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### **Addressing the Need for Improvement in Maritime Education and Training System of India**

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#### **ABSTRACT**

Education and training are vital to the development and success of today's knowledge society and its economy. The Indian Maritime grand strategy emphasizes all expert policy makers and stakeholders working together and learning from each other while the Indian maritime education and training (MET) policy underlines that knowledge, and the innovation it sparks. This is the India's most valuable assets, particularly as global competition becomes more intense in all sectors under the hardships of the global economic crisis. MET is required to go further than training mariners to service onboard ships but to provide manpower for marine related activities in shore. Today, shipping business is no longer limited to transportation and management as before, but has progressed to be a giant industry which covers more aspects including maritime finance, brokerage, law, insurance. This requires broadening the concept of MET to meet the demands of shipping industry. This paper redefines the concept of MET as an educational system whose objective is to cultivate people to be competent in areas such as shipbuilding and maintenance, ship operation, maritime management and services, as well as maritime teaching and researching.

**KEYWORDS:** MET, STCW, Maritime research projects, IMO

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## **1. INTRODUCTION**

Shipping is perhaps the most international of the entire world's great industries and one of the most dangerous. Safety of life at sea, the marine environment and over 80% of the world's trade depends on the professionalism and competence of seafarers. It has been reported that the over 80% of accident and incidents are due to human error (IMO, 2005). To reduce the human error onboard ships the purpose of maritime education and training (MET) set to supply manpower for the shipping industry. MET covers a wide spectrum of training institutions which range from those delivering short-time courses to post-graduate studies. The ship, core element of the shipping, operates worldwide in a multinational, multicultural and multifunctional environment. To facilitate working competently in such a complicated environment, the seafarers must be trained taking into account the all international standards and related regulations. Higher levels of skill are needed for specialty vessels of today.

Recently, IMO's priority has been to revise the most important international treaty dealing with crew standards – the International Convention of Standards of Training, Certification and Watch-keeping for Seafarers (STCW). To achieve this IMO cannot work alone, governments and related industry should show the same determination to implement these standards (Ziarati, 2003). Unfortunately a close investigation of casualty analyses, approved by IMO, focusing on the causes of accidents clearly indicates that standards are not applied correctly and when human factor issues are studied carefully there are omissions in the education and training programmes received by the seafarers involved in accidents.

This paper aims to indicate the gap between what is being taught and what actually is required by MET standards in India. I also recommend establishing centers of R & D to promote better education to seafarers so as to keep the ships safe and to have pollution free oceans.

## **2. INDIAN INITIATIVE:**

India's maritime education and training sector is set for a churn as its maritime administration, led by the Directorate General of Shipping, takes steps to introduce a new monitoring mechanism for institutes to ensure quality and uniformity. The directorate will soon introduce a so-called Comprehensive Inspection Programme (CIP) that seeks to do away with the inspection processes a maritime training institute is required to undergo on a regular basis—scheduled inspections by academic councils, quality certifications by certifying bodies and grading of the institutes by rating agencies. These mechanisms have not yielded the desired results because these agencies lack expertise in the

maritime education field. A comprehensive grading process by established agencies in the maritime field will form the core of the new monitoring mechanism for training institutes

In the same manner Indian government has opened a Central University, Indian Maritime University, in 2008 .All the seven government run institutes are now placed under this University.Besides, The Central Govt of India funded institutions ,there are many a privately managed and run Institutions in India , numbering to 130 plus (For Officers & Ratings training )

### **3. GAPS IN MARITIME EDUCATION AND TRAINING OF SEAFARERS IN INDIA**

Research shows there are many gaps in maritime education & training system in India in relation to the trends in the maritime industry now and in relation to expected future trends in the industry. These gaps should be addressed by proper authorities as training of seafarers need a change in the coming decades to improve the industry's competitiveness and compliance with the emergent environmental regulations. In the following the article addresses the most important and emergent topics which needs to be addressed.

#### ***3.1. Oil Pollution on Vessels and Adequacy of Maritime Training***

Shipping is a highly regulated industry related to oil pollution. Shipping has contributed less in comparison to other land-based polluters.Although improved hull design and more sophisticated shipboard pollution prevention equipment and appropriate training have evolved seafarers' environmental awareness and help reduced pollution further but there are still some pollution violation by shipping industry which has to be addressed.

