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Development of maritime education and training for ratings in Bangladesh : a proposed path to the next century

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DEVELOPMENT OF MARITIME EDUCATION AND TRAINING FOR RATINGS IN BANGLADESH - *A PROPOSED PATH TO THE NEXT CENTURY*

By

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I certify that all material in this dissertation which is not my own work has been identified and that no material is included for which a degree has been previously conferred upon me.

The contents of this dissertation reflect my personal views and are not necessarily endorsed by the University.

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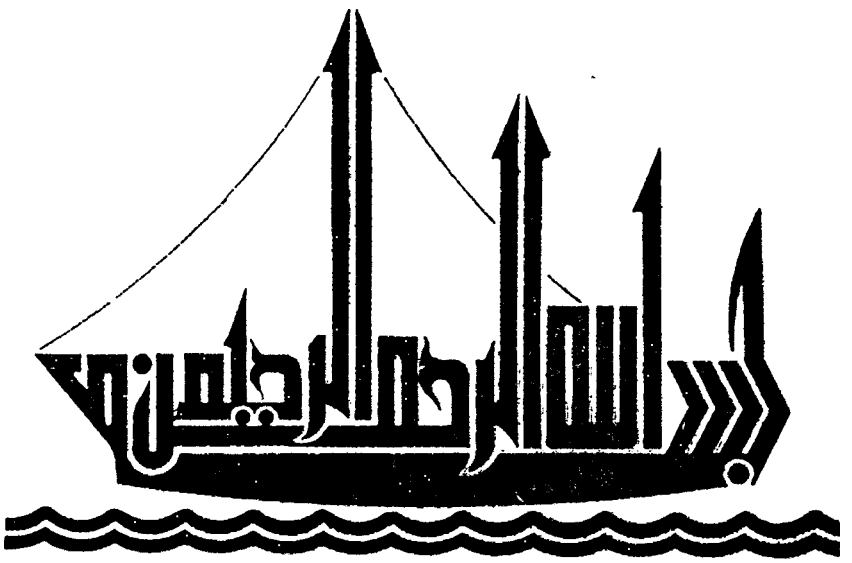
بسم الله الرحمن الرحيم

For my parents (late father),

my wife Shirin,

son Adnan and daughter Ayman.

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ABSTRACT

This dissertation focuses on the maritime education and training system for ratings in Bangladesh, under the prevailing shipping environment. The paper discusses the present situation and highlights the difficulties being experienced in attempting to upgrade the system particularly in the areas of employment, education and training.

The investigation identifies a number of factors inhibiting the development that is needed to overcome the current shortage of qualified ratings. These include a lack of policy initiatives in the promotional field, inadequate appraisal of human resource development in the maritime sector, a lack of administrative and industry support, inadequate legislation, poor training facilities and a shortage of qualified instructors.

The project focuses on the vital need for changes in the present system in the light of the technological advancements and legal developments taking place in the maritime world. Examination is made of training systems in the U.K., Germany, Australia and Japan, where administrations have been forced to restructure their approach to ratings training to meet the challenges of new technology and economic competition.

On the basis of this investigation, the dissertation proposes changes in the current Bangladesh system through the adoption of a multi-skilled training, which would provide flexibility and mobility to Bangladeshi ratings seeking career development at sea as well as in other

related industries. It also specifies the need for the continued upgrading of seafarer education.

In Conclusion, recommendations are offered as to measures that might be taken to ameliorate some of the problems faced by the declining community of Bangladeshi seafarers.

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LIST OF ABBREVIATIONS

AMC	-	Australian Maritime College
BIMCO	-	Baltic International Maritime Council
BIMT	-	Bangladesh Institute of Marine Technology
BIWTC	-	Bangladesh Inland Water Transport Corporation
BSC	-	Bangladesh Shipping Corporation
DOS	-	Department of Shipping
DPTC	-	Deck Personnel Training Centre
ECNEC	-	Executive Committee of National Economic Council
ICS	-	International Chamber of Shipping
IFSMA	-	International Federation of Ship-Masters Association
ILO	-	International Labour Organisation
IMLA	-	International Maritime Lecturers Association
IMO	-	International Maritime Organisation
ISF	-	International Shipping Federation
ITF	-	International Transport Workers Federation
JICA	-	Japan International Co-operation Agency
MET	-	Maritime Education and Training
MSO	-	Merchant Shipping Ordinance
SIDA	-	Swedish International Development Agency
SOLAS	-	Safety Of Life At Sea
STCW	-	Standards of Training, Certification and Watchkeeping
STC	-	Seamen Training Centre
UNCTAD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme

CHAPTER ONE

> 'I am happy to learn that the World Maritime Day ...is being observed in Bangladesh with great enthusiasm and renewed pledge to achieve twin objectives of the International Maritime Organization (IMO) : safer shipping and cleaner oceans. ... and hope that all concerned in Bangladesh will strengthen the existing measures to ensure safety of... crew on all water crafts.'
>
> Begum Khaleda Zia (1991, 1)

INTRODUCTION

Before the independence of Bangladesh in 1971, the number of ratings employed on board British and other foreign flag vessels was considered to be as high as 8000 at any one time. The seafarers earned a reputation as being skilled, hard working and obedient. Presently the number of ratings employed on board national and foreign flag vessels stands at a mere 2500. Expert opinion tends to point a finger towards the present depression and slump in the industry as the major cause of the decline in employment. However, technological advancements in the maritime transportation sector may also have played a significant role in changing the manpower deployment in the industry. Another factor which has greatly contributed to the decline is the lack of training and education of seafarers in Bangladesh.

Bangladesh is a signatory to the international

convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978. A proper attempt has yet to be made to elevate the standards in the education and training of the ratings. The country should make every effort to move towards the development of manpower resources. Seafaring employment has always proved to be the most reliable and constant source of foreign exchange earning for the country, whereas the other overseas employment sectors have proven vulnerable in times of war and political dispute. For instance, there was a great impact on the national budget when during the recent Gulf war, Bangladeshi labourers were forced out of the Persian Gulf States and their foreign exchange earnings came to a halt. On the other hand, earnings from seafarers (with limited employment) continuously poured life into the national economy.

Since the birth of Bangladesh, great care has been taken to improve and maintain the standards of education and training for merchant marine officers. Even though the vast majority of the ratings were employed on foreign vessels, little has been done to improve the quality of their education and training. For a country like Bangladesh, where a healthier economy is essential for survival, the long term effects of investment in positive productivity, such as the education and training of seafarers, must be appreciated.

This project, which is undertaken to fulfil one of the author's course requirements, aims to analyse the present educational system for merchant marine ratings in Bangladesh. It also highlights the factors inherent in the system that have contributed to the sorry state of maritime education and training, and to the lack of quality assurance for ratings. Bangladesh inherited its system from the United Kingdom and this remained virtually unchanged

for nearly four decades. The complex nature of present-day maritime activities and the significant developments being brought about by the international conventions have created a situation whereby the need for changes in the present system is vital. Australia, Japan and other European nations have faced the problem of reexamining and restructuring their ratings training systems to cope with new demands stemming from the changes in the industry. In an endeavor to cope with these changes, outmoded ideas were discarded, new strategies were devised and new philosophies adopted towards improved MET.

The Seamen Training Centre, the only training establishment for sea-going ratings in Bangladesh, lacks facilities and with a skeleton staff has very little to offer to young people seeking a career at sea. The declining employment situation in the Middle East has prompted the administration to undertake the task of upgrading the seafarer training institute, whose resources have constantly poured life into the national economy in terms of foreign exchange.

The purpose of this dissertation is to assess the present state of MET for ratings in Bangladesh and to suggest a system of a much wider spectrum that would enable future trainees to adapt to advancements in the maritime field in conformity with the present IMO convention (Standards of Training, Certification and Watchkeeping for Seafarers, 1978).

The study is divided into seven chapters supported by nine appendices containing more concise information. Various references are listed at the end in a bibliography.

The first chapter is an introductory chapter providing a comprehensive summary of the subject matter.

Chapter Two provides an overview of the maritime activities in Bangladesh, which sets the scenario for

maritime training.

In an effort to identify the areas of concern, Chapter Three makes an in-depth study of the basic problems pertaining to the education and training of ratings in Bangladesh, with special reference to the Seamen Training Centre. Various difficulties, including problems in promoting employment, are briefly discussed here along with the appropriate administrative responses.

A comparative study of ratings training systems in selected countries is made in Chapter Four. This chapter provides the layout of the systems concerned and discusses the future trends in ratings training.

Chapter Five analyses the need for changes in the field of MET for ratings in Bangladesh. It also explains the need for changes in the MET system, as the ultimate result of the impact of international conventions and global developments. Some economic aspects of manpower development are also briefly discussed here.

Chapter Six, the core element of this dissertation, introduces the author's proposal for a multi-skilled education and training system suitable for Bangladeshi ratings. As Bangladesh is prone to natural calamities and general industrial pollution, an emphasis is placed in this chapter on providing exposure to those problems in terms of short course elements. This chapter also examines a vital element of the proposal, namely the philosophy of the scheme, and recommends the award of a national diploma to the successful trainee ratings.

Chapter Seven is the concluding chapter which analyses the recommendations. It shows how the directives should be followed in preparing the maritime community of Bangladesh for the next century.

CHAPTER TWO

> `Although these countries wished to expand their fleets and improve their maritime activities in general, in most cases they suffered not only from a lack of money but also a shortage of expertise and experience.'
>
> William A. O'Neil (1992, 7)

2.0 OVERVIEW OF THE MARITIME SCENE IN BANGLADESH

2.1 Trade and shipping

Trade stands out as a singular activity in the evolution of human civilization. Shipping has always been at the focal point of trade and commerce. Shipping, both ocean oriented and domestic, has been instrumental in shaping the socio-economic life of Bangladesh. With ninety percent of its trade being waterborne, Bangladesh has developed its own maritime tradition.

Bangladesh has a large population of about 120 million people within a small territory of 144,000 square kilometres. The country has poor natural resources, including a shortage of food grains. To make the situation worse, natural calamities such as cyclones, floods and droughts constantly add misery to the lives of the inhabitants. Therefore, the nation greatly relies on imports from abroad, not only to meet the requirements of industry for heavy machinery, energy resources and raw materials but also to supply food grains (to meet the

shortage) and to satisfy the demand for consumer items in all aspects of everyday life.

Fortunately, Bangladesh has a long coastline of about 580 kilometres, with an outlet to the bay of Bengal and a unique river network which serves as a maritime transportation system.

The mission assigned to the Bangladeshi ocean shipping industry is extremely important. The efficient functioning of the economy owes much to marine transport by vessels suitable for ocean haulage. The Bangladesh merchant fleet performs the core of this function. At the same time, the river transport system plays no less a role in the domestic movement of goods.

2.1.1. Historical development

At the basin of the Padma, Jamuna and Meghna rivers, riverine Bangladesh is gifted with an outlet to the Bay of Bengal and the adjacent Indian Ocean. India surrounds Bangladesh with borders on three sides except for the south-eastern border with Myanmar. Bangladesh is situated at the unique juncture of the Tropic of Cancer and 90 deg. east longitude, dividing the country into four sections.

Sea linkups gave it an added advantage and till the end of 18th century the country thrived as trade prospered and Bangladesh built up its own maritime tradition. According to the Chittagong Port Authority, the maritime history of Bangladesh dates back to the 4th century before Christ. It is known that Yemeni and Arab traders of ancient times called at the Indian ports including Chittagong (Chittagong Port Authority year book, 1991), the biggest port of Bangladesh.

The beginning of the sixteenth century saw the

Portuguese establish a hold over trade and shipping in this region, until the British arrived during the 17th century and the Portuguese influence slowly diminished.

During the British occupation, the entire transport infrastructure was reorganized and shipping in the region got off to a fine start. At the same time, British traders set up a number of semi-processing industries for raw materials such as jute, tea and hides.

With the Japanese invasion of Asia during the Second World War, the movement of men and materials in the region tripled, thereby increasing the activities of trade, commerce and shipping. During this period British shipowners employed a large number of ratings from what was then East Bengal, as they were aware of their inherent skills in seafaring.

After the Second World War, India was subdivided and with the creation of Pakistan in 1947, trade and shipping movements to and from the eastern region increased to a greater extent. As the trade volume increased, the shipping sector really bloomed and flourished.

During the mid fifties a second major port, Chalna, was established in the southwestern region of what was then East Pakistan. As far as shipping was concerned, the eastern region (which is now Bangladesh) remained in the shadows and only West Pakistan was at the focal point of the shipping business.

2.2. Shipping today

Even though present state of shipping in Bangladesh very much reflects the present state of world wide shipping recession, over the years significant progress has been

achieved by the public and private sectors.

2.2.1. Ocean-going sector

The shipping sector took a giant step forward right after the emergence of Bangladesh as a sovereign state in 1971. The Bangladesh Shipping Corporation was established in 1972, with the aim of creating a self-reliant infrastructure for the transportation of export and import commodities of the country. It was sheer indomitable determination which made it possible for a new nation with a war-battered economy to show its own maritime flag on the high seas. At the Government's initiative, the private shipping sector made great strides forward in acquiring ocean-going vessels.

As of the 30th of July, 1992 Bangladesh had a mixed fleet of 31 vessels totalling 392,959 DWT (Table 2.1). Yet the current Department of Shipping Report (1992) shows that national flag carriers handled only 8.29% of the export and import cargo of the country and that the rest, 91.71%, was handled by different foreign flag vessels during the fiscal year 1989-90 (Table 2.2).

Bangladesh has suffered setbacks in developing an ocean-going shipping industry due to the worldwide recession in the shipping business, a chaotic freight market, the ageing of its fleet and high operating costs.

Recent years have also seen an overall decline in trade. Moreover, the industry was hit hard by the closure of the Bank of Credit and Commerce International (a major financier for the private sector), continuous labour strikes, the Gulf War situation and the devastating cyclone of 1991.

Table 2.1 - Position of public and private sector fleets since 1980

Total number of vessels			DWT		Total DWT
Period	BSC *	Private	BSC	Private	
1980-81	25	2	391,821	19,136	410,957
1984-85	21	8	266,211	84,988	351,199
1988-89	22	21	286,579	186,608	473,187
1989-90	21	18	299,929	175,110	475,039
1990-91	20	17	284,698	159,983	444,681
1991-92**	18	13	266,318	126,641	392,959

Source: Department of Shipping,Dhaka.

* BSC : Bangladesh Shipping Corporation (public sector)

** As of 30-07-1992

Table 2.2 - Bangladeshi flag vessels' share of national seaborne trade (exports and imports) during the years 1988-89 & 1989-90

(Fig. in mil.tons)

	1988-89			1989-90		
	Exp.	Imp.	Total	Exp.	Imp.	Total
Total exports /imports of Bangladesh	1.47	9.00	10.47	1.39	8.69	10.08
Cargo carried by Bangladesh flag vessels	0.30	0.65	0.953	0.25	0.58	0.836 (8.29%)

Source: Department of Shipping,Dhaka.

The Bangladesh Shipping Corporation, the national line, is set to diversify from the age-old liner pattern to cross-trading and tramping, thereby enjoying the benefits of both. Since January 1993, the corporation has been operating a regular container feeder service to the ASEAN region. Private owners are following suit, but some have opted for flagging out.

2.2.2. Inland sector

With the inherited infrastructure, the coastal and inland shipping sectors have steadily grown to their current strength. Table 2.3 below shows the current strength of these sectors.

Table 2.3 - Fleet position - coastal and inland sectors

A - Registered under Merchant Shipping Ordinance, 1983 :

Type of Vessel	Total Number of Vessels
Coastal vessels	128
Passenger ships	8
Dumb barges	47
Tugs	9
Inspection vessels	3
Tankers	54
Fishing trawlers	66
Fishing boats	3522
Cargo boats	1088

Source : Department of Shipping

B - Registered under Inland Shipping Ordinance, 1976 :

Type of Vessels	Total Number of Vessels
Passenger vessels	2027
Cargo vessels	1237
Ferries	31
Oil tankers	57
Tugs	234
Dumb barges	1604
Fishing boats	56

Source : Department of Shipping

Apart from the above, more than 700,000 unorganized and unregistered waterborne craft ply the inland waterways (Bangladesh Bureau of Statistics,1992). The inland waterborne transportation system provides life support to internal as well as external trade and shipping. Bangladesh Inland Water Transport Corporation (BIWTC), a public sector corporation, owned 343 vessels during the year 1990-1991, making them the biggest inland shipowner in the country.

2.2.3. Agency sector

Agency business has been thriving since the independence of the country in 1971. Various agents, acting on the behalf of charterers / sub-charterers or on behalf of owners, cater for foreign flag vessels calling at the ports of Chittagong and Mongla (Chalna). The movement of food grain carrying vessels has given it a further boost. Recently there has been significant improvement in manning services to the vessels in terms of crew supply.

Presently, two local agents, James Finlay Plc and Hoque & Sons are heading the pack in terms of manning supply.

2.3. Human resources development in the maritime sector

With a vast population at hand and hardly any natural resources to support the economy, Bangladesh has been keen to develop the only resources available, i.e. the human resources. During the mid-seventies the authorities realized that the export of skilled labour could generate a considerable amount of revenue to meet the balance of payments deficit. Table 2.4 shows the substantial growth in overseas employment.

In terms of human resources development,the maritime sector had pioneered the employment of skilled seafarers on foreign ships even before the independence of the country from Pakistan in 1971.

Table 2.4 - Overseas employment statistics

YEAR	TOTAL WORKERS Professional, Skilled/Semi-skilled and Un-skilled	Remittance earned	
		Taka in crore	USD $ in millions (approx)
1976	6,087	35.85	8.96
1980	30,573	492.95	123.24
1985	77,694	1416.70	354.18
1990	103,754	2669.08	667.27
1992	188,124	3423.08	855.77

Source : Bureau of Manpower, Employment and Training, Bangladesh.

Before 1947, during the period of undivided India, thousands of Bangladeshi nationals were engaged in various seafaring professions out of the various ports of British India and the British colonies in Southeast Asia. As recently as the early fifties, the total number of Bangladeshi seamen employed on foreign ships at any particular time numbered as high as 8000. In this way, seafarers earned a considerable amount of foreign exchange, which not only benefitted their families but also the national economy. The authorities became acutely aware of this fact during the recent Gulf War, when thousands of skilled Bangladeshi workers had to flee the Gulf countries and as a result the country suffered a significant loss of foreign exchange earnings. On the other hand, seafarers remained a constant source of foreign earnings for the country. Table 2.5 shows the yearly earning of Bangladeshi seafarers since 1983.

For various reasons, the employment of Bangladeshi seafarers on seagoing vessels has continued to decline over the years. One major cause of the decline has been the lack of proper training, as the seafarers have not been able to cope with new technologies requiring advanced skills. Even though officers have been trained properly to cope with the situation, ordinary ratings (crew members) have totally lacked basic education and professional skills.

On the other hand, the International Maritime Organization (IMO) adopted the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) in 1978 to promote the safety of life and property at sea and the protection of the marine environment.

Table 2.5 - Yearly earning by Bangladesh seafarers (ratings) during the period 1983-1992

YEAR	Earning from Foreign ships		Earning from Bangladesh ships	
	In Taka	In USD $	In Taka	In USD $
1983	7,56,13,823	1,890,345	1,57,21,066	393,026
1984	7,86,29.040	1,965,726	1,66,53,017	416,325
1985	8,96,79,722	2,241,993	1,70,97,757	427,444
1986	12,23,09,974	3,057,749	3,08,34,300	770,857
1987	11,75,51,280	2,938,782	3,76,80,750	942,019
1988	13,61,09,957	3,402,749	3,73,11,113	932,778
1989	15,47,15,340	3,867,883	3,92,88,300	982,207
1990	16,49,62,275	4,124,057	4,01,16,290	1,002,907
1991	17,14,02,500	4,285,062	4,25,86,000	1,064,650
1992	19,73,07,000	4,932,675	3,91,43,000	978,575

1 USD = Taka 40.00 (approx.)

Source : Government Shipping Office, Chittagong.

The implementation of the convention and technological advancements demanded better qualified and better trained officers and ratings, which presented problems for Bangladeshi seafarers.

2.4. Maritime training facilities

With the creation of Bangladesh and the development of its economy, the need to strengthen the shipping industry by providing proper training to seafarers was felt.

To achieve the above goal, the administration

established training institutions for the training of officer cadets and ratings for seagoing, inland and fishing vessels.

As per the STCW'78 convention, examinations and certification are not only applicable to officers but also to ratings. The following training establishments are in existence for the training of officer cadets and ratings in Bangladesh.

2.4.1. Marine Academy, Chittagong

This institution was established in 1962 to provide pre-sea training for officer cadets in nautical and engineering disciplines. The annual intake of the academy is 50 nautical and 60 engineering cadets. Young men of 16-21 years of age with a Higher Secondary Certificate (equivalent to GCE `A' level) are admitted after meeting stringent entrance requirements.

A comprehensive training programme, in conformity with IMO requirements, has been drawn up for the training of deck and engine room cadets. The duration of the course at the academy is 2 years and the cadets are awarded a B.Sc. (Bachelor of Science) degree by the Chittagong University after successful completion of the course.

Besides the above, the academy also runs various ancillary courses to prepare candidates for different certificate of competency examinations. The academy, although still developing with the help of various agencies, already enjoys a worldwide reputation for its standard of training. It has been recognized by the IMO as a branch of the World Maritime University for maritime studies in Asia and the South Pacific region.

2.4.2. Seamen Training Centre, Chittagong

The Seamen Training Centre, the only such training institute for ratings in Bangladesh, started functioning at Chittagong in 1952 as an Adult Seamen's Education Centre for illiterate seafarers. A night school was originally established at `Ezekiel Building' at Double Mooring, Chittagong. Later it was converted to impart vocational training to seamen. The idea of the scheme was to provide training in lifeboat handling while imparting knowledge of the Articles of Crew Agreement, discipline and seamanship.

The Centre started providing training to new entrants in the sixties, when rules were framed for the recruitment of fresher seamen. Most of the new recruits (70%) were recruited from the dependents of seafarers. The entry requirement for the new entrants was a primary (5th class /grade pass) school pass and the maximum age was 25 years.

