia
9. Which Indian legislator moved the resolution in the Indian legislative assembly to acquire R.I.M.S dufferin by the department of commerce and convert it into a training ship?
12. 5th April is marked as which day in India
14. Which was one of the first indigenous Indian steam navigation company set up during the Indian independence movement
15. Which was the port to which the first sailing of ship owned solely by Indian interests from Bombay took place.

Down

1. Merchant navy training ship built by Hindustan shipyard named to honor a chola king equipped to train 250 deck cadets.
2. Who coined the term "merchant navy"
3. Name of first ship of the Scindia steam navigation company LTD which sailed to united kingdom
4. Which commodity was mainly shipped from India to western countries
6. Which act was formally established in Aug. 1978 which protects India's maritime interests and enforces maritime law
7. Which company used to ship substantial quantities of spices during early 17th century from India?
8. Who was the first Indian admiral of Indian navy and trained in TS DUFFERIN
10. Name of first ship troopship acquired to train merchant navy cadets and trained around 2500 cadets till its decommissioning
11. In which Indian Epic there is clear mention of navy
13. The earliest known dock found in the world equipped to berth and service ship

Cdt. Akeeb Aslam Mukadam
GME-24
SIMS, Lonavala

Answers

Across:
5. INDUSVALLEY 9. SIVASAMYIYER 12. NATIONALMARITIMEDAY 14. SWADESHI 15. LONDON

Down:
1. TSRAJENDRA 2. KINGGEORGEV 3. SSLOYALTY 4. SPICES 6. INDIANCOASTGUARDACT 7. EASTINDIACOMPANY 8. RAMDASKATARI 10. TSDUFFERIN 11. MAHABHARATA 13. LOTHAL

Indoor Games House Tournament 2018-19

The Indoor House Championship of the academic year 2018-19, saw omnipresent talent of the capable cadets of SIMS, Lonavala, against each other to fight it out for the prestigious championship title.

The tournament involved a singles and doubles round for table tennis and carrom along with the highly stimulating game of chess.

House Ganga who has dominated the table tennis playing field for quite a few years did not disappoint the spectators during the league matches. However, despite their amazing run they crashed out in the Doubles final against the exhilarating Kaveri House. Cadets Vikas Bijarniya (BTech 06) and Rachit Garg (BTech 07) overpowered House Ganga with great composure. But, all was not over just yet, as Cadet Anubhav Varma (Btech 06) of Ganga made amends by claiming a clean sweep against House Godavari Harpeet Sidhu in the nick of time.

Elsewhere, in the battlefield of chess, Cadet Ashutosh Kumar (Btech 6) who has boarded with a great record of claiming the title for house Ganga was given an absolute run for his money in the finals against House Kaveri's Ravindra (DNS 26). Their match went on for few hours with neither of the competitors bowing down to the other. Eventually House Ganga very skilfully clinched the win.

The round of Carrom also proved to be a table turning affair, with quite a lot of surprises in the bag. House Kaveri's Cadet Alam Seemab demolished his opponents by huge margin in the league games but turned up for an upset against House Tapti's Cadet Sourav Prakash. Proving himself as the ultimate opportunist, Cadet Sourav took the game away with a fine victory.

If that wasn't enough, the favourites house Kaveri, was treated with another let down in the doubles finals against house Ganga.

Competitions like these don't turn up in a day out and it was an absolute delight to watch these competent players give in their all. Congratulations to all the winners! And, an amazing round of applause for all the participants involved.

Table tennis Finals Singles:
House Ganga vs House Godavri
First Position: Cdt. Anubhav Verma (Ganga)
Second Position: Cdt. Harpreet Sidhu (Godavri)

Table Tennis Doubles Finals:
House Kaveri vs House Ganga
First Position: House Kaveri, Cdt Vikas Bijarniya and Cdt. Rachit Garg
Second Position: House Ganga, Cdt. Anubhav Verma and Cdt. Advaita S

Carrom Single Finals:
House Tapti vs House Kaveri
First Position: Tapti House, Cdt. Saurabh Prakash
Second Postion: Kaveri House, Cdt. Md. Seemab Alam

Carrom Doubles Finals:
House Ganga vs House Kaveri
First Position: House Ganga, Cdt. Akhil Unnikrishnan and Cdt. Alankar Rao
Second Position: House Kaveri, Cdt. Vishnu Narayan PS and Md. Seemab Alam

Chess Finals:
House Ganga vs House Kaveri
First Position: House Ganga, Cdt. Ashutosh Kumar
Second Position: House Kaveri. Cdt. Ravindra Singh Bhati

Carrom Doubles finals House "Ganga" Vs House "Kaveri" in the inter house indoor games tournament 2018-19

Prize winners with faculty and sports instructor in the inter house indoor games tournament 2018-19

Table Tennis Doubles finals House "Ganga" Vs House "Kaveri" in the inter house indoor games tournament 2018-19

Visitors' Comments
Third Quarter, 2018

This campus is beautiful, comprehensive and very well planned/organized. Very knowledgeable and helpful professionals. Looking forward to growing relationship.
No. 1 place I have visited of this type!