##### **3.1.1. Factors and reasons leading to oil pollution violations**

Machines: Some pollution may cause by design limitations of related machinery

Shipping personnel: Training, Superiors instructions,Human factors (attitude, experience ,fatigue)

Methods: Separation, pumping overboard, transfer to shore

Other factors: Seafarers' awareness and attitude towards pollution prevention practices; Experience of seafarers; Influence of fatigue; pollution prevention drills; and Inadequacy of shipboard pollution prevention equipment

### **3.1.2. Recommendations on training in pollution prevention from ships:**

With a focus on safety following are proposed:

- More simulator exercises for seafarers
- Case studies on pollution matters must be included in both pre-sea and post-sea lesson plans
- CBT programs may be used for onboard training
- A dedicated maritime environmental awareness in the pre sea course curriculum
- Related IMO model courses needs to be revised
- Mindset behavior training of seafarers
- Mechanism for regular knowledge of up gradation for Trainers
- Shipping companies need to be continuously updated on Marine Environmental matters

### **3.2. *Cross-Cultural Education & Training:***

Seafarers need training to work onboard ships as an efficient team with the crew of different cultural backgrounds. How to communicate efficiently and effectively in a culturally diverse environment and how to live together with diverse cultures onboard should be one of the focuses of maritime training systems.

### **3.3. *Focus on Shipboard Skills***

Training of Seafarers onboard ships also need to focus on development of skills related to team work, intercultural competences, leadership and maritime resource management.

## **4. ADVANCE TRAINING COURSES FOR SEAFARERS TO ADDRESS “GAPS” IN MET**

Today seafarers are mainly trained for a career onboard .MET should also focus on the career of seafarers after their sea service. Future MET should therefore not only consider the industry’s immediate needs, but also integrate it with the needs of Maritime Professionals considering their future career paths. These may requires inclusion of courses such as; Maritime law and regulation knowledge; Ship business and port management; Cross-cultural management and understanding; Leadership and team management; Decision making and problem solving shipping’s environmental impact and sustainability.

#### **4.1. The Need for Change**

A recent study shows that top 25% of the safest ships were involved in just 7% of all accidents and the University of Technology and Science (NTNU) in Norway, present a clear argument that by improving the quality of the world fleet to the same level as those in the safest 25% category, there might be an overall reduction of 72% in shipping accidents (Ziarati, 2006). What is now required is to cross reference the good practices particularly from the safer flagships and transfer these to flag ships with a poorer record of safety.

Furthermore, one of main causes of accidents and incidents are due to poor standards of maritime English. The language of the sea is Maritime English and many ships, and to a lesser extent, ports, are manned by multinational crews. One of the important requirements, inter alia, is that of the English Language which poses for some non-English speaking maritime nations a daunting task. English is the Maritime Language and understandably crucial in the avoidance of near-miss or accident situations at sea. There are many reports and papers (MCA –MSC 82/15/02 and MSC 82/15/03) identifying poor communication as one of the most significant factors in accidents at sea and at ports. Hence, good communication in Maritime English is essential for creation and maintenance of effective working environments and safety of the crew, and generally safety at sea and at ports (Loginovsky, 2002).

## **5. CONCLUSION**

The aim of this paper was to analyze and recommend ways to improve maritime education and training systems and to have a high quality and more unified maritime education and training system in India. There are several important issues that is not fully covered by this paper and still need to be resolved for the successful and up-to-date delivery of MET programs.

Based on the aforementioned factors I recommend that the mission for Indian MET system is therefore to:

- To create and maintain as an organization of maritime educators that conduct Maritime and licensing courses in a responsible and professional manner that meet the standards established by the IMO.
- To provide a strong articulate voice to the DGShipping MCA concerning marine licensing, education and regulatory issues that affect the quality of seafarers.
- To foster professional relationships with member and other professional organizations, welcome new participants and always support the educational needs of the professional merchant mariner.

- To assist in establishing a link between the STCW and SOLAS, MARPOL, ILO study groups while considering IMO and other internationally active MET support systems such as EMSA's (European Maritime Safety Agency) contributions.
- To assist in establishing partnership with training institutions and the industry partners towards establishing 'maritime certificates of excellence'.

We know that without a high quality MET, the ship operators ashore and onboard will have a poorer appreciation of ship's machinery (operation & maintenance), obviously resulting into higher costs – especially for repairs afloat as there are not very many Shiprepairers worldwide except larger outfits like Seatec Repairs Services (A vertical of VGroup) who are available at any time and any where worldover – truly subscribing to their Director, Technical Services, Matteo's motto "Global mind and Footprint."

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