The Centre was placed under the control of the then Director General of Ports and Shipping in 1962 for its development into a training establishment for seamen (new entrants). Besides two language teachers, it had a nautical instructor, an engineering instructor and a superintendent. The post of the superintendent remained vacant and the Centre remained under the direct control of the Shipping Master.

After the independence of Bangladesh in 1971 (from Pakistan), the Centre was developed for the training of ratings in the deck, engine and catering branches. Today it runs refresher courses for upgrading the skills of deck and engine room ratings, while some ancillary courses such as Fire Fighting, First Aid and Survival Craft are also conducted.

The centre is gearing up to provide pre-sea courses of 20 weeks duration to fresher seamen. Young men of the age of 17-24 with a Secondary School Certificate (equivalent to GCE `O' level) will be enrolled for training. It is envisaged that about 300 new entrant seamen will be trained annually at the centre together with 1000 in-service seamen in refresher courses.

2.4.3. Deck Personnel Training Centre, Narayanganj

The Bangladesh Inland Waterways Deck Personnel Training Centre was set up in 1971 with the help of the ILO to meet the requirement for trained personnel for the inland water transport vessels. It is situated on a river bank in the hinterland near the capital city of Dhaka. The annual intake of the centre is 25. Young men, between 16.5 to 19 years of age with a Secondary School Certificate are admitted to the centre for one year.

Practical training is provided on board the training vessel `Siddique', which was provided by the ILO in 1975. The centre also runs various courses to prepare in-service personnel for certificate of competency examinations for service on inland vessels.

2.4.4. Bangladesh Institute of Marine Technology, Narayanganj

The institute was established with the assistance of ILO in 1958 as the `Marine Diesel Training Centre' and started functioning in the year 1960. The institute was set up to train engineers to meet the manning requirements of inland water transport vessels. With the introduction of diploma courses in 1979, the institute was renamed the

`Bangladesh Institute of Marine Technology'.

The annual intake for the various courses varies between 115 and 150 new entrants with a Secondary School Certificate. The institute also runs a diploma course in marine engineering of 3 years' duration. Artificer, draftsmanship, shipwright and welding courses are of 2 years' duration.

2.4.5. Marine Fisheries Academy, Chittagong

To meet the manning requirements of the national fishing fleet and provide it with technical know-how, a Marine Fisheries Training Institute was established in 1973 at Fish Harbour, Chittagong. It was later renamed the Marine Fisheries Academy. Its objective is to produce a skilled and educated workforce for the fisheries industry, which contributes more than 6 percent to the export earnings of the country. Every year 40 students with a Higher Secondary Certificate are enrolled in Navigation, Marine Engineering, Radio Engineering, Refrigeration Engineering, Electrical Engineering, Fish Processing and Trawl Operation courses.

Against the above background, the Bangladesh maritime sector, struggling to survive the pressures of international competition and technological innovation, awaits the adoption of a reform strategy to see it through to the next century.

CHAPTER THREE

'International shipping has undergone a technological revolution in recent years. Many developing countries, while crucially dependent on maritime transport for their foreign trade and indeed for their general economic development, find it very difficult to cope with these changes and to build an adequate maritime infrastructure.'

C. P. Srivastava (1988, iii)

3.0 BANGLADESH MET SYSTEM FOR RATINGS

Introduction :

The training of ratings has always been a neglected chapter in maritime history. The industry became subconsciously aware of this area when advancements in technology together with the onset of recession gradually opened the eyes of shipowners and authorities.

As an effective cost cutting measure, the industry is now trying to move towards more specialized crews with reduced manning. Worldwide studies and discussions of MET to date have more or less focused on officers and other certificated personnel. Even today, one can find only a few papers or documents dealing with ratings. Governments and the industry have for many years neglected the importance of MET for ratings and it is only recently that people have been able to speak about a ratings training system in the proper sense of the word.

It is not within the scope of this paper to provide a detailed assessment of the education of ratings. Rather, the author tries to focus on the salient features of the present MET system for ratings in Bangladesh.

3.1 Ratings training system

The system was developed during the mid-fifties out of the necessity to provide basic shipboard training to in-service seafarers. Bangladesh was once a British colony and in those days most of the seafarers were employed on board British ships. Therefore, an in-depth study of the system of training would certainly reveal a traditional British texture and blend, which was typically sea oriented.

3.1.1. Earlier systems

Tradition has always had a great influence on the ratings training system, and in Bangladesh the system followed the traditional path till the early seventies. Until recently, only students passing class VIII (8th grade) who could be considered to be without basic education were recruited as fresher seamen (See appendix 1).

After nation-wide advertisements in national dailies and subsequent written and oral examinations, the requisite number of candidates were selected for training. Most of the trainees (about 70%) were recruited among the dependents of seafarers. Selected candidates had to undergo a pre-sea training course at the Seamen Training Centre for a duration of 3 months. Successful candidates, after obtaining registration at the Government shipping office, would have to wait for their turn to join a vessel for practical on-the-job training. This was the "hard way"

until the late sixties.

The young deck hand without any basics started on board then went up through the grades to junior ordinary seaman (seaman-III) and seaman-II and finally to able-bodied seaman or cassab or even boatswain (serang), doing his best to acquire as much knowledge and experience as possible on the way up on his own initiative. This was a system that produced many a good sailor but technical advancements and international standardization have made it out-of-date and inadequate.

At one stage during the mid-seventies, an attempt was made to recruit and train a few trainees as 'general purpose' (GP) ratings. In 1974, a total of 76 trainees were chosen for such training. The then 'Hansa Line' of Germany made a further selection of 40 trainees out of those 76, and deputed one of their ship masters, Capt. N. Hechler, to supervise the training. All the 76 GP trainees attended the usual training course for 13 weeks and after that the 40 selected trainees were provided with specialized training for a further period of 12 weeks. In addition to attending lectures and practical demonstrations at the training centre, the additional course included on-the-job training on board supply vessels then in operation in the Bay of Bengal for offshore oil exploration. The remaining 36 trainees were absorbed in the general roster as conventional ratings. The experiment ended abruptly and was not repeated afterwards due to a lack of government initiative.

The system of recruitment, training, employment and promotion remained more or less the same from 1965 till 1990. The recruitment rules framed by the government were revised from time to time.

3.1.2. Current system

Ratification of the STCW'78 convention by the Government of Bangladesh has greatly influenced the development of the current system, which was developed during the early eighties.

Candidates seeking a career at sea as deck and engine room ratings must undergo a pre-sea course at the Seamen Training Centre, Chittagong in the respective departments. Saloon ratings (cook and steward) undergo a one month training course (an interim measure) in the `Parjatan Corporation Training Centre', Dhaka. Upon successful completion of their training, saloon ratings receive a three-month pre-sea training course at the Seamen Training centre. A detailed outline of the current system is shown below :

For deck and engine room ratings :

Name of course	Duration
Pre-sea Training Course at Seamen Training Centre, Chittagong.	5 months

For saloon ratings :

Name of course	Duration
1. Catering Course at Parjatan Corporation Training Centre, Dhaka.	3 months
2. Pre-sea training at STC (Seamen Training Centre)	3 months

Entry requirements :

1. Minimum education : Secondary School Certificate (S.S.C.: equivalent to GCE`O'level)
2. Age : 17 to 24 years

3. Minimum height : 160 c.m.
4. Minimum weight : 50 kg
5. Health : Sound (subject to medical - examination), good eyesight and good hearing.

For special category ratings :

Pre-sea training :	Duration : 3 months
Deck	Entry requirement
Carpenter, plumber, pumpman and deck fitter	Minimum education: secondary school certificate with trade certificate or diploma certificate in carpentry / mechanical or power engineering from a polytechnic institute.
Engine	Entry requirement
Pump man, fitter, refrigeration-mechanic, diesel mechanic and electrician	Minimum education: secondary school certificate with 3-year diploma in marine/ mechanical / electronics /refrigeration or electrical engineering. Welding experience is considered to be an additional qualification in marine engineering branch.

On successful completion of the course, the trainees are registered as ordinary deck rating, ordinary engine room rating, steward II or cook II. The designations

trainee seamen, greaser, steward, trainee cook etc. are still applicable.

Upon acquiring adequate sea service (according to specific requirements) and the requisite qualification, the ratings are promoted to the rank of Able-Bodied Seamen (Seaman-Helmsman under the old system) in the deck department or Engine Room Rating forming part of an Engine Room Watch (Fireman under the old system) in the engine department. They are finally promoted to the ranks of Deck Bosun (Deck Serang under the old system), Engine Room Rating as Assistant to the Watch Keeping Engineer (Engine Bosun under the old system) and Chief Steward in the deck, engine or catering departments, respectively. The unique situation in Bangladesh is that while the new system is being introduced, the old system still exists as far the ranks and designations are concerned.

3.1.3. Seamen Training Centre

The centre was established in 1952 as the Adult Seaman's Education Centre at Chittagong to provide basic literacy education to in-service seafarers serving on board national and foreign flag vessels. The name of the school was changed to the Seamen's Training School at a later date. As a port city, Chittagong was chosen for its link-ups with other ports and the city was the centre for crew recruitment for many years.

With the idea of developing it into a proper training establishment, the Centre was placed under the control of the then Director General of Ports and Shipping in 1962. The idea was to recruit seamen for employment and to provide safety training, in addition to offering refresher courses for in-service seamen. The Centre had a nautical

instructor and an engineering instructor. With the post of superintendent remaining vacant, the Shipping Master was responsible for looking after the school. It was unfortunate that from its inception the STC never had a permanent site of its own and always suffered from a lack of properly trained staff. The quality of the training imparted was conventional, which remained far from the requirements of new developments in maritime technology. As there was no equipment in the school, the transfer of knowledge was also very poor. It would probably not be wrong to say that the institution was the poorly treated `step-child´ of the national maritime educational structure.

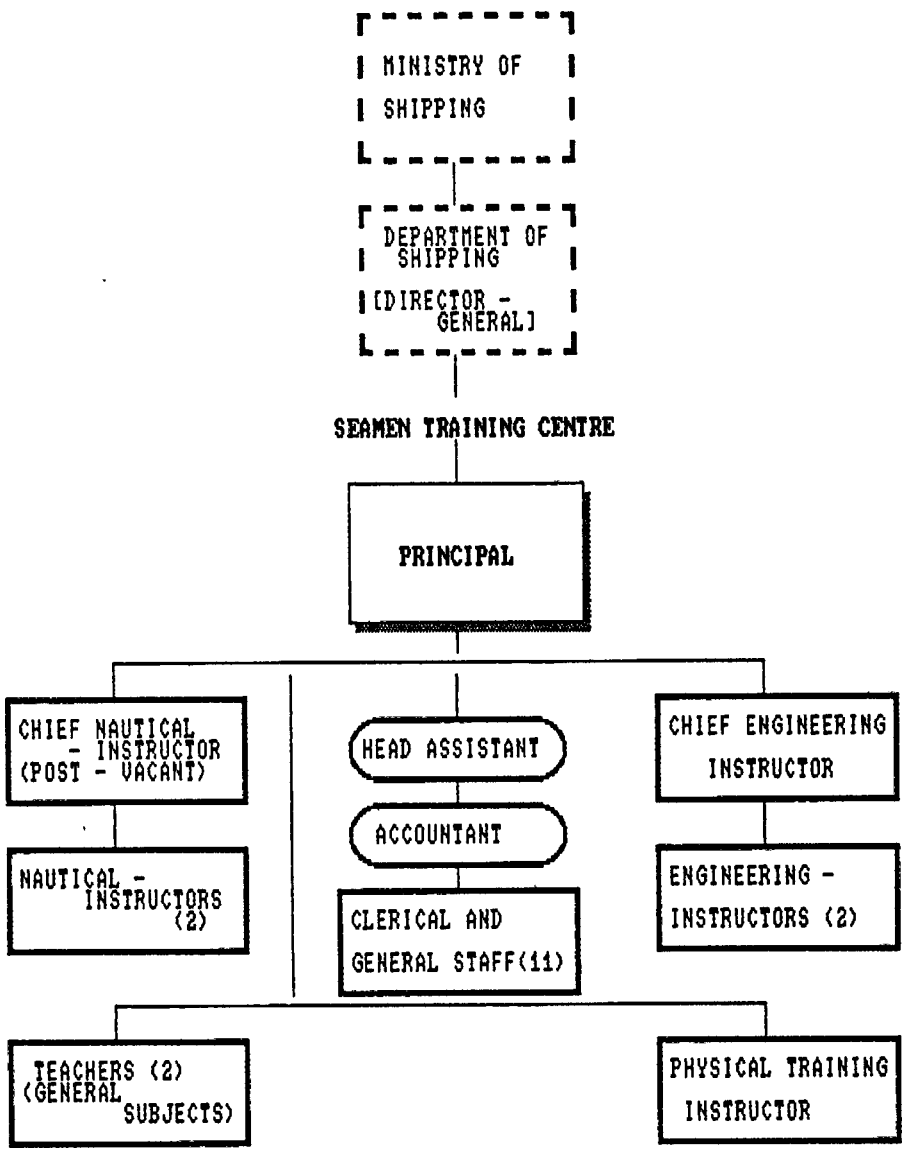
In 1970/71 the Government of former Pakistan initiated a move to build a Seamen Training School. The idea not implemented due to a lack of initiative in translating the move into a project proforma. However, the school continued to move ahead with its limited resources, churning out about 1,644 non-skilled and 304 semi-skilled trainees and providing refresher training to 1,916 seafarers from 1971 till 1988. A model syllabus was introduced in 1983 and revised in 1990 (Appendix 2).

The centre was shifted back and forth between the Seamen´s Hostel at Halishahar (a place, near the harbour) and the Hajji (pilgrimage) camp at Pahartali (a place in the inner city). At the Government´s initiative, IMO and Japanese experts carried out an extensive study in 1984-85 aimed at reviving this institute for ratings. As per the suggestion of the IMO mission, the institution under its present name `Seamen Training Centre´ was again shifted and housed at the Seamen´s Hostel at Halishahar in December, 1989. It is now situated on the 3rd floor of the hostel building, which is mainly used as a transit residence for the ratings and the trainees.

Organizational structure :

The institution has a traditional hierarchical organizational structure as illustrated by figure 3.1 below :

Figure 3.1 - Organizational Structure of STC



The STC functions under the protective umbrella of the department of shipping. The manpower provisions are shown in appendix 3. No provision has yet been made for a catering department or for a regular first aid instructor. Compared to other government institutions, the STC is run on a low and tight government budget. It is also a non-profit earning institution. Budgetary provisions for the financial year 1992-93 are shown in appendix 4.

Academic activities : The courses now conducted at the STC are outlined in Tables 3.1 a and 3.1 b below.

Table 3.1 a - Regular courses conducted at STC

Name of course	Entry Requirements	Duration
Pre-sea training course for deck,engine and saloon ratings.	a) S.S.C. pass with good English. b)Age : 17-24 years c)Min. ht.: 160 cm. d)Min.wt.: 50 kg e) Eye sight test f) Medical test.	20 weeks for deck and engine ratings and 12 weeks for saloon ratings

Table 3.1 b - Ancillary courses conducted at STC

Name of course	Entry Requirements	Duration
Basic Survival at Sea(BSS)	Registered seaman	One week
Basic Fire Fighting	Registered seaman	One week
Basic First Aid	Registered seaman	One week
Efficient Deck Hand(EDH)	Registered deck rating	One week
Refresher Course (Retraining)	Registered seaman	Four weeks
Proficiency in Survival Craft (CPSC)	Registered seaman	One week

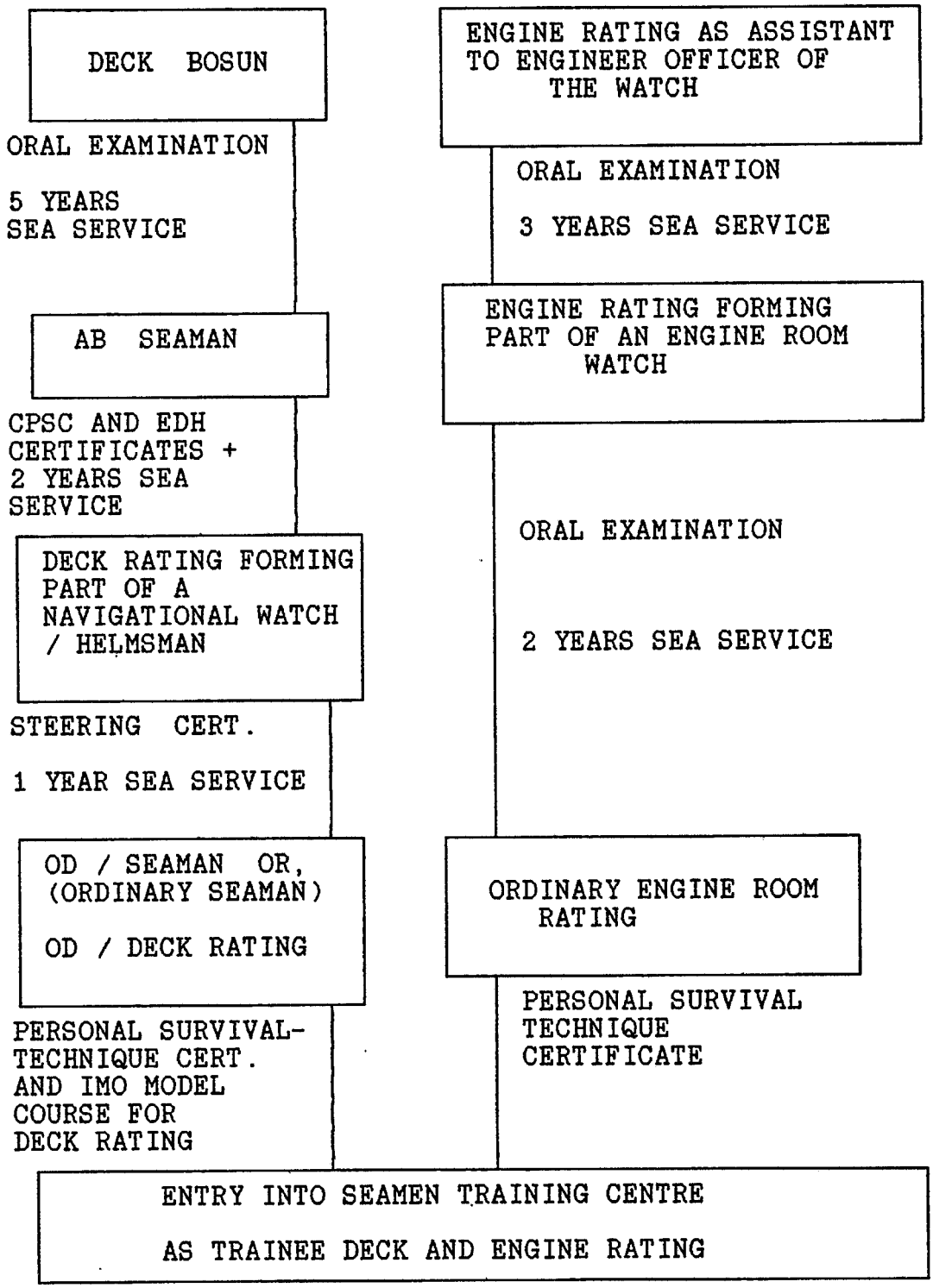
The initial pre-sea training for the ratings includes the Basic Sea Survival/ Personal Survival Techniques, Basic First Aid at Sea and Basic Fire Fighting courses. Since 1990, efforts have been made to meet the basic training requirements for national ships. The centre has focused its efforts on providing refresher and safety training to in-service seafarers. It is unfortunate that the mode of training has remained mainly theoretical, even though some efforts have been made to provide practical training in the form of fire demonstrations, boat pulling and ship visits.

3.1.4. Examination and certification

The examination and certification system for ratings was vague and somewhat nonexistent prior to the introduction and promulgation of certification rules in 1991. Seafarers used to receive course certificates after completing their pre-sea training at the Seamen Training Centre, at the Deck Personnel Training Centre or at Bangladesh Institute of Marine Technology (under a crash programme). Thereafter they had to rely on the master's /chief engineer's recommendation along with a certain length of sea service for promotion to the next category.

The Shipping Master was empowered to promote certain categories of seamen on the basis of service experience, capability, performance, and recommendations. The promotion committee of the employment board would decide on promotions to higher ranks such as deck/engine serang (Bosun), butler, chief steward, chief cook etc. From the above, it is not hard to imagine that there was no assessment criteria for promotions.

Figure 3.2 - Ratings Certification System (Deck/Engine)



The new training and certification rules introduced in 1991 have yet to be implemented. Under the new scheme the above picture emerges.

3.1.5. Legislative framework

The education and training system for ratings is incorporated in the legal framework of the Ministry of Shipping. Under the Ministry, the department of shipping acts as an umbrella organization for maritime training institutions and for other field offices (the Marine Department, the Shipping Office and the Directorate of Seamen Welfare etc.). The entire mechanism of recruitment, training and certification rules is established by the Bangladesh Merchant Shipping Ordinance, 1983 (MSO).

Earlier rules relating to recruitment, training and certification were drawn up in close conformity with various ILO conventions. (A summary of major highlights thereof is found in appendix 5). Part-IV of the Bangladesh Merchant Shipping Ordinance deals with the manning of ships and certification regulations are set out in chapter-7.

The framework hardly ventures into the area of ratings examination and certification. Realization of the above, along with the ratification of STCW'78 convention of IMO, prompted the Government to seek IMO's assistance in formulating the new rules. The recruitment,training and certification rules for various ratings were published in gazette form, on 20 July 1991, in exercise of the powers conferred by section 95 of the Bangladesh Merchant Shipping Ordinance (Appendix 6). It was a remarkable step which marked the beginning of a new era.

The Ministry of Shipping has created a selection board for the new entrants (See appendix 7). The board consists of representatives from every sector of the national maritime field and is to be chaired by the principal of the STC. The committee has the ultimate responsibility of carrying out the selection procedure with the approval of the Ministry. The selection is to be done on the basis of the following procedure.

1. General recruitment policy for ratings will be determined by the Government from time to time, taking into account the employment situation and the need for fresh seamen.