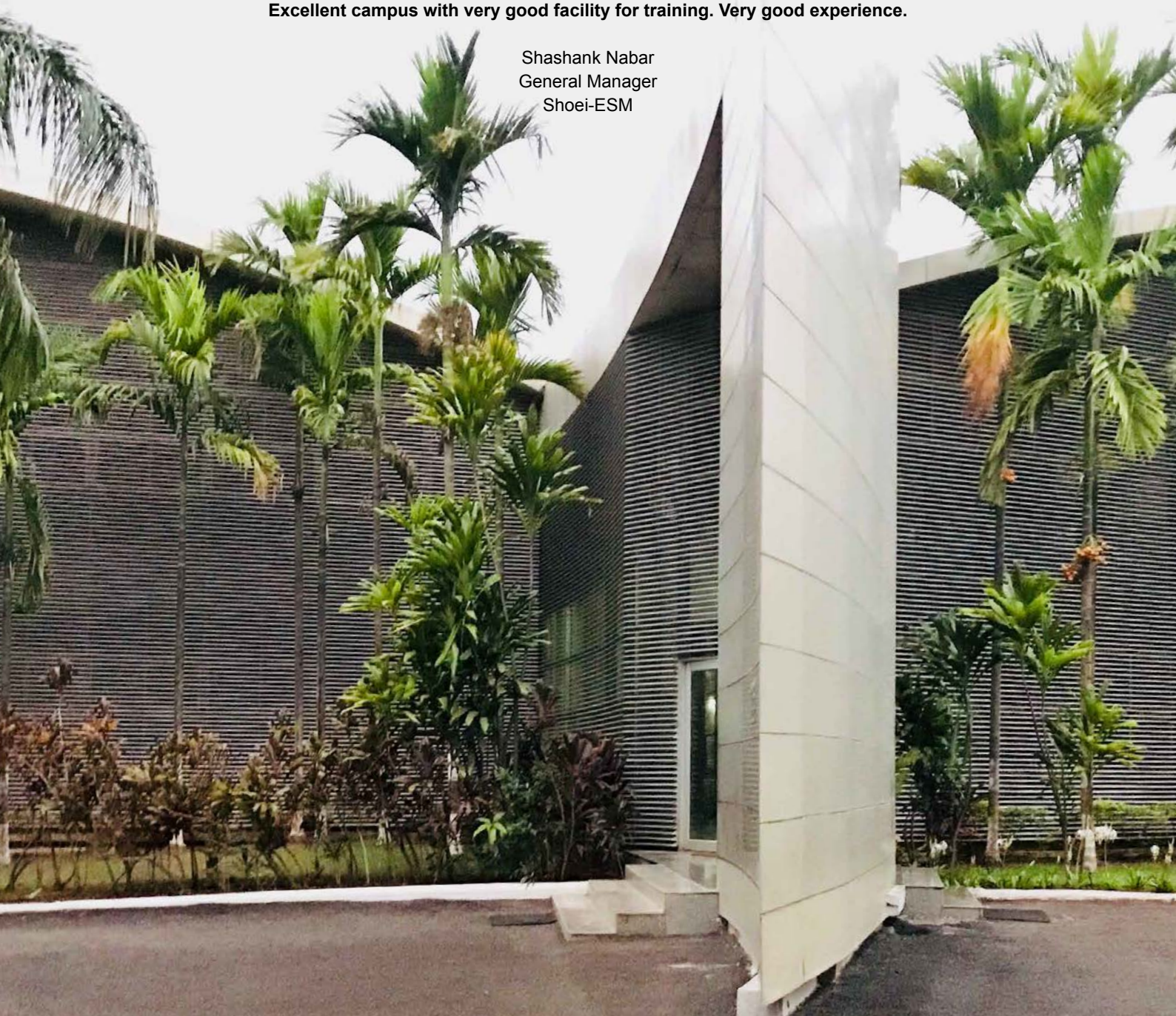
Steve Watson
Country Manager
EnerMech Invid Pvt ltd

Honoured for this opportunity to be able to present about P&I Club at this esteemed college. One of the best Marine colleges in the current times. Truely International standards.

Ansuman Ghosh
Risk Assessor
UK P&I Club

Excellent campus with very good facility for training. Very good experience.

Shashank Nabar
General Manager
Shoei-ESM



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