2. The national media (national dailies, T.V., radio etc.) will be utilized to arrange for nationwide intake advertisements . District and other quotas, such as those for freedom fighters, sons of seamen and ex-navy personnel, etc. have to be strictly followed.

3. Candidates will have to sit for written examinations in English, Bengali, Mathematics and General Knowledge and have to obtain 40% of the marks in each subject to pass. The written examination will be held in four major districts. The selection board will conduct an oral test before the final selection.

4. Applicants selected for training as ratings will be required to furnish a written undertaking prior to joining the training institution (See appendix 8).

The training institute for ratings was incorporated in the development plan and was running under the development budget until 1987. It has since been transferred to the revenue budget and therefore wears a government hat, so to speak.

3.2. Problems with the current system

The raising of safety standards in the maritime transportation sector as demanded by various international maritime conventions requires an efficient MET system that can prove well-trained personnel.

For a developing maritime nation such as Bangladesh, a country supplying seamen to the world market, the need to train the seafarers is even greater. From the available information, it can be said that Bangladesh is mainly a source of unskilled, low quality and overaged seamen. Most foreign employers do not regard Bangladesh as a reliable source of qualified and skilled seafarers. The main problems confronting maritime education and training in Bangladesh appear to be in the areas of recruitment, training, examination and certification. These and other aspects of the MET system are discussed in the following sections.

3.2.1. Recruitment and employment

Adoption of improper recruitment policies and manpower planning in the past has resulted in the creation of a surplus of registered seafarers. As the present Shipping Master Huda (1989, 58) has pointed out :

> `To maintain a balance...it is necessary to enrol fresher seamen every year in smaller number in keeping with the absorptive capacity of the trade...efforts were made to build up a balanced roster of seamen consisting of all age groups. The policy was being pursued until 1979 when, all of a sudden, 2350 fresher seamen were enrolled...Of those freshers, about 700 are yet to be absorbed. This has slowed down the rate of employment of semi-skilled ratings. ... From the above,it is evident that...it will take considerable time to provide jobs for the freshers on the waiting list, many of whom have already surpassed the age of acceptability as seamen.'

As a result of the overcapacity and overrecruitment, the authorities have maintained a total cessation of recruitment since 1979. After the creation of Bangladesh, the seafarers were left to the mercy of self-help without any guidance, training or upgrading. This marked the beginning of the end of a policy of promising employment. However, the expansion of the national fleet showed some signs of recovery. Even then, the overall employment situation shows a downward trend as seen in Table 3.2 below :

Table 3.2 - Total strength and employment of ratings

Year	Number of registered seamen	Foreign ships	National ships	Total employed	Ashore unemployed
1972	10328	1692	84	1776	8552
1974	10175	2605	261	2866	7309
1977	9696	4247	629	4876	4820
1979	11788	2770	712	3482	8306
1983	8063	1986	683	2669	5394
1985	7798	2120	717	2837	4961
1987	7401	1445	811	2256	5145
1990	5839	1661	774	2435	3424
1992	5248	1869	633	2502	2746

Source: Government Shipping Office, Chittagong.

The present sad employment situation probably predicts a gloomy future. The number of registered seafarers also shows a marked decline and the reasons cited are many - from deaths, retirements, and disability to desertion. Others have expressed different views. In discussing the above, Siddiqui (1989, 20) commented :

> `Bangladesh...no policy or programme change has been noticed in response to the deteriorating employment situation of seafarers...There has been no other indication from the government, employers' or workers' organizations that the matter is of serious concern to them.'

He further went on to say that:

> `The absence of policy level initiative, as pointed out...emanates mostly from organizational deficiencies...The major weakness however, is the complete indifference to promotional efforts.´

The following factors have also contributed to the failure to promote the employment of seafarers in Bangladesh.

1. Absence of manning agencies : The non-existence of state-run ship management schemes or private manning agencies (almost nil compared to the other countries) has proved to be a negative element in promoting employment for seafarers on foreign ships.

2. The lack of policy initiatives : The failure to develop policies on matters such as an `open registry´ or `bare-boat chartering´ has not been addressed properly by the authorities.

3. Lack of employment promotion : A systematic analysis of promotional measures to contact foreign ship owners has not been undertaken by the Bureau of Manpower or any other authorities.

4. Misrepresentation : Disoriented seafarer organizations have not mapped out any programmes to deal with the problems affecting seamen´s employment and these organizations have yet to succeed in influencing policy and programmes at the government level.

5. Desertion : Recent years have seen an increase in the number of desertions abroad by Bangladeshi seamen. Every year about 4 to 10 percent of Bangladeshi seamen desert ships in foreign ports. The available statistics on desertions during the years 1980-1991 are presented in Table - 3.3 below.

Table 3.3 - Desertion statistics for the perod 1980-1991

Year	Deserters	Percent *	Year	Deserters	Percent *
1980	106	2.8%	1987	102	4.5%
1981	137	4.5%	1988	214	8.6%
1882	95	3.6%	1989	183	6.9%
1983	91	3.4%	1990	129	5.3%
1984	190	6.9%	1991	147	6.2%
1985	151	5.3%	1992	108	4.3%
1986	271	10.9%			

* Percentage of total employed seafarers

Source : Government shipping office

The tendency to desert ship and the inclination to breach a contract is higher among the new recruits. This reflects the discontentment towards a seafaring career and possibly the wrong selection of new entrants.

6. Age status : From the available information we can draw a balanced conclusion regarding the age structure of registered seamen. The last recruitment was done in 1979 and most of the semi-skilled workforce have by now crossed the age of 30. The skilled workforce entered the industry during the late sixties or the early seventies and even before that; therefore, they must have crossed the age of forty by now. Most of these sailors have passed the optimum

level of their physical output, and they are therefore unattractive to prospective overseas employers.

7. Inadequate funding : The allocated regular and irregular funds have been insufficient to revitalize the training institution to keep pace with new ideas and technological advancements.

8. Shipowners' refusal to support training institutions : The Bangladesh Merchant Shipping Ordinance (Chapter 44, Section 498) clearly states the nature and amount of contributions to be made towards establishing or aiding the training institutions. So far all Bangladeshi owners have refused to comply with this ordinance, while the authorities have failed to enforce it in a proper manner. Had it been complied with by the owners, there would have been fewer problems in meeting the yearly budget of the training institute.

9. Improper planning for the utilization of development funding : For instance, a huge amount of money was spent in a `crash programme' during 1979-87, together with the amount allocated during 1976 (about USD $ 260,000). The funds mostly benefitted the two other inland sea training institutions. Those only produced substandard seamen, of whom a large number never found employment. Quite a lot of useful and essential equipment could have been procured from the demolition yard in those days, for a fraction of the stated amount, and the rest of the funds could have been utilized for developing the STC and hiring qualified instructors.

10. An inadequate MET system : Finally, of course, the

appalling condition of training facilities has remained unchanged for almost two decades now. It is true that quality assurance is fundamental to the concept of marketing whether the "commodity" is goods or a seafarer. In that respect, Bangladeshi seafarers could easily outperform many in the region provided they were given the quality training.

3.2.2. Standards of training

The aim in adopting the STCW'78 convention was to promote and standardize the training and certification of seafarers in a global way. Bangladesh acceded to the STCW '78 convention on 6 November 1981. All parties to the convention have to ensure that seafarers' education and training programmes achieve the standards contained in that convention.

With the adoption of this convention, the importance of improving the education and training to seafarers has become even more paramount. During the last three decades or so, rapid advancement has taken place in shipping technology. Continuous changes are taking place in the manning of modern ships due to the introduction of new technologies. This is another side which needs to be considered in evaluating standards of training.

A distinct decline in the employment of Bangladeshi seafarers on foreign ships, because of their not being qualified in accordance with the requirements of the STCW convention, has been noticed. Before the adoption of the convention, a large majority of the seamen were usually employed on old and conventional vessels. Until recently, the typical seaman was given some basic training before joining his vessel and then he became skilled on the job.

Even after the ratification of the STCW'78 convention, no attempt has ever been made to adopt or implement the model training programmes devised by IMO. The convention demands that a certain minimum level of training must be achieved by all ratings forming part of a watch and virtually all ratings now require a sound knowledge of the basic principles of fire fighting, personal survival techniques, first aid, health hazards and personal safety. The ILO maritime conventions also stipulate the certification of certain categories such as AB seamen and cooks. The Paris memorandum (1982) gives overseas maritime administrators the right to detain vessels having crew members on board without proper qualifications.

The failure to train Bangladeshi seafarers to meet the new international standards was a setback as regards their employment on foreign ships. Commenting on the employment of Bangladeshi seafarers, Hossain (1989, 49) says :

> `For instance, the shipowners complain that Bangladeshi seamen are overaged and less adaptable and less knowledgeable in terms of present-day shipping technology.'

To attain a certain standard, a strong basic educational background is a prerequisite. The present mass of seafarers neither have such an educational background nor were they trained to fulfil the minimum standards demanded by the various international maritime conventions. The author feels that this was one of the main causes of the decline in seafarers employment in recent years in Bangladesh.

In highlighting other problem areas, it would be wise to put the spotlight on the system itself. In doing so, the

author wishes to make it clear that it is not his intention to find fault with it just for the sake of criticism. The present system appears to have deficiencies in the following areas.

1. The system is neither post-experience based nor front ended as the assessment area is not clearly defined for certain categories of ratings.

2. There is no provision for knowledge (professional) based pre-sea training for engine ratings, except for the survival course.

3. The present system does not have any provision for revalidation of certificates as required under the STCW convention. Similarly, provisions have to be made for offering specialized training for tankers, chemical tankers, gas carriers and other specialized vessels.

4. There is no provision for competency based assessment for the issuance of certificates to AB seaman. The system neither defines the proper assessment area nor provides rules for holding proper examinations, as specified in the relevant ILO convention.

5. Presently there are 35 categories of seamen in Bangladesh. This is an outdated concept that can be very unattractive to prospective employers.

6. Under the provisions of the present rules, engine ratings have little or no career prospects. There is no provision for engine ratings to sit for the examinations of higher grades (4th engineer officer etc.).

7. There is no provision for upgrading the training of seafarers under the new rules. The present refresher course has a narrow outlook, as it does not encompass professional subjects.

8. As the system is not incorporated into the national educational structure, the certificates issued are not recognized nationally. This may be considered as an inherent system fault.

9. Neither the system nor the national directive encourages the opening or setting up of private maritime schools (the Philippines has more than 20 such schools for ratings).

With a strong seafaring background and an age old maritime tradition, Bangladesh should have been at the forefront in setting the standards, unlike others who started late and achieved much more.

3.2.3. Support services and equipment

In Bangladesh, Government and privately owned primary schools are everywhere and vocational and trade centres are quite common in the cities and urban areas. But nearly forty years after its theoretical inception, there is no permanent facility for a training centre for ratings, who earn considerable amounts of foreign exchange for the country. It is hard to implement the new rules and ideas, but it is even harder to put the ideas together for an educational institution which does not exist physically. Over the years, the training centre/ school has always been run on leased premises.

In addition, the training centre has always been short of qualified and trained instructors with the relevant merchant marine experience and background. The salaries are so low that seafaring personnel would shy away from the thought of taking up such a career. Serious thought has never been given to providing other benefits to attract seafaring personnel (as was done in case of the Marine Academy which trains the cadet officers). The situation has remained desperate throughout. Even the recruitment rules for the instructors are still awaiting government approval nearly forty years after the school was established.

Inadequate infrastructure development poses an obstacle to ensuring minimum standards of maritime safety by providing education and training. There are still little or no facilities or equipment with which to train the seafarers and the necessary support elements are scarce at the institute. Presently the basic training is being undertaken under a makeshift arrangement. For instance, for practical fire fighting training, the centre utilizes the fire fighting facilities of the port authority for a day (which is not enough) and similar assistance is provided by the Chittagong Dry Dock and the Bangladesh Shipping Corporation. So far Bangladesh Shipping Corporation has been very helpful by arranging ship and workshop visits. But how long can an institute manage to operate under such physical constraints, without any equipment and basic facilities?

Without basic training elements and accessories, practical hands-on training is a far-away dream. Under these circumstances, it is very difficult to train seafarers, who now require a more skill-based type of training. To this day the equipment situation remains

appalling. During his brief service period, the author tried, with some success, to influence the authorities to encourage shipowners and demolition agents to make voluntary donations of used equipment. The present equipment status is shown in appendix 9.

There has also been an acute crisis as regards the provision of instructional materials and publications. The school/institution has had neither a permanent home nor a library. Reference books for the instructors are non-existent.

3.2.4. Trade unions and the seafarers

The role of the seafarers' unions is very important in creating a healthy bargaining atmosphere and promoting employment on foreign flag vessels. The situation is somewhat chaotic in Bangladesh. Having little or no basic education, Bangladeshi seafarers are not well organized and hence not well represented. From the available information, there are presently three trade unions for seafarers. One of the unions exclusively represents seamen of the Bangladesh Shipping Corporation (public sector). The other two represent the seamen from general roster. Since no elections have been held for the last two decades or so, none of the unions could claim to be a collective bargaining agent (CBA) in the true sense. Therefore, none have obtained an affiliation with ITF (International Transport Workers Federation). As a result, the bi-lateral agreements concluded by the seafarers' unions are not recognized by the ITF.

In the past quite a few foreign shipowners have experienced difficulties with Bangladeshi crews. The owners are often reluctant to recruit seamen from Bangladesh,

because they may anticipate subsequent intervention by the ITF.

However for the sake of a working relationship, Bangladesh Seafarers Union is recognized as a collective bargaining agent by the Foreign Employers Association (London Committee-Asian Seamen).

Apart from the above, it appears from the available information that the relationship between the two unions covering the general roster is not very healthy and cordial. Dispute among the unions has at times spread to other areas, including the educational sector. A lack of understanding and over-indulgence by the unions at times causes disruption of educational activities including the recruitment procedure. In one instance, one of the unions succeeded in bringing a court injunction against the government recruitment procedure. At one stage, a firm decision was taken by the government in 1990 to recruit trainees for the STC. As the lengthy legal battle continued, much needed recruitment remained held up for over two years(1990-1992).

3.2.5. Government training initiatives

Since independence, time and again relentless efforts have been made by governmental agencies to overcome the aforesaid difficulties, despite the limitations of available resources. After a brief uncertain period, from 1975 onwards the authorities launched a drive to focus attention on the recruitment, training and certification of seafarers. The name of the institution was changed to 'Seamen Training school' and during 1975-6 the concerned Ministry allocated Tk. 1.2 million (USD $ 30,000 approx.) to upgrade the school.

Another attempt was made in 1979 to train 4,000 seafarers over a period of 4 years under a `crash programme' project at an estimated cost of Tk. 4.83 million (USD $ 120,000 approx). The programme was extended until 1987 without achieving the desired objectives in terms of the number of seafarers trained and the quality of training. Most of the trainees received their training in the two other institutes that provide training to the seafarers in the inland sector. The funding provided for the above, proved to be insufficient to revitalize the school and catch up with the new ideas and technologies.

The government of Bangladesh recognizes the importance of improving the training of ratings in order to comply with the requirements of STCW convention and to keep pace with technological advancement in the shipping industry. Presently the following initiatives are being taken by the authorities.

1. New training project

After 1979, the Government launched a drive to establish a permanent seamen's training school at Chittagong. At the Government's initiative, a feasibility study was carried out by IMO experts in August 1984 and by Japanese experts in August 1985. A project for the development and establishment of a permanent seamen's training centre/school was prepared and submitted in 1986. A 3-member local committee formed by the Ministry of Shipping examined the project in 1987.

On the basis of the report and the recommendations thereof, a revised project proforma was prepared and submitted to the government in 1988. Meanwhile the Japanese government was also requested by the authorities to extend

Japanese grant aid assistance for establishing a fully equipped centre at Chittagong. Later on, a project concept paper was prepared by the Department of Shipping and submitted to the Government. The paper received the approval of the ECNEC (Executive Committee of National Economic Council).

The Japanese Government is expected to finance the project under the grant aid programme. Several missions of JICA (Japan International Co-operation Agency) visited Bangladesh regarding the above project during 1987, 1991 and 1992. The following are the aims and objectives of the project:

a) The prime objective of the project is to promote human resources development in Bangladesh. The benefits to be gained in the future justify investing in such a project.

b) It is to be treated as a service oriented project.

c) The fundamental aim is to develop and strengthen the country's maritime sector through the provision of adequately trained seamen to man its oceangoing vessels and to provide a pool of trained seamen available for overseas employment.

d) Brighter employment opportunities will be created for the active but less qualified youths of Bangladesh who are willing to choose a career at sea.

e) The project aims to impart training to 300 new recruits of different categories annually to replace the losses on account of old age, death, disability, desertion

and wastage. It also aims to impart training to 1000 of the registered in-service seamen per year to upgrade their skills, as required by the STCW'78 convention, so that they will gain international acceptance.

f) The trained seamen will be absorbed by the industry on a national and international level, the latter enabling the country to earn more valuable foreign exchange.

2. Recruitment, examination and certification

The authorities have made significant progress in formulating new directives regarding the above. Recruitment and examination rules were never well defined in Bangladesh. New rules regarding the recruitment, examination and certification of various categories of ratings were published on 20th July 1991. The present democratic Government is making an all-out effort to revive the nation's maritime heritage. After nearly thirteen years, necessary examinations were held in March 1993 for the new induction of entrants to the Seamen Training Centre. The response was overwhelming. For 450 seats (subject to administrative approval) in different categories, as many as 8,142 candidates participated in the nationwide examination.

3. Other measures

To create more general awareness, the problems of Bangladeshi seamen related to MET, employment and welfare were discussed at seminars held in Chittagong in March, 1985 and again in July, 1989 that were jointly organized by the Government of Bangladesh and the International Labour

Organization. The responsibility for promoting the education and employment of seamen does not solely rest with the Government. There is specific public concern about the deteriorating MET system and employment trends for seamen and those are identified as the most pressing problems faced by seafaring ratings. It was expected that the seminars would help the Government as well as the employers and the Unions to take appropriate measures relating to seafarer education and employment.

Among other promotional measures, the following may be highlighted :

a) The Government is making every effort to promote the organized representation of seafarers. Trade union activists among the seafarers were encouraged to resolve their differences and to form a CBA (Collective Bargaining Agent) in order to obtain ITF affiliation.

b) Government officials responsible for maritime affairs were encouraged to attend regional and interregional maritime seminars and conferences. The Ministry of Shipping has taken the initiative to send the related field officials to attend various maritime courses abroad. For example, the Director of Seamen Welfare attended a `seafarer´s management system´ course in Japan in 1992, and the present Principal of the Seamen Training Centre is currently attending the MET course at the World Maritime University.

CHAPTER FOUR

'Nevertheless, there exists a general readiness to communicate, to learn from each other and to respect the differences in foreign MET systems.'

Gunther Zade (1989, 73)

4.0 A COMPARATIVE STUDY OF OTHER TRAINING SYSTEMS

A study of MET systems for the ratings of selected countries is made in this chapter. In response to the pressures in the competitive world of shipping for change, many developed countries have had to confront the problem of re-examining and restructuring their MET systems for ratings.

Many countries have already taken steps in changing methodology and in adopting new systems to face the demands of the industry. The countries in the forefront, breaking the traditional barriers and redesigning their own systems, are Australia, Germany and Japan. These countries have had considerable success in developing new systems and reorganizing their maritime sector.

In Bangladesh, ratings are trained primarily to cater for the needs of the domestic and international shipping industries. The logical approach to analyse or evaluate a particular system is to look into other viable systems in the same field and make comparative studies. To evaluate the system concerned, there is a need to look at other countries who have had success in developing systems for

the future. IMO's STCW'78 convention was instrumental in formulating these systems. The study of the MET systems of various countries having well-trained personnel should in fact reveal certain elements of common ground. From those common features, a foundation for a new system may be laid or an existing system may be modified. The most common elements include :

- Introduction of a fully integrated dual purpose scheme
- Increasing tendency to integrate MET into national systems of education
- Common introductory curriculum for officers and ratings in an attempt to break down the hierarchical barriers.

The countries selected for comparative studies are Germany, Japan and Australia. These countries have all introduced an integrated MET system for ratings.

4.1. Introduction

It may seem somewhat odd to compare the systems of the most advanced maritime nations with the Bangladeshi ratings training system. One idea is to set a target for the best available system in order to achieve much more than others with a similar environment. The other reason is to emphasize the creation of a pool of quality seafarers to meet the future demands of the industry.

4.1.1. Australia

The Australian Shipping industry as a whole went

through a process of reform during the period 1981-1990. It all started in 1981 after the Government appointed Sir John Crawford to chair a committee representing shipowners and unions to find ways to bring about necessary changes. The Crawford package was introduced in 1984, on the basis of the recommendations of the report submitted by the committee. As far as seafarers are concerned, the true reform started after the tripartite Maritime Industrial Development Committee (M.I.D.C.) released the report "Moving Ahead" on 14 October 1986. Among other things the Committee recommended that :

- ratings be trained to undertake duties in both engine room and on deck - these ratings are known as "integrated ratings";
- work practices on board be made more flexible with potentially greater job satisfaction; and
- integration between crew members be encouraged through shared social facilities and common training, so that social barriers are broken down.

All new entrants to a sea career have had to follow a common course of training in Australia from 1988 onwards. Among the prominent maritime nations, Australia possibly has the best system for ratings training. An individual integrated rating has two choices :

- to become an expert in his/her own field and later go on to become an integrated bosun; or
- to seek a career path as an officer.

To become an officer, the rating must follow a prescribed programme and enrol for further study at a

maritime college.

4.1.2. Germany

The reform of the system began in 1978 with `the ship's Trade master' or "Schiffsbetriebsmeister" (SBM) replacing the bosun and the engine room foreman. This provided the impetus for the development of a dual purpose training scheme for ratings in Germany. The `Ship's Mechanic' course was introduced in 1983, with the objective of creating a multi-purpose crew. These ratings are known as `ship mechanics'.

Since 1986, the system throughout Germany has changed from the conventional monovalent type to the dual purpose (ship mechanic) type. Successful secondary school leavers can join the 3-year ship mechanic training program. During each of the three years, each student has a block of 10 weeks of study followed by examinations. Between the blocks he or she must serve at sea to acquire practical experience.

At the end of three years, apart from the school examination the rating also has to sit for an examination conducted by the maritime administration (Ministry of Transport). The successful candidate will be awarded the licence of `ship mechanic'. After a further sea service of 4 years, the rating will be eligible to attend a 9-month SBM course. The rating will then be examined by the maritime safety administration (Department of Transport) and be entitled to receive the certificate of SBM (ship's trade master). A rating can also choose the officer career path and to do that he/she must enrol at a polytechnic for further study.

4.1.3. Japan

During the past thirty years or so, the introduction of modern technology has brought about remarkable changes in the operation of Japanese merchant ships and provided the impetus for the modernization scheme in maritime education and training which began in 1977. The Research Committee on Modernization of the Seafarer's System, comprising members representing the government, employers, labour sectors and maritime experts, was organized in April 1977. The main theme of the new system under study by the committee was that the conventional division between the deck and engine department should be removed.

The idea was to introduce a programme with the objective of operating sophisticated Japanese vessels with a small number of crew, undertaking the programme in stages. The committee also formulated a guideline entitled `Hypothetical Image of the Seafarer', which consisted of two parts : the `hypothetical image of the seafarer as the ideal target for the future' and the `hypothetical image of the seafarer during the transitional process'. The latter hypothesis would require a complete review of the existing work division between deck and engine operations. All the ordinary crew were given the title of Dual Purpose Crew (DPC), who would be identified on the basis of their common skills as well as their specialized skills as either deck or engine crew. The fixed manning system with a reduced crew for the modernized vessel was finally legislated into the revised ministerial ordinances in 1986.

Even though ratings training in Japan follows two major streams, regular and special, there is a marked change towards multi-skilling. The dual purpose crew system has been in place for quite some time now and Japan appears

to be heading towards a single point entry. Both regular and special courses are meant for the dual purpose (DPC) recruits. The regular course is for junior high school leavers who can join the three-year course at any of the eight schools for seafarers training. Senior high school leavers can join a seamen's training school for one year. One month of sea training is compulsory in both courses. On completion of the requisite sea service, students from both courses have the opportunity to become 3rd/4th grade maritime officers on passing the appropriate examinations conducted by the maritime administration. The upgrading of existing ratings is done through a reeducation system at a marine and technical college.

4.1.4. United Kingdom

The ratings training system in the United Kingdom has not changed very much during the past 30 years with the exception of the introduction of the general purpose crew in the late sixties. During the mid-eighties, the government started to act decisively to review maritime activities, after realizing the profound impacts on recruitment, training and operational arrangements on board ships brought about by the rapid advancements in technology and communication. A research project called 'Technology and Manning for Future Safe Ship Operation' was sponsored by the Department of Transport and was undertaken from 1985 to 1987. In the light of these developments, the Merchant Navy Training Board set up a Strategic Policy Committee to undertake a fundamental review of the arrangements for training, examining and certificating and to take forward

the findings of the research project. In future, ratings training may take a new turn in the United Kingdom, once the committee completes their work and takes decisive steps.

Presently candidates are chosen by the individual shipping companies and then sent to the National Sea Training College at Gravesend for pre-sea training. A 13-week course with a minimum of classroom work is designed to prepare the trainee rating for a career at sea as either a deck or general purpose rating. An engine rating receives similar training for a duration of thirteen weeks leading to a career at sea as a motorman. Some shipping companies sponsor their ratings with the relevant qualifications on the class IV supplementary training scheme. With the aid of extra studies in certain subjects, a correspondence course at sea and further college modules, this scheme leads to certification as a watchkeeping officer or an engineer.

4.1.5. Malaysia

The increased demand for skilled manpower by the shipping industry prompted the government to set up its first seaman's training school in 1972 at Pulau Penang (Malaysia). The school which was created as a day training centre, ceased operation with the opening of the new Maritime Training Centre at Melaka in 1976. The centre was utilized to provide one-year courses for general purpose and catering ratings. In 1981 the operation of the centre was expanded to provide training to cadets and other officers and was renamed the Maritime Academy Malaysia.

In 1982, with the introduction of 14-week courses for each category of ratings (deck, engine and saloon), the

training for general purpose ratings was discontinued. Under the present system, trainees are admitted to the Academy after nine years of schooling. The number admitted depends on the demands of the industry. The candidates are carefully chosen and put through courses of fourteen weeks duration. On completion of the deck/engine courses, trainees are sent to shipping companies for employment. Catering ratings go through further industrial courses prior to employment. Both deck and engine ratings have the opportunity to serve as home or local trade mates and masters after acquiring the requisite qualifying sea service. As home/local trade mates and masters, they can also join the main stream of foreign-going officers on passing the examinations conducted by the maritime safety administration.

4.2. System description

4.2.1. Australia

The outline of the present integrated system is as follows:
New Entrants : Yearly intake is decided by the National Maritime Industry Committee (NMITC).

Entry Requirements :

1. Basic Education :
    a. Satisfactory completion of 10th year at any secondary school or an equivalent level of knowledge and ability.
    b. Demonstration of ability to achieve the seagoing experience required in a future study programme.

2. Strict medical test including :

a. Eye Test

b. Medical examination

c. Chest X-ray

3. Minimum Age :

None

Course Structure :

The course consists of two semesters.

Semester 1 : Pre-sea training at the Australian - Maritime College

Semester 2 : Practical training on board ship

Pre-sea Training : 18 weeks

Semester 1 :

a. Marine Safety and Survival : 3 weeks

b. Other Subjects : 15 weeks

Instructional Hours :

Units	Hours
Survival at Sea and other safety subjects	99
Technical/professional subjects	523
Total :	622

Training at Sea : 20 weeks

Units	Hours
Task and Guided Study	160
Semester 1 and Semester 2 Total :	782

Awards :

a. Certificate in Marine Operations from the Australian Maritime College.

b. Provisional Certificate as an Integrated Rating issued by the Australian Maritime Safety Authority

Further Sea Service : 32 weeks.

c. Integrated Rating Certificate (Full) issued by the Australian Maritime Safety Authority.

Career Development :

a. Remain as integrated rating,
   or
b. Enrol in upgrading course for Bosun,
   or
c. Follow a career path to become an officer.

Bosun :

Further sea service : 2 years
(after obtaining full IR certificate)
Duration of the course : 3 weeks (including one-week Fire Fighting module).
Award of certificate: Senior Integrated Rating or Bosun
Note: Every year the National Maritime Industry Training Committee (NMITC) chooses 30 students out of the most suitable candidates with IR certificates to enrol for the course. The procedure is that a total of two intakes are allowed in one year, with 15 students per intake.

Career path to become an officer :

1st Phase:

a. Distance learning method : 3 months
   1st litmus test : 3 times per year
   Pass or fail

Fail : start all over again
Pass : follow through to next phase

2nd phase :

b. Pre-study preparation : 6 months
for deck or engineer officer of the watch
2nd test : Pass or fail

Next phase:

With the approval and sponsorship of the National Maritime Industry Training Committee (NMITC), candidates may enrol in the Watchkeeping Officers Course (deck or engine) at the Australian Maritime College.

4.2.2. Germany

Dual-purpose system.

Entry Requirements for New Entrants :

1. All trainees must be sponsored by a shipping company but the educational expenses are paid by the government.

2. Basic Education :
   a. Satisfactory completion of the 9th year of secondary school or an equivalent level of knowledge and ability.
   b. Must be suitable for work at sea both on deck and in the engineroom.

3. Strict Medical Checkup and Tests :
   a. Vision examination (must not be colour blind)
   b. Hearing examination
   c. Dental check-up

   The medical checkup will be performed by a doctor appointed by the trade union.

4. Minimum Age : 15 years

Course Structure

The course consists of three blocks provided over a period of three years and the student must enrol in any of the trade schools for seafarers.

First study block at training school	:	10 weeks
Practical training on board in the - deck and engine room	:	53 weeks
2nd study block at training school - and intermediate examination	:	10 weeks
Practical service onboard	:	68 weeks
3rd study block at training school - and final examination	:	10 weeks

Instructional Hours

Safety subjects	:	132 hours
Cargo work and handling	:	40 hours
Marine engineering	:	250 hours
Shiphandling	:	40 hours
Total	:	462 hours
Total for three blocks	:	1200 hours

Award

a. Relevant certificate from the trade school
b. Ship Mechanic certificate issued by the administration under the Ministry of Transport.

Career Development

a. Remain as a ship mechanic
   or
b. Choose to become a master ship mechanic
   or

c. Follow a career path to become an officer

Master Ship Mechanic

Further sea service : 4 years
(after obtaining ship mechanic certificate)
Trng. and exam. for MSM qualification : 30 weeks
Award : `Master Ship Mechanic' certificate issued by the administration

Career development as an officer

After obtaining the ship mechanic certificate, a student can enter a polytechnic for a one year course to become an assistant officer. Alternatively a ship mechanic, on receiving special training, can become an assistant officer after completing 24 months of sea service.

4.2.3. Japan

Dual- purpose system

Entry Requirements for New Entrants :

1. Basic Education :
   a. Regular course : Satisfactory completion of junior high school (9th year)
      Age : 15 to 19 years
   b. Special course : Senior high school graduates (12 th year)
      Age : 18 to 20 years.

2. Medical Test : Thorough physical check-up

3. Written examination

Course Structure :

Regular course : 3 years with 1-month sea training.

Special course : 1 year with 1-month sea training.

Instructional Hours :

Subjects	Regular course	Special course	
	No. of hours	No. of hours	
		Navigation	Engineering
General	1260 (incl. English)	-	
Technical	1575	1044	954
Practical--Training	660	324	324
Safety	210	72	72
Sea Training	735	105	105
Total :	4440	1545	1545

Award :

Regular students to qualify as dual-purpose crew (D.P.C.) and obtain certificate. Special course students must complete further nine months' service at sea and three-month DPC course at specialized institution (at Kojima or at Nanao) prior to receiving their certificate.

Career Development :

With 2 years of sea experience as D.P.C., exemption is granted from written examination for 4th grade Maritime Officer (Navigation or Engineering).

4.2.4. United Kingdom

The outline of the present system is as follows :

Entry Requirements :

All trainee ratings are sponsored by a shipping

company. There are no specific age or qualification requirements for entry to the ratings training institute. However, basic schooling up to the age of 16 (10th year) is compulsory for all in the U.K. and all new entrants to the merchant navy must meet statutory medical standards.

Course Structure :

A thirteen-week course designed to prepare the trainee rating for a career at sea as a Deck or General Purpose Rating or a Motorman.

Pre-sea Technical Training Course (Deck)

Instructional Hours :

Subjects	Hours
Safety and other subjects	152
Technical	216
EDH* and Support Subjects (engineering subjects for Motorman)	96
Training vessel	40
Total :	504

* EDH - Efficient Deck Hand

Award :

Successful ratings receive a City and Guilds of London Institute Skills Test Certificate at the end of the course and they are qualified to go to sea.

Career Development :

a. Successful trainee with 2 months' service at sea or unsuccessful trainee with 4 months' service at sea or candidate with six months' service at sea without pre-sea training (all having steering certificate) may be promoted to category 3 seaman.

b. A candidate with 12 months' service as deck rating (with EDH certificate) or 18 months' as G.P. rating (with EDH certificate) or at least 18 years old with 24 months' service at sea in a deck capacity (with steering certificate) may be promoted to category 2 seaman.

c. A candidate with 24 months' as Deck or GP rating (with Cert.of Proficiency in Survival Craft) or at least 20 years old with 42 months' sea service in a deck capacity (with steering certificate) may be promoted to category 1 seaman or `Able Seaman'.

Alternatively, the IMO specified rating system may be followed such as `Rating forming Part of Navigational Watch' as per Reg.II/6 of STCW'78. With the relevant qualification and requisite sea service, the rating may be promoted to AB Seaman. An engineroom rating may join as a trainee fireman and go on to become a fitter or engineroom headman. He or she may also join as an unqualified trainee rating and go on to become a watch rating before being nominated as the sole assistant to an engineer officer, as specified by the U.K. Merchant Shipping Regulations of 1984.

Further development :

After satisfactory completion of the required services at sea, the rating may be promoted to the rank of Bosun or Fitter in the respective departments (determined by the shipping company).

As an officer or an engineer :

Some shipping companies sponsor their deck ratings with the relevant academic qualifications on the class IV supplementary scheme. Through extra studies

in navigation and chartwork, a correspondence course at sea and further college modules, this scheme leads to certification enabling the successful rating to serve at sea as a watchkeeping officer. Some companies utilize a similar scheme for engineroom ratings. The Glasgow College of Nautical Studies runs courses for engineroom ratings who wish to qualify as a class IV watchkeeping engineer officer.

4.2.5. Malaysia

The Malaysian system is almost a replica of the British system. The training language is also English. Separate courses are conducted for deck, engine and catering ratings.

Entry Requirements :

a. 9 years of formal schooling with lower secondary grade certificate (SRP/LCE). Engineroom ratings may possess equivalent motor mechanic or welding vocational certificate. A pass in English is compulsory for catering ratings.

b. Unmarried Malaysian citizen, age between 17 - 25 years old on the date of commencement.

c. Physical fitness :

Be physically fit.

Pass sight test conducted by the Marine Department.

Minimum Height : 158 cm. Weight : 47.5-63.4 kg.

Course Structure :

Deck Rating Course : 14 weeks

Engine Rating Course : 14 weeks

Catering Rating Course : 28 weeks

Instructional Hours : (Deck)

Subjects	Hours
Safety and survival	120
Technical/professional	324
Total :	444

Award :

Examinations are conducted at the end of the course and successful candidates are issued with certificates.

Career Development :

On completion of two years of service at sea the trainee is issued with a watchkeeping AB certificate by the administration. Thereafter the shipping company may promote the trainee to the rank of Bosun or Fitter/Engineroom Headman.

Career path as an officer :

A rating with 36 months' service at sea can sit for Mate Local or Mate Home Trade examination or he can qualify as 3rd Mate(exempt) with supplementary courses. The rating has the opportunity to become Master Home/Local trade or can go on to become 2nd Mate of an ocean-going vessel with the relevant qualifications and approved sea service. Similarly, engineroom ratings can make their way up to the level of First Class Engine Driver or can sit for the class V Marine Engineer Officer examination with 18 months of sea service.

4.2.6. Bangladesh

As the Bangladeshi system has already been described in Chapter 3, the author now wishes to focus on the

instructional hours and career development scheme.

Instructional Hours :

The following instructional hours were proposed for the courses due to start in 1994. Presently a total of 182 teaching hours are utilized to teach safety and professional subjects to the existing ratings.

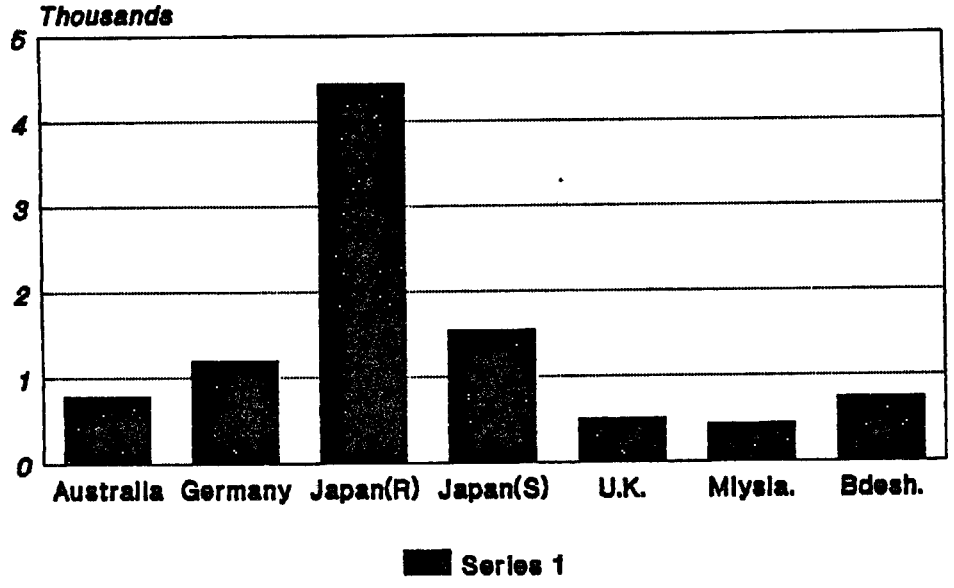
Subjects	Hours
Safety and survival	126
Professional and support	594
Physical training	18
Total :	738

Career Development :

A deck rating has the opportunity to appear at the class IV Certificate of Competency (deck officer) examination after completing 5 years of service at sea on trading ships, of which 2 years must be as AB Seaman. Engineroom ratings have much stricter regulations. The rating must be in possession of a Higher Secondary Certificate (science group) with 50% pass marks in physics and mathematics before qualifying for the class IV certificate of competency (engineering officer) examination. The trainee must also have completed 60 months' service at sea with an additional 6 months of intensive workshop training.

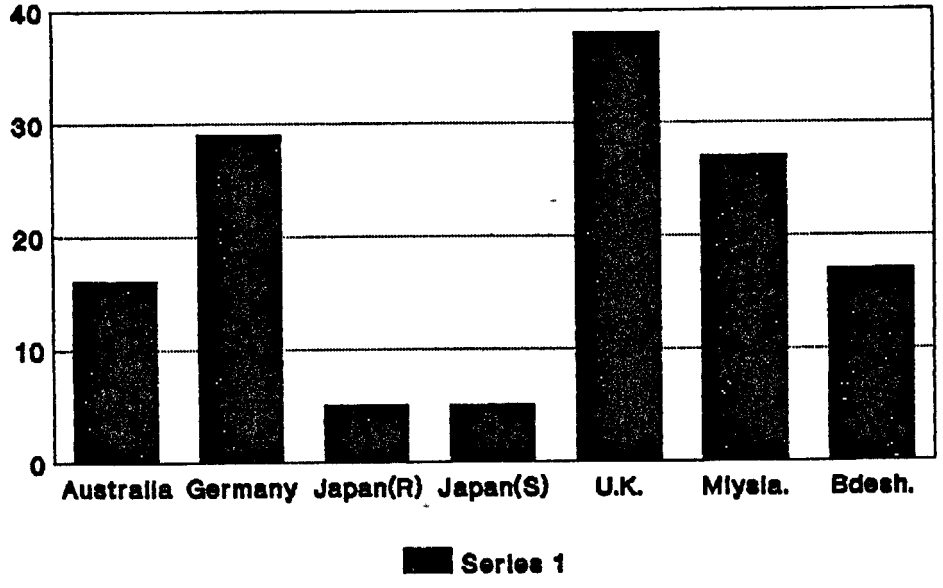
The following figures illustrate the instructional and subject hours for the six countries.

Figure 4.1 Instructional Hours
Countrywise allocation



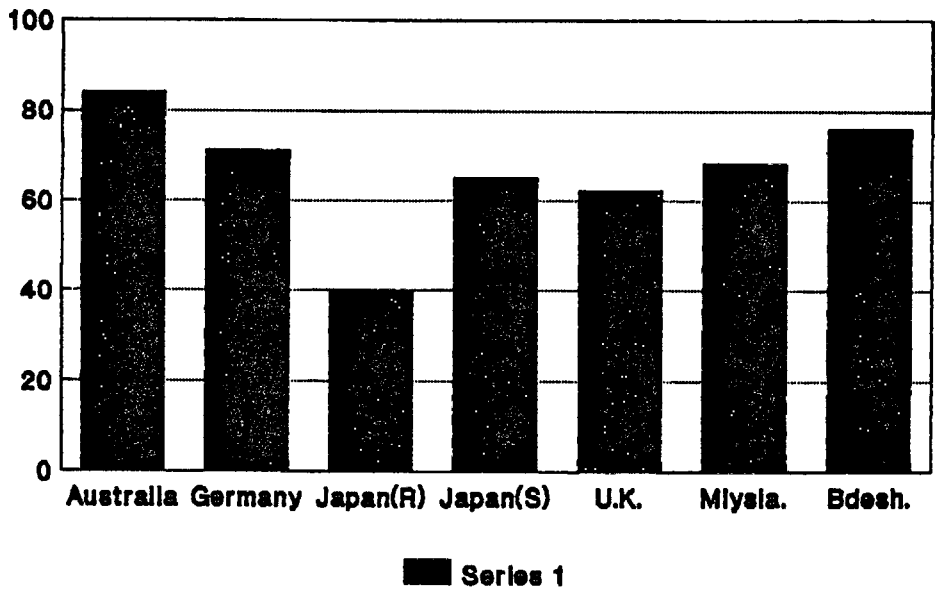
Total training hours

Figure 4.2 *Safety subject hours*
Percentage allocation



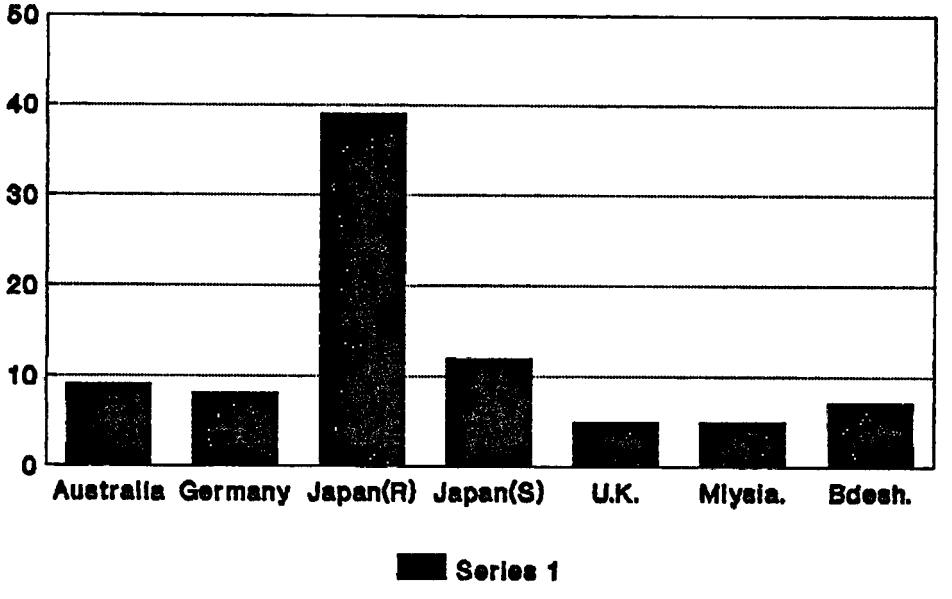
Countrywise distribution

Figure 4.3 - *Professional Subject Hours*
Percentage allocation



Countrywise distribution

Figure 4.4 - *Support/other subject hours*
Percentage allocation



Countrywise distribution

Catering Ratings :

Australia :

Basic cookery and catering course certificate from a catering college : 12 weeks
Pre-sea safety training course at AMC : 3 weeks
Steward training onboard : 18 months
Chief steward course at catering college : 2 weeks

Germany :

Course for 2nd cook at Marine Training School : 14 weeks
Minimum sea service : 52 weeks
Course for Chief cook : 4 weeks
Stewards receive their training at separate hotel management institution.

Japan :

Catering course at Shimizu Seamen School for senior high school graduates : 1 year
On satisfactory completion of training ship's cook certificate is granted.

United Kingdom :

Catering course at National Sea Training College : 11 weeks
Successful trainee ratings receive a City and Guilds of London Institute Skills Test Certificate
Sea service with record book : 52 weeks
Training module and examination at National Sea Training College : 2 weeks
Successful Ratings to receive a C.G.L.I.705 General Catering Certificate. For serving cooks :

Ship's Cooks' Course Part 1 and Examination : 6 weeks
Part II and Examination : 6 weeks
Higher Grade Cookery Course and Examination : 4 weeks

Malaysia :

Catering course at Maritime Academy
first term : 14 weeks
Industrial training in main galley
2nd term : 14 weeks
Successful trainees to receive certificate as `Basic Catering Rating'.
Thereafter the rating joins vessel as a steward or cook and later may be promoted to the rank of chief cook or chief steward depending on his service record.

Bangladesh :

Stewards : National hotel and tourism training institute certificate holders to receive safety training at STC. Duration : 3 months
After 2 years of service at sea to be promoted to steward-I . With 5 years service as a steward and with typing capability of 30 w.p.m., to be promotedot the rank of chief steward (examination before a selection board).
Cooks : National hotel and tourism training institute certificate holders to receive safety training at STC. Duration : 3 months
After 2 years of service as cook-II, the rating must pass the examination conducted by the Department of Shipping to receive the Certificate of Ship's Cook.
Thereafter the rating may be promoted to the rank of Chief Cook.

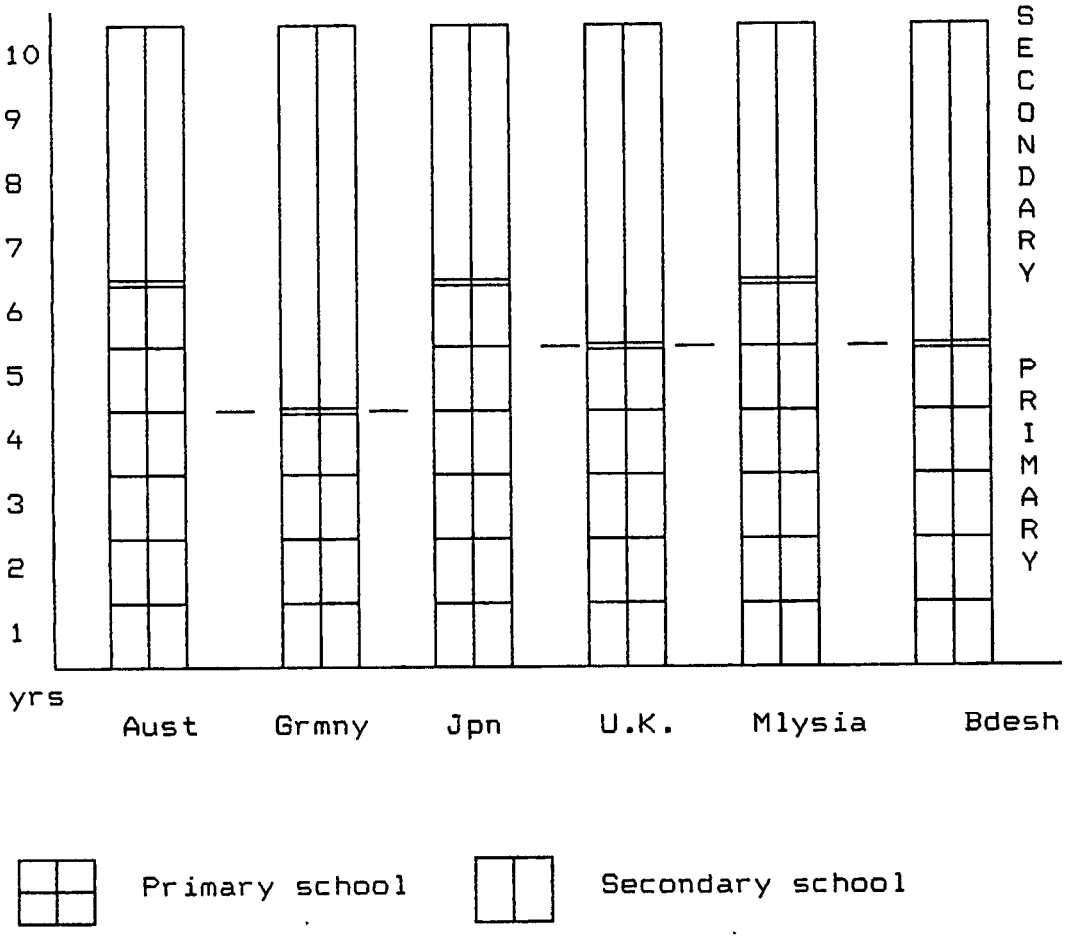
4.3. System Analysis

4.3.1. Entry requirements and schooling

The two or three stages of a young person's schooling prior to his/her admission to a maritime institute do not seem to vary very much among the countries described above. The first 5-6 years (commencing at age six or seven) of a child's school life is spent at primary or elementary school. Secondary or junior high school normally covers the period between the sixth or seventh and the tenth year of schooling prior to admission to a maritime institute as a trainee rating.

Figure 4.5 compares the schooling periods in the six countries prior to a sea career as ordinary or general purpose or integrated rating. Trainees from Germany, Japan and Malaysia require nine years of basic education, while for the United Kingdom, Australia and Bangladesh the requirement is ten years. Mathematics and science (physics) are common subjects for the students of all the countries mentioned except for Malaysia and Bangladesh. English is a compulsory subject up to the tenth year for students in the U.K., Australia and Bangladesh. English instruction is also given at German and Japanese schools. A good pass in elementary science (not physics) is preferable but not compulsory the students in Malaysia and Bangladesh, and a student may substitute science for other subjects. In Bangladesh, the requirements for ratings are the completion of secondary schooling and the possession of a Secondary School Certificate with credited passes in general mathematics (of elementary level in the national language) and the English language.

Figure 4.5 - Primary and Secondary Education of New Entrants Joining a Maritime Training Institution



4.4. Sequence of training

Monovalent Scheme

Figure 4.6 shows the sequence of training in the monovalent scheme (deck ratings) in the United Kingdom, Malaysia and Bangladesh up to the highest level of certificate. This consists of 14 weeks of shore based pre-sea training (as compared to 21 weeks in Bangladesh) followed by a sandwich type of lengthy sea services in between professional upgrading examinations. The sequence of alternating between shore and ship varies from country to country. In the U.K., 38 to 42 months of sea service are required for advancement up to category 1 seaman from category 3 seaman, whereas in Bangladesh and Malaysia the requirement is 36 months. Again in Bangladesh there is a rigid sea service requirement of 5 years for an AB rating to become a bosun, whereas in the U.K. and Malaysia the period depends upon the individual shipping company.

It is even more difficult for a trainee to join the main stream of officer training in Bangladesh, as he/she requires 5 years of qualifying sea service, including 2 years as an AB, before appearing at the Class 4 examination.

Proper professional courses are conducted for catering ratings in the U.K. and Malaysia. In Bangladesh up to the present time catering ratings receive their professional training at the nationally supervised institute for tourism and hotel management.

Dual-Purpose scheme

Figure 4.7 shows the sequence of training for

Australia, Germany and Japan from entry into the system up to the highest grade. In Germany and Japan, dual purpose schemes take three years starting from entry into the training institute up to the first qualification as ship-mechanic or dual-purpose rating. In Australia it takes 1 1/2 to 2 years to become an integrated rating. After the first level, the system varies remarkably from one country to another. In Japan the system is designed to encourage dual purpose crew to choose an officer career path, after completing certain courses and qualifying sea services. In Australia, however, the shipboard practice is semi-integrated before and after obtaining the provisional IR certificate. In Germany the system is fully integrated up to the level of master ship mechanic, but the duration of sea service is much longer: 4 years after becoming a ship mechanic, as compared to 2 years in Australia.

In the U.K., Japan and Malaysia, catering ratings receive all their training at the training school. In Germany, Australia and Bangladesh, they receive their professional training (except for safety training) at separate catering institutions.

4.5. Contents of MET

4.5.1 Comparison of total teaching hours

Figure 4.8 compares the total teaching hours needed to complete the initial pre-sea training. The length of one teaching hour varies from 45 minutes to 60 minutes. The total number of teaching hours required for the dual-purpose regular scheme in Japan is 4,440 hours spread over a period of three years, while for special courses the number is 1,545 hrs for both navigation and engineering

FIGURE 4.6 - SEQUENCE FOR MONOV'ALENT SCHEME

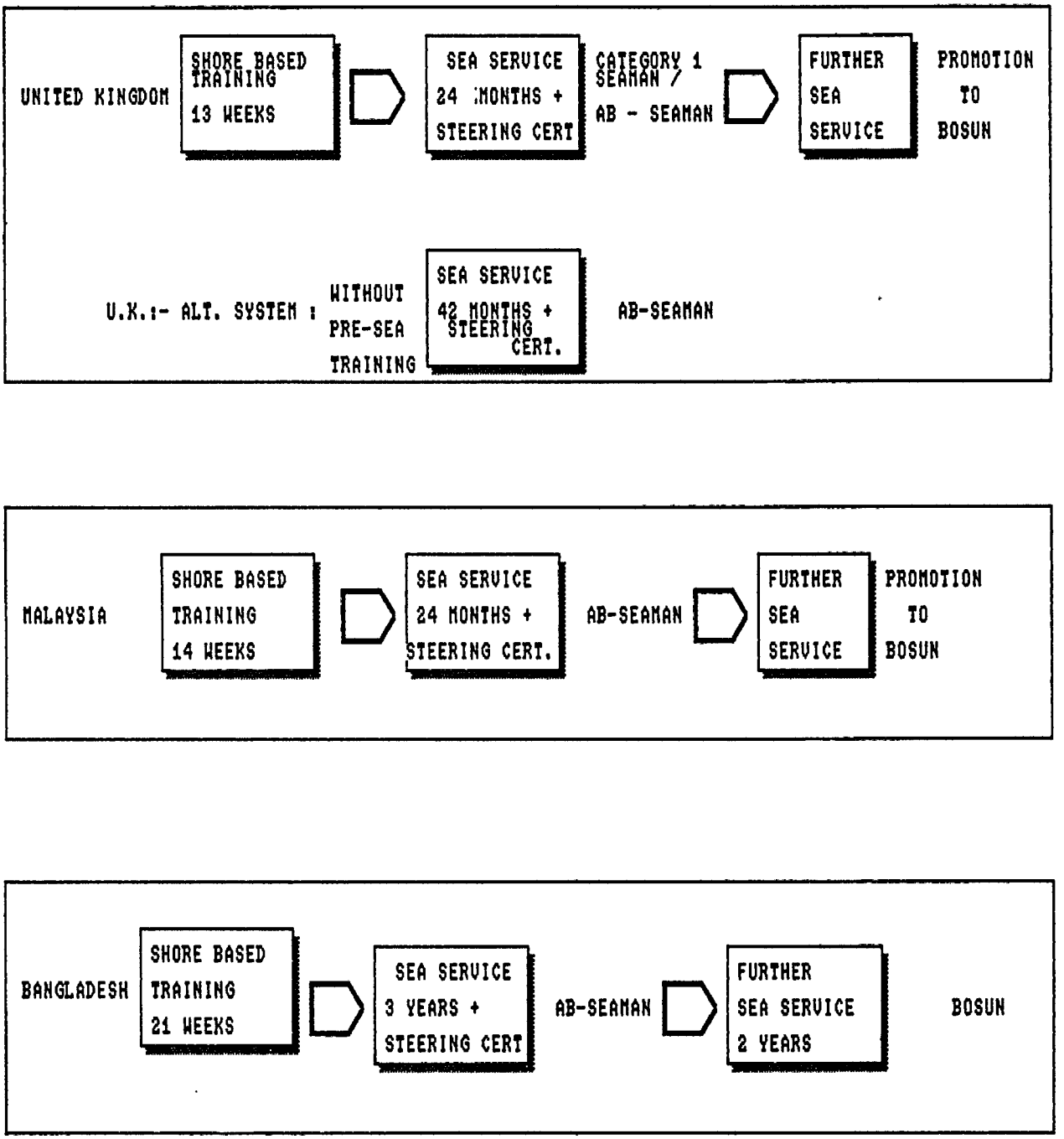


FIGURE 4.7 - SEQUENCE OF DUAL PURPOSE SCHEME

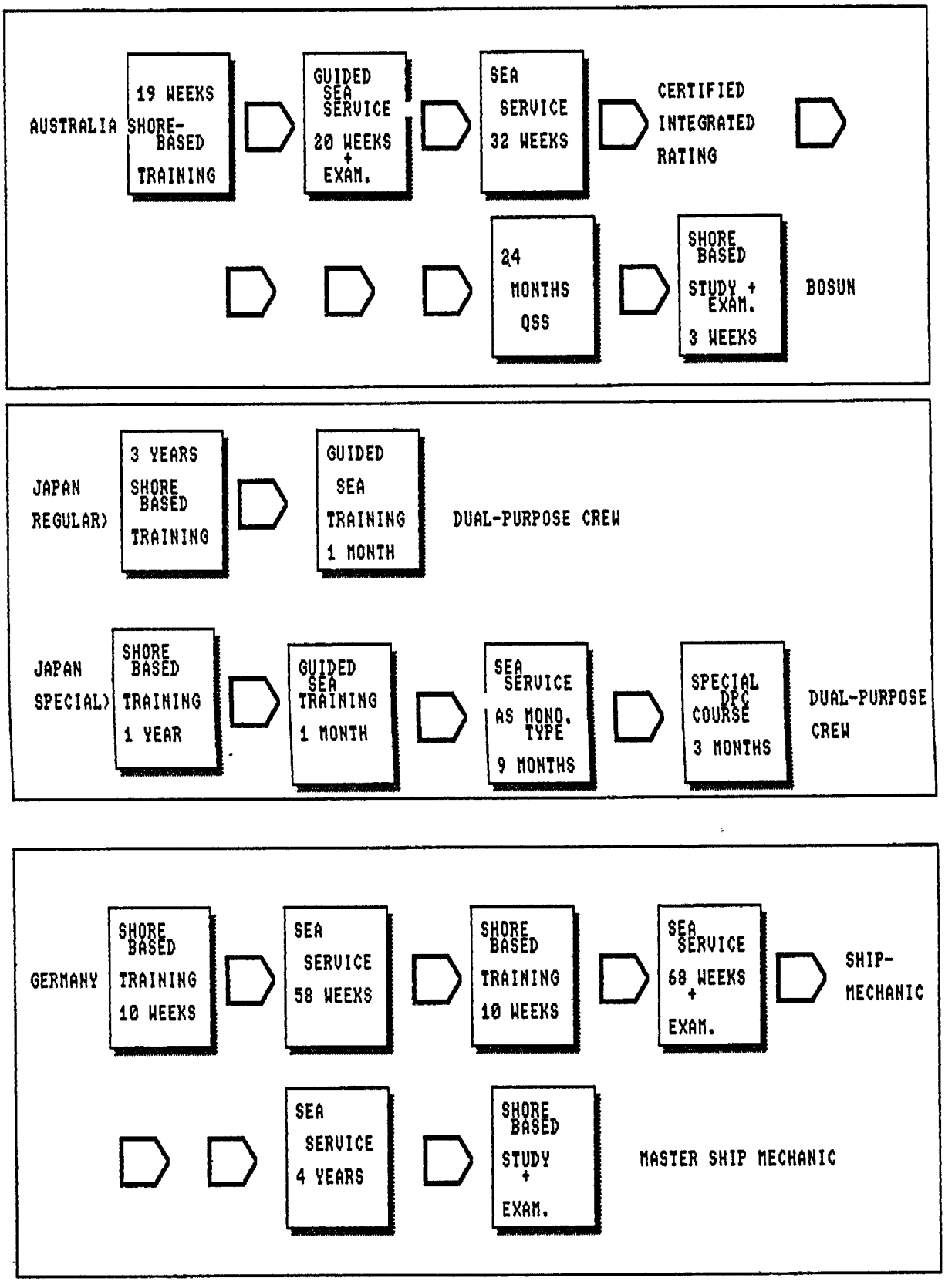
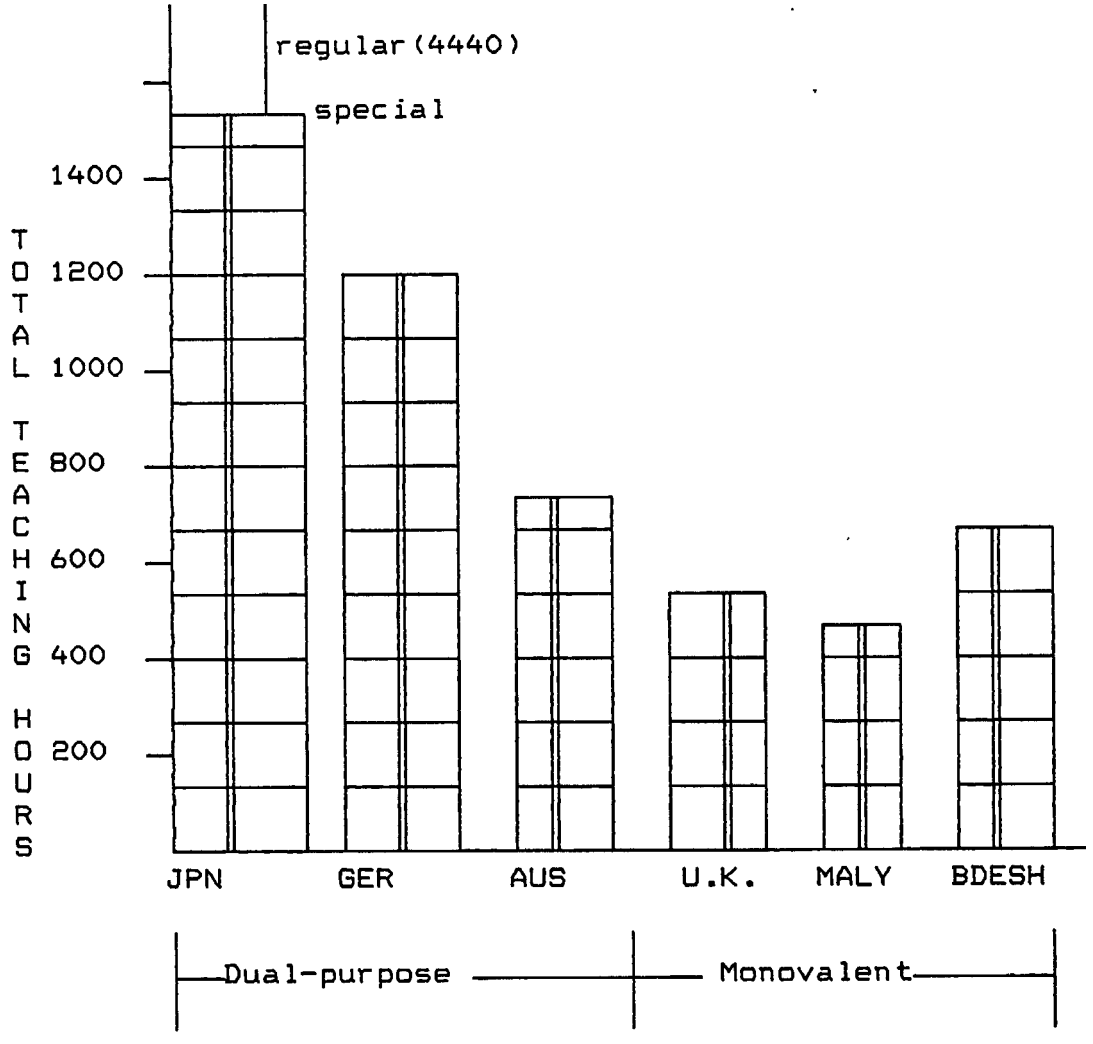


Figure 4.8 - Comparison of Total Teaching Hours Utilised by Each Country



students. The above includes one month of sea training on board the training ship of the Institute of Sea Training. Germany utilizes 1,200 hours over a three-year period of shore based studies in three blocks. A ten-week block each year is followed by sea service including leave periods. Australia uses 782 hours spread over a period of 18 months, including 160 hours of tasks and guided study on board ships.

The total number of teaching hours required for the completion of all theoretical knowledge up to the initial pre-sea level in the technical (general purpose/deck/ engine) scheme of the United Kingdom is 504 hours, which are spread over a period of thirteen weeks. For the monovalent (deck) scheme, the total number of teaching hours required by Malaysia is 444 hours spread over a period of 14 weeks. Under its present monovalent scheme, Bangladesh utilizes 738 hours of theoretical teaching for each category.

4.5.2. Analysis of subject groups

For the purpose of clarity, the subjects are classified into groups. Certain difficulties arise in such an analysis, as the same subjects may have different names in different countries and also some subjects may be present in one system but not in another. These group of subjects include :

1. Marine safety and survival (MSS), which covers areas such as proficiency in survival craft, basic fire fighting, ship-board safety, basic life support etc.

2. Professional (Prof), which refers to subjects such as

navigation, seamanship, engineering, instrumentation, bridge/engine familiarization, meteorology, marine power plants, electricity, electronics, fuels and lubricants, machinery fittings etc.

3. Support and others (Supp & oth), which refers to subjects such as English/national language, mathematics, science, history, humanities, basic maritime regulations, personnel management, crew agreement etc.

4. Sea Training (GS/t), which refers to a period of guided training on board a training vessel.

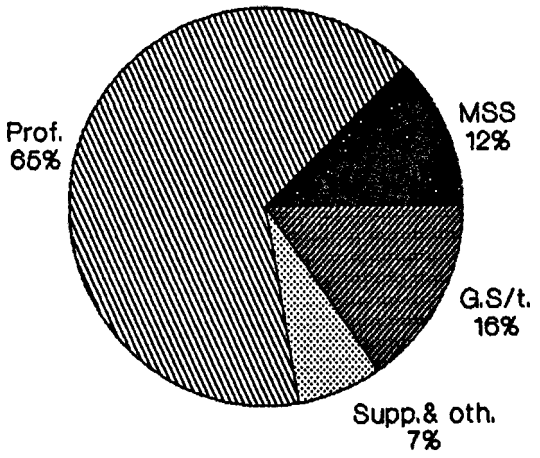
Looking at dual purpose schemes,in the Australian system 84 % of the theoretical teaching hours (including practical training on board the training vessel) are allocated for professional and support subjects and 16% are devoted to safety subjects. Task and guided study on board ships represents 20% of total teaching hours. Support subjects are included in the safety units.

In Japan, for special courses, an average of 47% of the total teaching hours are allocated for professional subjects. In the regular course, 40% of the teaching hours are allocated for professional subjects, 5% for safety subjects, 32% for support subjects and 17% for on-board training. A total of 1,600 hours is allocated for catering ratings. Under the German system, the groupwise allocations are :

. 29% of the total teaching hours for safety subjects
. 71% for engineering and nautical subjects

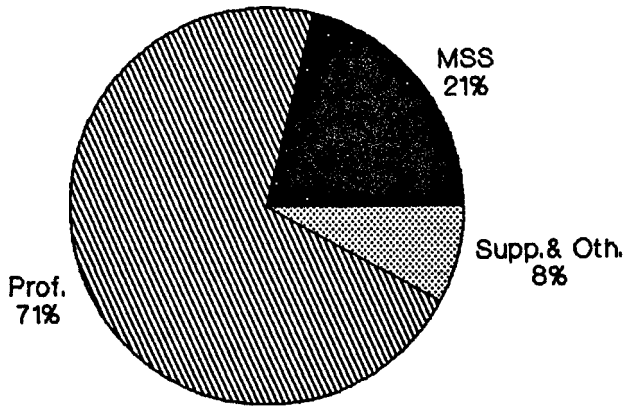
The following figures illustrate the percentage allocation of subject hours in the six countries.

Figure 4.9 - Subject Hours - Australia
Percentage allocation



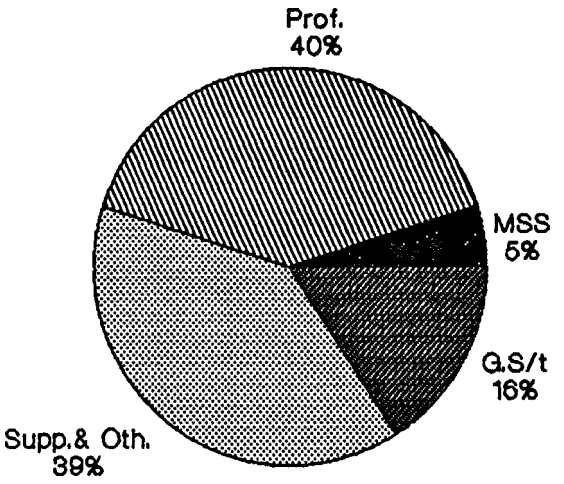
Source : AMC

Figure 4.10 -Subject Hours - Germany
Percentage allocation



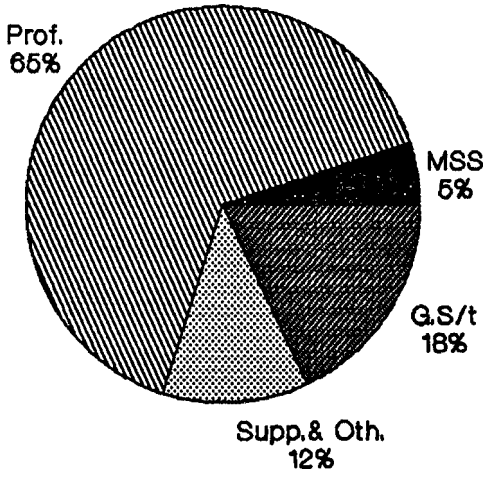
Source: SHS, Travemunde.

Figure 4.11 - Subject Hours - Japan (R)
Percentage allocation



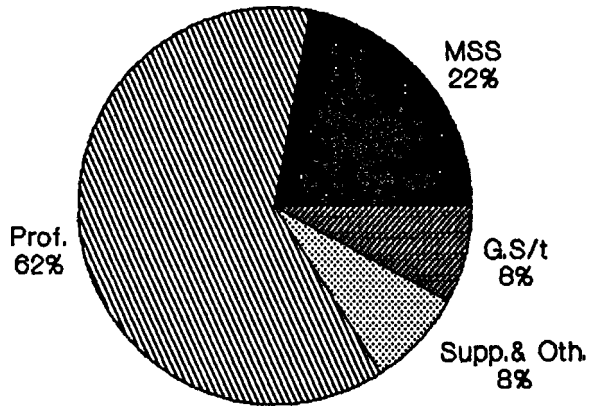
Source : IST, Tokyo.

Figure 4.12 - Subject Hours - Japan (S)
Percentage allocation



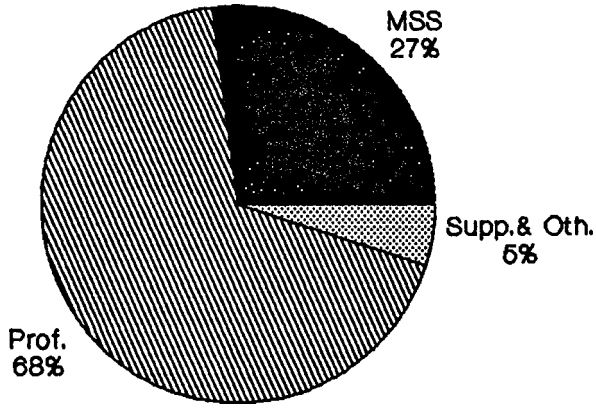
Source : IST, Tokyo.

Figure 4.13 - Subject Hours - U.K.
Percentage allocation



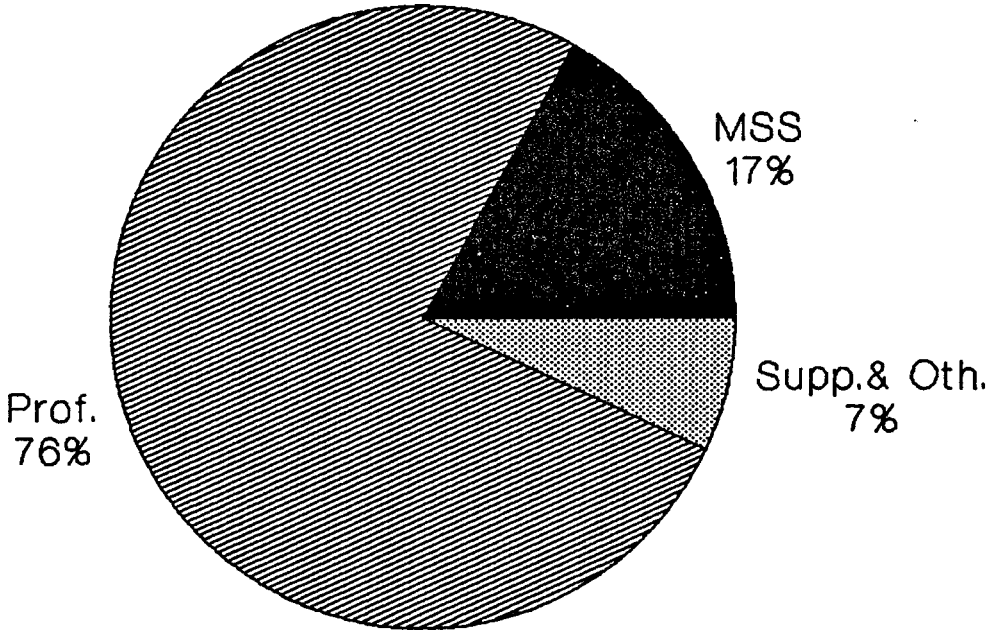
Source: NSTC,Gravesend.

Figure 4.14 - Subject Hours - Malaysia
Percentage allocation



Source : ALAM, Melaka.

Figure 4.15 - Subject Hours - Bangladesh
Percentage allocation



Source : STC, Chittagong.

Support and other subjects are included in the above. Three blocks of about 400 hours each are allocated for each year. Examining monovalent schemes, in the United Kingdom there is no substantial variation in the allocated hours for deck and motorman trainees, as the future aim is to create multi-skilled ratings. Similar training is also imparted to the general purpose crew trainees.

Groupwise the allocations are :
. safety and other subjects : 38% of total teaching hours
. professional subjects : 62%

The trainees also undergo practical training on board the training vessel for about one week.

The allocations of teaching hours in the Malaysian system are :
. safety and survival training : 27%
. professional and other subjects : 73%.

In Bangladesh, the groupwise allocations are :
. safety and survival training : 17%
. professional subjects : 76%
. support and others : 7%

The emphasis on support subjects is the highest in Japan followed by Australia, Germany and the U.K. The Australian and the Japanese systems appear to have rationalized the hours needed for the teaching of professional subjects and used the extra hours for the teaching of support group subjects. Japan attempts to provide a more balanced MET scheme by incorporating a high proportion of support and other subjects. The German

system, on the other hand, has the uniqueness of combining shipboard experience with separate study blocks over a period of 3 years, which better prepares the trainees for all the adversities of seafaring.

4.6. Multi-skilled ratings training

The preceding analysis is not aimed at proving that the multi-skilled training system is a `state of the art' element which could provide a solution to every manning problem. Multi-skilled training should rather create a situation whereby qualified officers and ratings are assigned to each other's duties, so that closer co-ordination between the two categories can be achieved. With advancements in technology and communications, the future generation of seafarers will find them-selves working together more closely as we foresee the elimination of hierarchical barriers.

A balanced multi-skilled training structure combining the nautical subjects with engineering and strengthening the same with support subjects should broaden the outlook for future ratings. A rationalized practical approach would be to allocate 500 teaching hours for technical subjects, 100 hours for support subjects and about 180 hours for guided tasks and study at sea. Multi-skilled ratings can adapt to changing circumstances more easily and for them no environment will seem unfamiliar, whether it is a conventional ship or a high technology ro-ro vessel. For a modernized fleet owner, having multi-skilled ratings is not just the fulfillment of manning requirements but a necessity in itself. There is no denying that multi-skilled training is the best way for the next generation of seafarers to tackle the challenges presented by the

technically advanced ships of the future.

4.7. The impact of new technology on the seafarer's role

Originally technology was directly related to the manner and means by which people could carry out their tasks and duties in the workplace, but during the twentieth century technology has touched every facet of people's lives, not just at work but in running the home as well. It has played a significant part in the way education and training have developed and has had a major role in maritime development.

A total complement of 40 to 50 crew was not uncommon for an ocean-going ship until in the late 1950s. Since that time, the conversion to automatic operations has led to the development of the modernized ships of today. The automatic vessel designed with a remote control engine and instruments centralized in the control room was introduced in 1961. On board ship, the use of automation and the application of ergonomic principles in the design of workstations changed considerably the nature and scope of the tasks and duties to be carried out by the crew. The innovations in technology were not limited solely to the engine sector, but also included other equipment related to navigation, cargo handling and telecommunications. With the development of high technology ships, the onboard work load was reduced gradually and a change took place in the proportional shares of work volume and job distribution.

As a result of improvements in vessel automation, the operational spectrum needed to be reorganized. Subsequently shipboard organizational adjustments were made during the 1970s, so that the crew could work beyond their conventional scope of service, i.e. carry out duties in

other areas.

Thus the crew of a modern ship will be small in comparison with ships of thirty years ago, but they will be highly trained to operate with a `team´ concept. There will need to be shared duties and responsibilities, which requires that crew members be at least `dual-purpose´ if not `multipurpose´ in respect of their roles aboard ship. Consequently, it is now necessary to have a multi-skilled rating system, in order to make the training structure better suited to changes in the onboard service system. Because of new developments in the design of ships and machinery and in the technology involved in the whole ship system, the education and training of the personnel who will operate the ship also have to be adapted and changed.

CHAPTER FIVE

'Provided the maritime industries maintain an interest to the extent of ensuring an adequate degree of relevance in the courses, the results should greatly benefit all concerned : ... the community because the recognized educational qualifications will facilitate mobility of labour; and last but not least the trainees, who will have received an education and qualifications comparable with their counterparts in other professions.'

D. M. Waters (1989, 10)

5.0. RATIONALE FOR A CHANGE IN THE CURRENT BANGLADESH TRAINING SYSTEM

5.1. Justification for change

First of all, let us ask the following questions :

- Why change the system ?
- How can the system be changed ?
- When should it be changed ?
- What will the impact of such a change be ?

In this and in the subsequent chapter the author will make an effort to answer the above questions in a logical manner.

5.1.1. The philosophy behind change

The maritime community tends to be conservative in

adapting to new ideas. The people in the industry remain static in nature and do not like the word `change'. As Muirhead (1992, 1) says:

> `It is unfortunate that change...often has to submerge itself within an inherited framework, the defence of the latter falling within the argument that it has served well up to now, " why change ?"!'

In the case of MET systems, the statement appears to be more than appropriate. From sailing ships to steam ships and then to motor ships and now to computerized automation, shipping has come a long way. The maritime world has had to accept the challenges of change. It has not been at all easy to adapt to the changes that have taken place within a span of one hundred years.

International forums and conventions have made it easier for the present generation to adapt to change and be a part of the global community. Voices in favour of change in MET systems have been raised at the 24th session of the IMO's Sub-committee on Standards of Training, Certification and Watchkeeping. Even though Bangladesh is a small maritime nation, it has to move hand in hand with others in order to create a better world for future generations.

5.1.2. The climate of change

International transportation systems have undergone revolutionary changes during recent decades. The development of efficient information technology in maritime communication and the application of electronics are preparing the shipping world for the next century.

The integration of transportation systems in terms of the multimodal concept has further hastened the development process.

At the same time, the adoption of international maritime conventions has provided both the impetus and the basis for the maritime community to think in terms of global action, which is no longer a dream. To adjust to these conventions, the traditional maritime nations are redesigning their MET systems to meet the challenges of the future.

While the world moves ahead, there is a need to review the MET system that was adopted some forty years ago in Bangladesh, a developing maritime nation. In order to be competitive, the country has to move ahead, keeping pace with others. It would be wise to optimize the use of every single resource available in this effort.

Investigations of many marine accidents and disasters have proven with certainty that the poor standard or quality of the operator/seafarer has been the key causal element. Hence the attention of the maritime world has been focused on the human factor or the human element in ship operations. Muirhead (1992, 1) points out that :

> 'Whilst technology is making great inroads into the design, construction and operations of ships, it is an acknowledged fact that human error is a major causal factor in the majority of casualties.'

Seafarers have come under severe scrutiny as questions have been raised as to the standards of training, the quality and the performance of the individual seaman. A general consensus is growing in favour of changing the

traditional systems. The time has come to recognize the fact that the concept of manning and the methods of training have dramatically changed.

Traditional manning and training systems have been made obsolete by the introduction of increased automation, specialized carriers, multimodal concepts, reduced manning and more efficient communication systems. In evaluating the need for changes in MET for ratings, one has to look into the core elements that would determine the nature of these changes. The key elements are :

. Manpower needs in shipping
. Meeting new standards of training
. Developing the system to face the future

5.2. Analysis of manpower needs in shipping

The manpower needs for the shipping industry of a particular seamen supplying nation are influenced by various factors. Among these are :

. trends in national and international shipping and tarde
. hypothesis of supply and demand
. the prevailing environment in the shipping sector
. the influence of MET systems

5.2.1. Growth and trends in shipping

The growth of national and international shipping and of world seaborne trade has always influenced the manpower needs of the industry. Shipping seems to be recovering from a prolonged recession as the new-building order book is showing some healthy signs. From the available data, there appears to be a similar trend in world seaborne trade. These trends are illustrated in Fig. 5.1.

The seaborne trade and fleet status of Bangladesh show similar signs of recovery and thus provide a brighter outlook on the future. Tables 5.1(a - c) show the major trends in the country's trade.

Table 5.1 a - Export and import tonnage handled at the ports of Chittagong and Mongla (country's two major ports)

(Thousand tons)

Year	Export	Import
1988-89	1472	9004
1989-90	1366	8691
1990-91	1482	8188

Table 5.1 b - Balance of Payments

(Billion Taka)

Items	Year	Import	Export
Current accounts:		(c.i.f)	(f.o.b)
	1988-89	974.9	411.6
	1989-90	1112.5	489.3
	1990-91(p)	1115.1	595.6

p: provisional

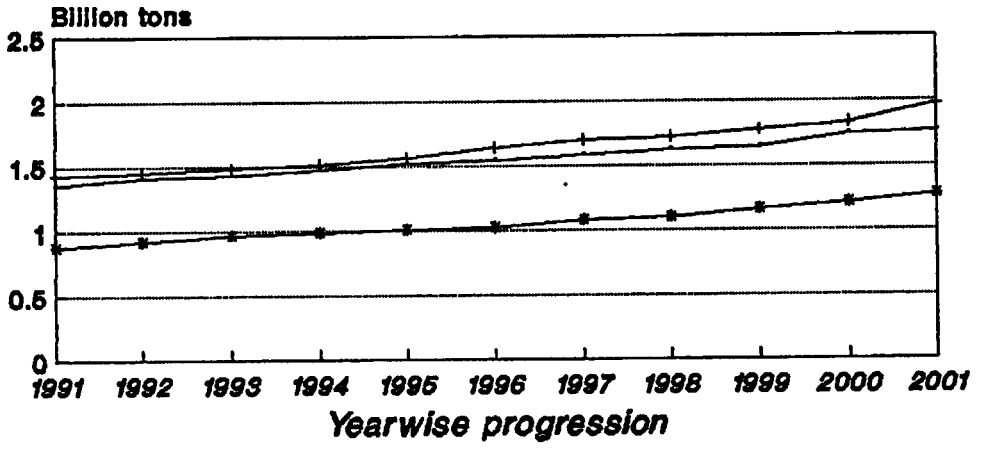
Table 5.1 c - Balance of Trade

(Billion Taka)

Year	Export	Import
1988-89	426.9	950.8
1989-90	514.1	1133.0
1990-91	602.7	1112.5

Source: Bangladesh Bureau of Statistics (1992)

Figure 5.1 *World seaborne trade*
Forecast 1991-2001

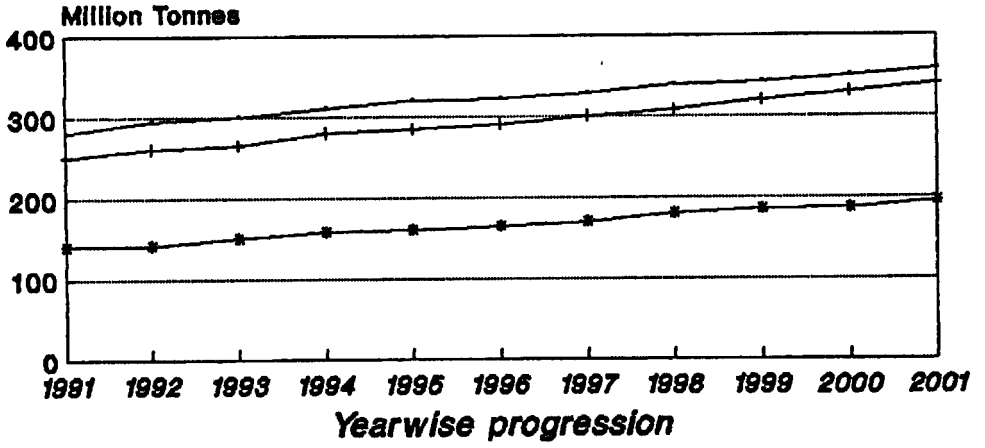


Type of cargo

— Liquid bulk —+— Dry bulk —*— Liner/ Neobulk

source: UNCTAD report 1991

World fleet by type
Forecast 1991-2001



Type of vessels

— Tankers —+— Dry Bulk —*— General Cargo

source: UNCTAD report 1991

National shipping seems to be showing signs of recovery from a prolonged stagnant period. The national line, Bangladesh Shipping Corporation provided the following fleet forecast in its annual report (1990-91, p.11) :

> 'BSC (Bangladesh Shipping Corporation) has proposed to acquire a total of 13 ships of different sizes including one Mother Tanker during 4th Five year Plan (1990-95).'

The forecast is an optimistic one. Growth of the fleet would not only ensure the continued employment of the current in-service seamen but would also brighten future employment prospects for others.

Manpower need is certainly a correlated factor in the operation of the predicted tonnage or the haulage of the seaborne commodity. As a seafarer supplying nation, Bangladesh should in fact take the initiative to explore the market situation of manpower deployment. If the country is to gain from human resources development or from manpower deployment, it must take full advantage of the growth trends in the world fleet and seaborne trade.

Careful planning of recruitment policy, the enhancement of employment levels to meet the demand, promotional measures to attract overseas employers and, above all, a complete revision and upgrading of the MET system may be the answer to future manpower needs.

5.2.2. The hypothesis of supply and demand

Manpower need is no exception to the simple economic theory of supply and demand. Apart from cyclical trends,

factors such as regional economic booms, wars, droughts, bad harvests etc. can all be responsible for the mobilization of the world merchant fleet. Manpower need and supply are again clearly affected by such fleet mobilization. Besides, the operation of maritime transportation, like any other transportation system, is dependent upon manpower need. More than anything else, the human factor will be seen as a crucial element in the operation of a maritime transportation system for years to come.

5.2.3. The supply of and demand for ratings: a global study

The international shipping community should in fact express their gratitude to the ISF (International Shipping Federation) in London and BIMCO (Baltic and International Maritime Council) in Copenhagen for their efforts in funding a research study of global manpower needs for seafarers. This was undertaken in 1990 by the Institute for Employment Research at Warwick University. It was the first time in the history of the maritime world that such a study has been undertaken. The study revealed certain remarkable data about the global maritime workforce who are engaged in the day-to-day operation of the mammoth global fleet. The findings show the following:

Ratings available for the industry (1990)	: 840,000
Demand for ratings during the same period	: 600,000
Surplus ratings available	: 240,000

The study has taken four key issues into account: two affecting the demand factor and two affecting supply. The issues are :

1. Changes in the number and types of vessels
2. Changes in manning requirements
3. Wastage rates of qualified seafarers
4. The number of new entrants

The study predicted that by the year 2000 there would be a gap between supply and demand of some 350,000 ratings, assuming no new entrants to the industry in the interim period. Since then the International Shipping Federation has provided revised data - in October 1992.
In his paper submitted to the International Manning and Training Conference, held at Singapore in October 1992, ISF General Secretary David A Dearsley stated :

> `If we revise our estimated 10% wastage rate per annum downwards to 7% ... in the year 2000 ... our rating stock would be over 450,000 rather than 300,000. This would mean a gap between supply and demand, assuming no new entrants to the industry during the period, of some...235,000 ratings by the year 2000.'

The study was unique in its findings.

5.2.4. The Indian situation

In October 1991, ISF undertook a similar study project in India. The study revealed that India has over 29,800 ratings and that 51% of these ratings are employed on foreign ships. But the demand was for some 32,400 ratings, so the shortage amounts to 2,600 ratings, nearly 9% of the supply. The study predicted a shortage of some 5,200 ratings by the year 1997. It was estimated that the planned

training levels for ratings will need to be increased over the next 5 years by 50% just to maintain the shortage at predicted levels.

5.2.5. The Bangladesh situation.

India being the closest neighbour of Bangladesh, the findings there should serve as a good guideline for planning the maritime workforce of the country.

At the end of 1992, the strength of registered seamen in Bangladesh stood at 5,248 in 35 different categories. Out of the 2,502 registered Bangladeshi seamen employed at the end of 1992, 633 were employed on Bangladeshi vessels and 1,869 on foreign flag vessels. The percentage of total seamen employed is about 48%, and the yearly decline in employment stands at about 4% (1980-92). The wastage rate for the same period is about 9.4%.

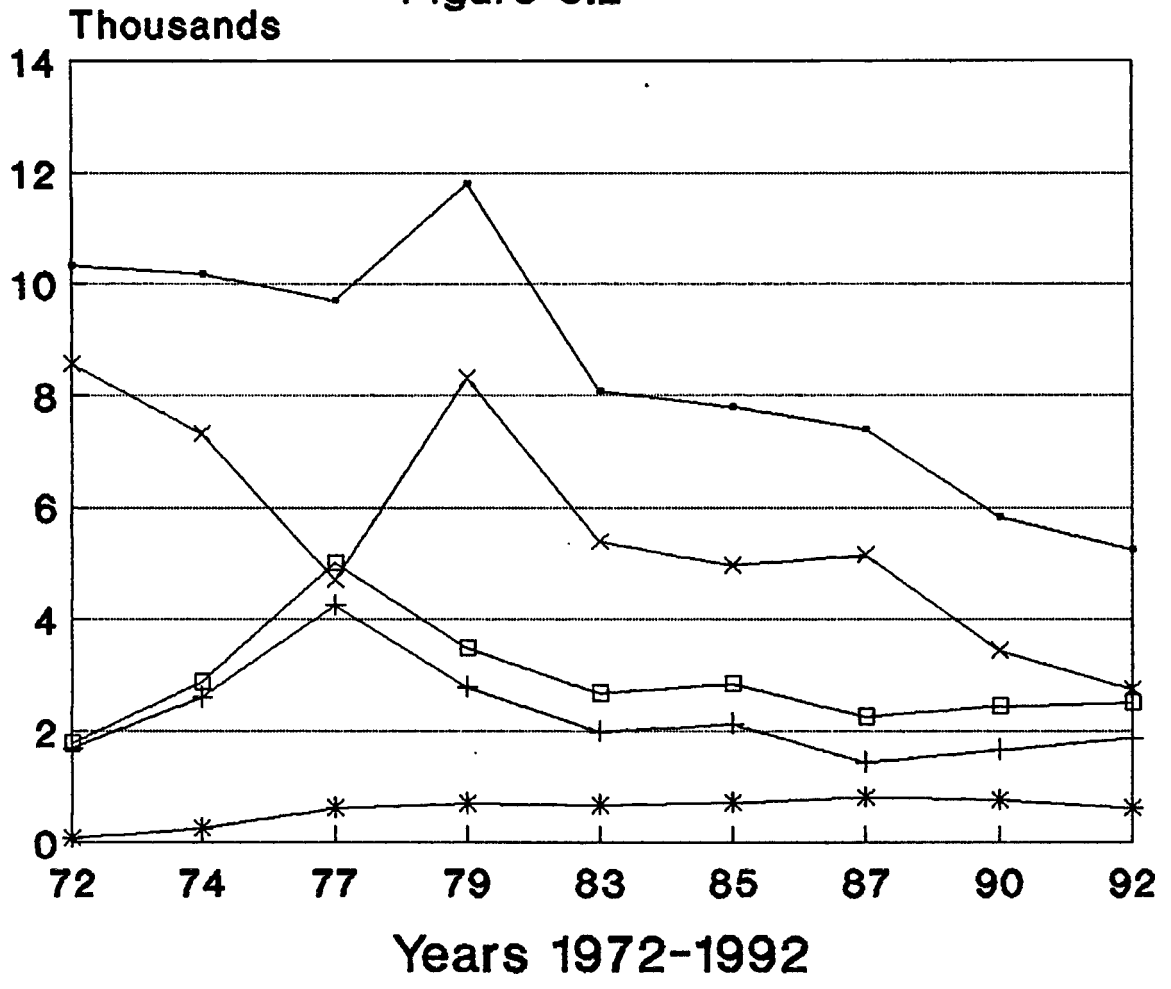
If the annual wastage rate and the decline in employment are taken into account, by the year 2000 the rating stock would drop to an alarmingly low total of 1,288 registered seafarers. This would create a gap between supply and demand, assuming no new entrants during the period, of some 1,200 ratings by the year 2000. Therefore, there will be an increase of about 11 percent in demand for ratings by the year 2000.

Raising the employment level in a controlled manner would ensure intake stability. In order to achieve a balance, about 50% could be deployed on board and a similar percentage would remain ashore, on leave. As a rule of thumb, the supply of and demand for seafarers in the industry influences the success and failure of the MET system. Figure 5.2 shows the recent registration and employment trends for seafarers in Bangladesh.

Bangladeshi Seafarers

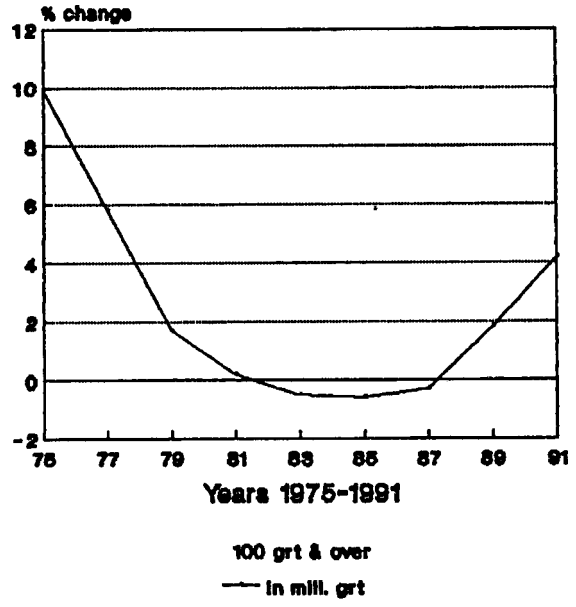
Registration and Employment Trend

Figure 5.2



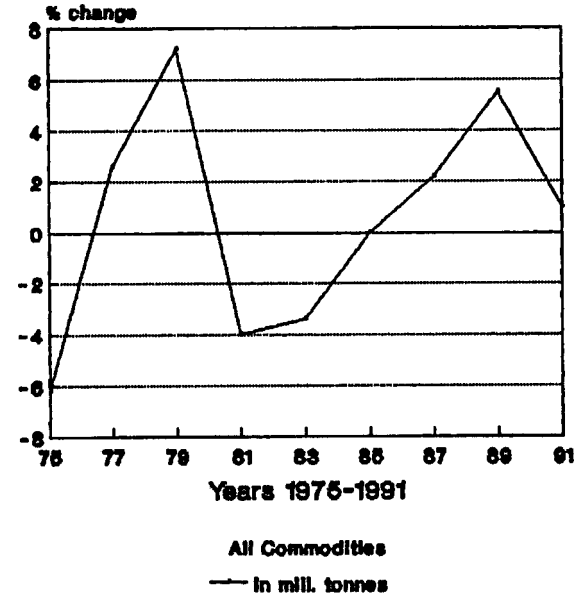
source: Shipping Office

Figure 5.3 - Total Merchant Fleet
Grt. % change over prev. year



ISL Yearbook 1991

Figure 5.4 - World Seaborne Trade
% change over prev.year



ISL Yearbook 1991

Bangladesh has established itself as a recognized supplier of seafarers to the world market. Traditional British owners used to employ a large number of seafarers from Bangladesh. As their fleets shrank to a record level, it rendered a large number of seamen unemployed. As a result, the semi-skilled seafaring workforce had to turn to other owners. Without potential, drive and initiative, they had little success. Yet even then a large number of seafarers found employment on board foreign ships.

A careful look at the employment trend reveals that it peaked during 1977 and then showed some signs of recovery during 1985, after which it declined and remained somewhat static.

It is surprising to note that seafarer employment followed a similar trend as those of the world seaborne trade and the growth of the world fleet (figures 5.3 and 5.4). This may be a matter of coincidence, but the possibility that there is a correlation cannot be ruled out. The more likely contributing factor is probably the declining state of MET systems in Bangladesh.

5.2.6. MET systems and employment of seafarers

With the introduction of automation, more sophisticated ships started coming into operation. Shipowners widely opted for reduced manning. This ultimately paved the way to a new era of dynamism in shipping. Well-educated as well as skilled seafarers are now becoming a pre-requisite for the operation of those automated seacrafts. Seafaring ratings of the developing nations have to find jobs through management organizations or recruitment agencies. In certain cases, shipowners may opt to pick their crew members from the general pool or maintain a fixed roster.

Skilled and educated ratings are therefore becoming an attractive commodity for the operators. More and more countries with high populations are finding the supply of seafarers a commodity venture. This is especially true in the case of ratings' employment. To boost their employment, systematic training schemes for crew members have been methodically introduced in the Philippines (by Japanese and Norwegian assisted training institutes) and in South Korea. There seems to exist a correlation between employment prospects and the standard of an MET system. If the forecasts regarding the world fleet, seaborne trade and the shortage of seafarers remain valid, and the trends continue to develop, we can visualize the following pattern emerging out of the technical advancement.

$MET(u) \propto E.$

$MET(u) = S * E.$ Where :

MET(u) = updated **MET** for ratings, to suit the present demand.
E = seafarers' finding **employment**
S = certain amount of **skill**
= constant.

(the above is the author's own assumption based on the recent work done on a related subject)

It would appear from the above that seafarers' prospects of finding employment on seagoing vessels vary directly with the extent to which the MET system is updated. The above pattern emerges out of the general situation being observed in Asian countries and the above can only hold true for the developing nations with lower per capita incomes. All other factors such as socio-economic infrastructure, domestic environment etc. must

remain at the same compatible levels in order to justify the model.

Given a certain amount of performance based skill, the employment of seafarers appears to vary directly with the extent to which the MET system is updated. Therefore, a certain amount of skill input can be considered a constant feature in the above. The model appears to conform to the prevailing employment prospects for ratings in Bangladesh. However, the existing variables are too great to use the model for practical purposes.

The maritime workforce has proven its worth in the past by way of earning revenue for the country. To revitalize and optimize the use of this workforce, the injection of energy inputs in terms of skills and education will be necessary.

5.2.7. The prevailing environment

Three distinct and diverse features that have influenced present day shipping are :

a. the recent maritime disasters,
b. the surplus of world fleet that has led to intense competition with the outcome of reduced manning and,
c. technological developments in the sector of communication and ship design.

Major maritime disasters keep tormenting people's minds. The maritime world cannot seem to forget the incidents of the Torrey Canyon, the Amoco Cadiz, the Cristos Bitos, the Herald of Free Enterprise, the Scandinavian Star, the Exxon Valdez, the Nagasaki Spirit, the Braer and the British Trent.

Apart from these, there have been other lesser disasters in which deaths and injuries occur, ships and cargoes are lost and pollution occurs. The news of recent passenger ferry disasters also shook the world. In the late 1980s the worst such incident, in which about 4500 lives were lost, occurred in the Philippines.

Environmentalists and lawmakers around the world responded to the findings of the investigations that followed. In almost all the above cases, the single factor that seems to have contributed to all the disasters is the human element. This has led to a situation where the very competency of the seafarers is now being examined meticulously. Some people in the developed world are ready to go even further by way of introducing a new convention on the standards of seafarers. The STCW'78 convention is now under revision and the maritime community seems to have a unanimous opinion on raising the standards of training of seafarers around the world. Never before has the importance of MET been so greatly felt. A change in the system in Bangladesh seems to be inevitable.

As the world of shipping emerges from a prolonged recession, there seems to prevail an optimistic environment. According to ISL shipping statistics (March 1993), the world merchant fleet had an average annual growth rate of 1.2 % for the total number of vessels and showed a continuous increase over the last 5 years. As of 1 January 1993, the total figure stood at 34,743 ships with a total tonnage of 66.3 million in dwt, compared to 33,130 ships with 61.5 mill dwt in 1989.

The economic aspect of overtonnage may not favour owners but it does seem to favour the employment prospects of seafarers. Overtonnage in fact induces unfair competition among shipowners. Fierce competition in the freight

market has led to a drastic reduction in operational costs. This has ultimately resulted in the manning sector getting the first cut. The old fleet will eventually be replaced by more advanced ships, and there will be a need for skilled and educated seafarers in the near future. In showing his concern Hatchett (1991, 30) remarks :

> `After more than a decade of cutbacks, the shipping industry must now concentrate on the quality of its training programmes. ... safe ship operation owes more to the quality of marine training and the attainment of safe and efficient watchkeeping standards than to mere statistics.'

Presently there is a genuine shortage of competent and trained seafarers to man the world fleet. The country that can provide a good supply of competent and well-trained seafarers will probably benefit from the above. The situation in Bangladesh seems to be ideal for creating such a pool of trained seafarers for the world market, provided that quality is assured.

Technological advancements in communication and operations have led to the creation of a modernized fleet with reduced manning. The modernization trend will continue to grow as more and more owners are favouring electronic data interchange and information technology. Shipowners will vie for economic gain through the reduction of crew and other cost-cutting measures. It is, however, very clear that the trend towards multi-trained/multi-skilled seamen will gain further momentum in the future. In his report at the 74th (Maritime) session of the International Labour Conference, the Director General (1987, 42) of ILO stated:

'Further, the reduction in the size of crews has made it necessary to call on individual crew members to take on a wider range of tasks. These developments have inevitably had an impact on training programmes and training methods.'

Holder and Griffiths (1987, 5) expressed a similar opinion :

'A necessary complement to good design is well motivated and properly trained manpower.'

The theme of multi-skilling is not new but the wind is blowing strong in favour of universal acceptance. Integration or multi-skilling in terms of education and the training of seafarers demands a new response from MET systems. For a country like Bangladesh, there is a greater need to develop human resources in the maritime sector as that prospect looks brighter. Approaching the turn of the century, the atmosphere has changed and the emphasis is on the supply side of manpower in shipping. The standards of training for seafarers have to be raised to meet the demands of the future.

5.3. Meeting new standards of training

In meeting the new standards, the assessment of skill levels appears to be where the emphasis should lie, which Bell (1987, 3) explains in the following way:

'The setting of standards for marine training is much more than choosing the ingredients of

an academic menu to satisfy the latest tastes in the educational field. When a ship proceeds to sea it must have on board all the requisite... operational skills for the particular trade on which it is engaged. The requirements of all these areas must be taken into account when making an assessment of the skill levels needed.'

It was very fortunate that the IMO took the right initiative in taking a global approach while laying down the standards of training and certification for seafarers. International bodies such as the International Chamber of Shipping (ICS) have also contributed by developing guides and specialized courses. Others, such as the International Shipping Federation (ISF), the International Federation of Ship Masters (IFSMA), the International Maritime Lecturers Association (IMLA), and the Nautical and the Engineering Institutes have expressed their support for achieving unified standard and greater harmonization. Zade (1989, 89) comments:

'A harmonization of MET schemes and standards of national MET systems is however a necessary condition for providing seafarers with the opportunity to take advantage from the progress in building... .'

At the STW sub-committee meeting held at the IMO headquarters in London in March 1993, the global community showed its solidarity towards pursuing a common goal in the review of the mother convention (STCW'78).

The present picture of ratings' training in Bangladesh

reveals a frail infrastructure incapable of meeting the present standards set by the STCW'78 convention. The possible revision of that convention in the future will exert even greater pressure on the countries that have adopted the system. New rules related to training and certification are about to be implemented in Bangladesh. The author feels that there is enough time to incorporate greater flexibility and dynamism into the ratings training system.

As a small part of the developing world, the country is observing with great concern and interest the new experience of developed countries in adapting to new manning systems. In order to remain competitive in the international manning market, there may be a need to pursue and evaluate the new training policies of the developed countries. In attaining the required standards, the country should aim to develop a competency based training scheme. The following factors may be considered useful in meeting the new standards :

- interdepartmental flexibility (multi-skilled ratings);
- the system of `Matrix' manning, that is each crew member having skill speciality in one aspect/area, plus skills in other function on the operator level; and
- the general purpose ratings (deck and engine).

5.4. Developing the training system to meet the challenge of change

Maritime disasters together with technological innovation have brought about a realization of the importance of high standards of safety and efficiency in international shipping. The prolonged recession has prompted owners to switch flags and to opt for `high tech'

ships in order to reduce manning levels. This has had a unique effect : the international community of seafarers now find themselves much closer to each other than ever before. Today, interaction between different nationalities in the seafaring community is much more pronounced, because many vessels are manned by multi-national crews.

Apart from building a global network of trade, shipping has become much more international and regulated in its characteristics. United Nations specialized agencies such as the IMO, the UNCTAD, the ILO and others have taken positive steps by developing various codes and conventions. The objective has been to create an environment of safety, mutual understanding and practicality within which international shipping is to operate. Global MET experts and policy makers have all been involved in the difficult task of developing the training systems to meet the challenges of the future.

In the light of what has been said above, firstly it is necessary to establish a datum and an integrated educational structure embodied in a national framework. At this stage it may not be possible to adopt and transplant the MET system of another country into the existing system. However, it is useful to look into other systems and adapt whatever is appropriate to local conditions.

Keeping the STCW convention (datum point) in view, new standards should be set and developed. A Secondary School Certificate with a science background should suffice for multi-skilled ratings. Students without a science background could choose a career as a catering rating or in any other category. The National Education Board could then introduce other subject parameters towards fulfilling the national standards. A skill based functional approach should lead the system to the standards that the industry

demands. In order to produce quality seafarers, it may be necessary to combine knowledge based education with skill-based training. The future demand will be for highly trained ratings. As rating trainer Hunter (1984, 17) states:

> `The rating required today and in the future is someone with motivation, responsibility and ambition; someone who can work without supervision; in other words, someone with similar ideals and self-discipline to the junior officer.´

In developing the system the following areas should be explored :

1. Upgrading of overall syllabus contents.
2. Incorporation of relevant subjects.
3. Quality intake in order of merit.
4. Introduction of post-sea guided study programmes.
5. Single point entry for deck and engine ratings to achieve a quality product in a cost-effective manner.
6. Emphasis on assessing the skills of individuals against the agreed competency standards.
7. Provisions for meeting national educational standards.
8. Quality assurance to meet international standards.
9. Provisions for recognized national award.

On the education and training side, there is vital need to formulate a course framework which should contain the following :

1. Scope
2. Objective
3. Entry standards
4. Course certificate, diploma or document

5. Course intake limitations
6. Staff requirement
7. Teaching facilities and equipment
8. Training and teaching aids
9. IMO and other international references
10. Textbooks

When formulating a programme for the education and training of ratings, the main points to bear in mind are:

1. Needs : The need for education and training must be properly established by investigating the tasks and duties to be carried out and identifying the areas that have to be strengthened or covered, remembering that needs of personnel who are new entrants may be different from the needs of those who are, for example, retraining to meet the demands of new technology.
2. Time : Having established needs and considered how much or what kind of material will be involved, the period required to do this can be estimated.
3. Costs : The financial outlays must be set against the returns or gains in the form of the higher competency or proficiency of personnel. Even so, there will be costs incurred for the payment of recurring expenses, to personnel who will not be productive while taking the programme and also costs for teachers, instructors etc.
4. Programme : This must be properly constructed, if possible in learning objective format, and tested to ensure that it will do the job for which it is intended.

For example, most European countries have facilities, usually provided by the state, for maritime training, and in many cases these (facilities) covers ratings as well as

officers. Except for a period of shipboard supervised training during apprenticeship, all ratings training is usually carried out in shore establishments for both new entrants and upgrading. Many other countries throughout the world also use this mode of education and training. When planning any type of education and training programme, it is important that the way in which it is structured should provide the most effective way of transferring knowledge and understanding between the teacher and student or the instructor and trainee. One method of structuring a programme which has been found effective is to break it down into a series of `steps´ or `blocks´. Much thought and consideration must be given as to how many `steps´ to use and, of equal importance, what methods and techniques will be used to ensure that the required transfer of knowledge and understanding has been achieved at each step.

The seafarer of today is confronted with an increasingly complex shipboard environment which may not provide a specific assignment but requires the application of a variety of skills. A new breed of well-trained, highly skilled, highly disciplined and motivated seafarers is essential for managing and operating modern ships safely and efficiently. The key issues to reform are, therefore, the regular updating of training and retraining, and the provision of on-the-job training with the objective of producing ratings who can perform well and be responsible for the work performed. To meet the new standards, it would be meaningful to focus on :

* the selection of seamen;
* the design of the curriculum to meet the international standards; and
* the need to upgrade the training facilities.

CHAPTER SIX

'If we are to introduce new manning levels then the operational needs must be carefully evaluated and training objectives and necessary training skills developed to ensure that seafarers remain operationally competent and equipped with skills to meet the challenge of change.'

Peter M. Muirhead (1992, 4)

6.0. A PROPOSAL FOR A MULTI-SKILLED RATINGS TRAINING SYSTEM FOR BANGLADESH

On the threshold of the year 2000, with a democratically elected government at the helm, Bangladesh is gaining political and economic stability. The Government is emphasizing the diversification and internationalization of the economic structure as the best means to achieve sustained socio-economic development. Providing maritime services and expanding maritime links with the region and beyond constitutes a logical and important component in this strategy. The development plan for maritime training is well recognized in the 4th National Five-Year Plan (1990-95).

Against this background, the challenges facing maritime training in Bangladesh are tremendous. The long-term development objective for maritime training should be to meet the national and international demand for qualified ratings, preferably multi-skilled personnel. In the short to medium-term, however, the administration must face a

critical trade-off between quantitative and qualitative growth in maritime training at the Seamen Training Centre. Should it continue to increase its annual intake of ratings (450 in 1993) and hence seek to meet a greater share of the demand for Bangladeshi ratings? Or should it focus its attention on bringing the quality of education up to international standards? Unless a number of decisive measures are taken, with respect to the employment of permanent instructors with merchant marine experience and with respect to the establishment of a full-fledged training centre and the provision of a library and textbooks - unless these and other measures are taken it will be impossible for STC to combine qualitative and quantitative growth. The writer believes that these hard choices can be made and successfully implemented, to the benefit of the long-term development of ratings in Bangladesh.

A new system of MET for ratings in Bangladesh can be developed if there is a national consensus to do so. Under the prevailing circumstances, as explained in the earlier chapters, it appears that a great deal can be done to revitalize the education and training of ratings by way of introducing a new system. In proposing a new system, the writer assumes that there is such a national consensus on its importance.

6.1. Introduction - new direction

In developing a new system of MET for ratings, it would be appropriate to identify the objectives. The needs and demands of several sectors are closely linked to the MET system. These together with the socio-economic conditions provide the impetus towards a new direction. The

system that satisfies the needs and demands of all sectors may be considered an ideal system. This can never be achieved in reality. A logical approach would be the identification of complementary factors among different requirements.

A compromise outcome that is acceptable to all sectors would determine the design of a new system, although the objective of producing skilled and well-qualified ratings should never be compromised. In establishing the objectives of the new MET system, the following factors should be taken into account :

. Sectoral needs and demands
. Comprehensive approach by way of harmonization
. Meeting the training challenge

6.1.2. Sectoral needs and demands

The most powerful institution that influences the MET system is the shipping industry, which absorbs the future seafarers. The primary objective of the training institute is to supply well-trained ratings to the shipowners to man their vessels. The shipowners have the freedom to find the most cost-effective form of crewing, whereas the performance level hinges on the MET system. Whenever the question of providing financial support for training arises, shipowners tend to adopt a reluctant policy as they view the education and training of ratings as a financial burden. The general tendency of shipowners is to see training in terms of shipboard related tasks, rather than in terms of providing comprehensive knowledge together with functional skills.

The next sector that influences the MET system is the maritime safety administration, which as a government entity has public interests to protect. One of its primary task is to set up an examination process for the proper licensing of shipboard personnel in conformity with the national and international regulations. In protecting the marine environment and promoting safety, the concern of the administration extends to the attainment of minimum international standards by the seafarers within the national legislative framework. With regard to MET system development, they rather play a passive role.

Cultural and socio-economic factors also influence the development of the MET system. In Bangladesh, acquiring a post-secondary education is seen as key to economic solvency. In addition to specialist skills for shipboard use, MET must provide its graduates with a flexible education to provide meaningful employment prospects should they wish to pursue other careers ashore in other sectors. As most Bangladeshi youths tend to prefer a sea career, the implementation of a carefully structured design could possibly open a small door of economic solvency and employment.

The Seamen Training Centre, which is the only institute to provide education and training to seagoing ratings, operates within certain constraints. As it is a publicly supported institution, it receives its budget from the Ministry of Shipping. It has an advisory body headed by the Secretary of the Ministry of Shipping to oversee its progress and development. The academic standards of the MET courses and the professional standards come under the purview of the Ministry of Shipping and are delegated to the Department of Shipping, the executive instrument of the Ministry.

The Department of Shipping has the delicate task of balancing the academic and professional requirements for various courses and has to work within a limited cost frame. Twice a year a 5-month period is allocated for the teaching of all full-time courses. The training period for diploma holding skilled ratings is one month. As far as possible, the shore-based studies of the new MET system are required to operate within the constraints mentioned.

6.1.2. A comprehensive approach by way of harmonization

In developing a new system, the sectoral needs and demands of the shipowners, the safety administration, the society and the training institute must reach a state of harmony and balance. The needs and demands of the administration and the training institute are complementary, whereas the expectations and demands of the shipowners and the society seem to be very divergent : those of the shipowners tend to follow a cyclic pattern while those of the society tend to be linear. The demand for technical and highly skilled ratings has been increasing, but the supply of quality entrants has been falling. One of the essential tasks of the new MET system will be to balance the needs and demands of the various sectors.

A comprehensive approach is needed to identify complementary factors among the different requirements. The final design will be a compromise that is acceptable to all parties. The training institute has to ensure that the curriculum and training is at all times relevant to the needs of the above. It has the social obligation of providing a good and flexible education to its students.

6.1.3. Meeting the training challenges

The design of the new MET system should aim at providing education and training for both sea and shore careers. The national educational umbrella should encompass the system to provide it with freedom and ensure minimum financial influence of the industry. The system should ensure that the requirements of the safety administration with regard to national and international regulations are fulfilled. The assessment and qualification criteria should clearly reflect its integration with the national education system. In promoting the multi-modal transport concept, the system should provide a linkage to other sectors of the maritime industry. It should also provide a career path which would enable ratings to continue their professional development to senior management at sea. Finally, it should be aimed at providing knowledge based education together with functional or `skill based training´ in achieving competency standards.

6.2. Design and development of a new system

The approach is to take rational steps towards a phasewise transformation of the system. The first three years should be directed towards reforming the present system into a semi-integrated system. The next two years would see the system transformed into a multi-skilled (fully integrated) type that should also conform to the national polytechnic criteria for an educational award (certificate). The system should be blended with seagoing training sessions, similar to the Australian system (TAGS), in order to compensate for the lack of practical training. In order to ensure the maximum transfer of knowledge and

understanding, the training will be imparted in blocks of 3 semesters, similar to the system being followed in Germany. It is envisaged that such a system would reduce the overhead cost elements involved in conducting courses and examinations.

6.2.1. Title of course

Certificate in Marine Technology

The certificate in Marine Technology is a multi-skilled ratings training course for new entrants to the maritime industry. It incorporates basic safety programs and deck and engineroom vocational training.

6.2.2. Category of award

Certificate

The award proposed will open the door of 'upward mobility' for all entrants to the shipping industry. Such mobility will be encouraged by the new multi-skilling arrangements on modernized multinational carriers.

6.2.3. Grounds for category of award proposed

The design of the course takes into account global changes in the training of seafarers. These changes reflect the following views of the government and the international shipping industry, even though the attitude of the local shipping industry remains static.

1. The Government wishes to significantly improve ratings training, an area that has been neglected. It would like to develop programs that meet STCW requirements, while also resuming the recruitment and training of

new entrants, which has been suspended for some time. To achieve these goals, the Government has formulated a plan to improve training standards and facilities at the STC.

2. Government initiatives to foster an efficient manning system by encouraging skilled seafarers to seek national and international employment and by changing the outdated system.
3. The industry's desire to raise a team spirit among ratings through the integrated training of all entrants (deck/engine ratings), the progressive retraining of in-service seafarers in deck and engineroom skills and gradual interaction to bring them closer together.

The idea is to provide the trainees with a base of fundamental safety-related and vocational skills to meet the multi-skilling needs of the national and international fleet. A significant period of practical training is provided to develop the skills needed for the integrated environment of the new workplace.

6.2.4. Course aims

The proposed certificate in Marine Technology course has three basic aims :

1. To achieve a concept of total education and training with emphasis on discipline, teamwork and character building.
2. To prepare new entrants to the maritime industry to adapt to the demands and opportunities of a team approach to shipboard operations.
3. To equip fresh trainees to the maritime industry with

practical skills and competence in general shipboard operations consistent with their duties on ships.

6.2.5. Course objectives

Those successfully completing the course will have :

* an appropriate understanding of rules, regulations and other relevant codes concerning work on board ship;
* a basic understanding of watchkeeping skills, general shipboard operations and maintenance;
* a firm foundation for further development of knowledge and skills in practical work situations under supervision on board ship; and
* a commitment to safe working practices on board ship.

6.2.6 Concurrent service requirements

The trainees will be required to attend 20 weeks of approved guided post-sea study programs following the first semester at the STC (Seamen Training Centre).

6.3. Entry requirements

The annual intake of new entrants is to be governed by the decision of a selection committee comprising representatives of the administration, the industry and the trade union.

The minimum requirements for admission to the pre-sea course will be :

1. Bangladeshi citizenship (male).
2. Age : 17-22 years old.
3. Secondary School Certificate (equivalent to GCSE

level) in the science group, except for catering ratings. Higher Secondary Certificate level students may be inducted to the course and sea time remission may be granted for appearing at class IV examination for officers.

4. Physical fitness for service at sea. All successful candidates will be required to undergo a medical examination and must pass marine department eyesight test without optical aids. Other physical criteria are :

a. minimum height : 160 cm.
b. minimum weight : 50 kg or according to height
c. chest : minimum 81.60 cm (expanded 5 cm)
d. hearing : good
e. free from stammering or any other diseases such as heart disease, T.B., leprosy, diabetes etc.

Candidates will be selected on a merit basis and the excess selected candidates (in case of failure in oral test/ medical test or non-appearance) will be placed on a waiting list. Prior to medical test, a candidates will be required to sit for a written examination on the following subjects :

a. English
b. Mathematics
c. General science (physics based)
d. General Knowledge

Candidates declared successful in the written examination will then appear for an oral interview at STC before a selection board constituted by the Ministry of Shipping. During this interview, the candidates will be assessed, amongst other things, on their keenness and

interest, and their aptitude for sea life and the profession in general. An applicant selected for training as a deck or engine or catering rating shall be required to furnish an undertaking/bond against anti-disciplinary activities and against desertion from a ship during the period of guided study on board.

6.4. Programme outline

The course will be conducted in three phases. Semester 1 is the period for acquiring the necessary skills and knowledge at the STC. Semester 2 provides necessary shipboard experience designed to allow the trainee to gain a more detailed understanding of the working environment while integrating the knowledge and skills of the first semester with current practice in the shipping industry. Semester 3 further enhances the acquired knowledge with further education in the nautical and engineering disciplines.

SEMESTER	PLACE	DURATION
1	STC	21 weeks
2	At Sea	32 weeks
3	STC	36 weeks

The elements of the program are sequenced as follows :

a. Pre-sea safety training course leading to DOS (Department of Shipping) required Certificate of Safety Training (covering fire fighting, first aid, survival at sea etc.). Duration : 4 weeks.
b. Vocational training covering work in the deck and engine room departments. Duration : 17 weeks.

c. Upon satisfactory completion of an assessment schedule covering the course undertaken, ratings to serve at sea.

d. Sea service with specified `guided study and tasks´ (GUST) programs to obtain relevant experience as a provisional semi-skilled rating. Duration : 32 weeks (To conform to the present system the trainee may be employed as OD/Seaman or OD/Deck Rating or as OD/Engine Rating).

e. Academic course at STC. Duration : 36 weeks.

f. Upon satisfactory completion of the course of training, and in possession of a steering certificate, the rating will be examined by the DOS and be able to serve at sea as holder of new provisional certificate (To conform to the present system the rating may be promoted to the rank of Helmsman or Deck Watch Rating or Engineroom Watch Rating or Greaser).

g. Further sea service in a different capacity or as a semi-skilled rating (or as a deck/engine watch rating or as a helmsman). Duration : 32 weeks.

h. Rating will then be entitled to receive a certificate as Multi-Skilled Rating from the DOS and to receive a certificate as AB-Seaman or as Sole Assistant to Watch Keeping Engineer.

i. A further 2 years´ sea service, during which the trainee will serve as a multi-skilled rating (or as Able-Seaman or as Assistant to Watch Keeping Engineer).

j. Bosun´s (or Engine Room Foreman´s) course at STC. Duration : 4 weeks.

k. Upon satisfactory completion of the training the rating will be eligible to obtain the Integrated

Bosun's certificate subject to a DOS examination.

l. The rating will also be able to attend a preparatory course for the national (polytechnic) diploma examination at STC. Duration : 20 weeks.

m. Examination and the award of diploma in 'Marine Technology' under the national educational scheme (It should be clarified here that the 'diploma' is not a degree level award in Bangladesh but that it designates a tertiary level achievement).

n. A successful diploma holder will automatically be able to attend the preparatory course for the class 4 DOS certificate of competency (Deck/Engine) examination to seek further career development as an officer *

* The officers' Marine Academy may develop separate 'guided study and task' (GUST) programs for the future ratings who would be willing to seek a career development as an officer.

<u>For catering ratings</u> :

a. Safety and survival training. Duration : 4 weeks.

b. Vocational training covering steward training program and basic cookery. Duration : 17 weeks.

c. Upon satisfactory completion of an assessment schedule covering the course undertaken, ratings to serve at sea as trainee cooks/stewards with specified guided study and task programs. Duration : 52 weeks.

d. Ratings to complete advanced steward and cookery training programs at STC. Duration : 17 weeks.

e. Upon satisfactory completion of the course of training, a rating will be examined by the DOS and

be issued with a 'steward-cook' certificate. The rating will then be eligible to serve at sea as a steward or 2nd cook.

f. Further service at sea. Duration : 18 months. To qualify for chief cooks' examination the trainee must have 2000 hours of service as a trainee cook.

g. Chief Steward's course at STC. Duration : 3 weeks.

h. Upon satisfactory completion of training, the trainee will be examined by the DOS. His certificate will be endorsed accordingly to enable the rating to sail as a Chief Steward-cook or as a Chief Cook.*

* The career path of catering ratings (either as cook or steward) will be developed according to the service experience at sea.

Retraining of existing ratings :

Currently registered able-seamen and greasers may retrain as multi-skilled ratings to serve on conventional or modernized (and often multinational) vessels. As mentioned in the previous chapter, some re ordering of opportunities for retraining will be necessary. In administrative consultations with representatives of the owners and unions to establish priorities, the following criteria will be taken into account :

a) Candidates should be volunteers.

b) They should have service record of at least one year during the preceding 5 years.

c) They should hold certificates as able-seamen or greasers. The greaser should also have 2 years' sea-time and have obtained a steering certificate. Medical test requirements are currently prescribed

for in-service seafarers in the deck and engineroom departments. Engineroom ratings will have to meet the eye-sight standards set by the DOS. The multi-skilled rating certificate will carry a notation that this standard is met.

Candidates who meet the above criteria will have access to re-training on the basis of length of service in the shipping company. Current trainees (firemen, wipers and deck boys) and ratings without the requisite two years sea service will become eligible for retraining. The retraining sequence is as follows :

a. Safety and survival : 1 week
b. Re-training course : 11 weeks
c. Upon satisfactory completion of training, the rating will be examined by the DOS and, if successful, will be accorded a full certificate as multi-skilled rating.

6.4.1. Instructional hours

Subjects	Hours
Semester 1	
Survival and safety module	126
Seamanship and nautical subjects	250
Engineering and maintenance	300
Support subjects	44
Others(health & physical education)	18
Total :	738
Semester 2	
Guided study and tasks (with record book)	200

Semester 3	
General subjects	100
Engineering, electricity and - electronics	380
Nautical subjects	300
Watchkeeping	120
Advanced safety and survival	50
Workshop practice, welding - and thermal cutting	150
Maritime regulations and shipping - practice	50
Radar observer	20
Communication	20
Ship visits and others	10
Total :	1,200
Grand total :	2,138

Catering Ratings Course

Subjects	Hours
Semester 1	
Safety and survival	126
Food, nutrition and hygiene	250
Cooking theory and serving technique	300
Support subjects	44
Others(health and physical education)	18
Total :	738
Semester 2	
Guided study and tasks (with record book)	200
Semester 3	
Maritime English and general subjects	180
Advanced cooking and cooking theory	210
Duties onboard	20
Stewardship	50

Sanitary law, public health and-maritime regulations	40
Ship's business and typewriting	80
Total :	580
Grand total :	1,518

Re-training course :

Subject	Hours
Safety and survival	40
Technical subjects	180
Watchkeeping	20
Workshop practice	80
Radar observer	20
Communication	20
Ship visits and others	17
Total :	377

6.4.2. Examination and certification

As in any other maritime nation, Bangladesh has two separate administrative entities for conducting the examination and certification of seafarers : the training institution and the maritime authority. A certificate issued by the training institute is approved by the maritime authority. Bangladesh has recently developed an examination system for seafaring personnel, which was long overdue. New examination and certification rules were published in 1991 and are incorporated in the Bangladesh Merchant Shipping Ordinance, XXVI of 1983.

Under the present system, separate rules apply to deck,engine and saloon ratings. The underlying requirement of the STCW'78 convention is that watchkeepers should be certificated and that the standard of such certification should meet the requirements of the various regulations and

appendices of the convention. These requirements concern training, sea service and their alternatives as well as the need for ratings to be taught the syllabuses specified in the convention. It is against this background that the certificate structure and examination system in Bangladesh has been tailored.

Examination is conducted by the Department of Shipping, which under its function of examination and training initiates the standards to be set up. The Marine Department contributes to the implementation of the examination system by providing facilities and at times by conducting examinations. Before sitting for the oral examination conducted by the Department of Shipping (DOS), the candidates must meet three requirements :

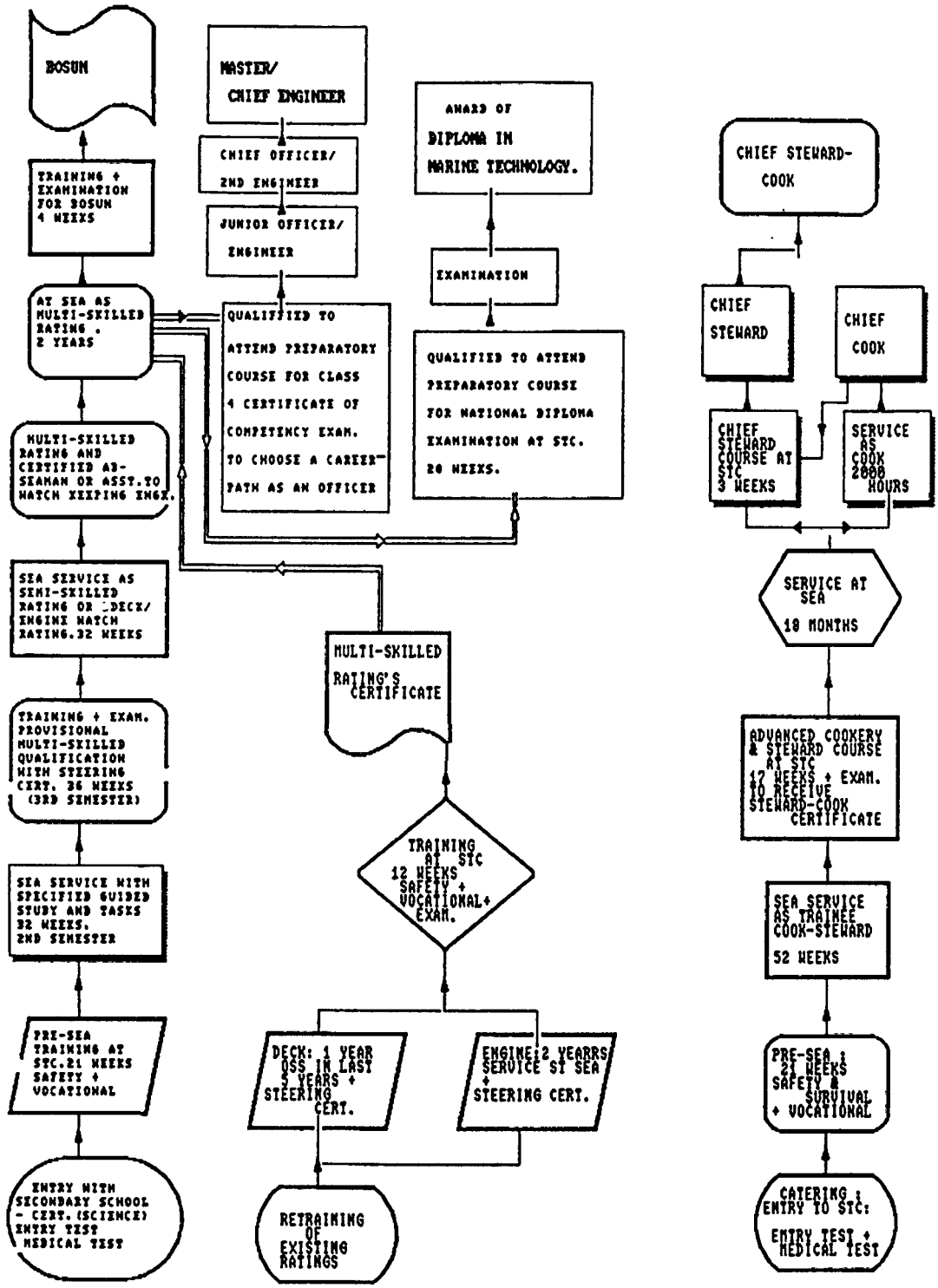
- completion of requisite sea service,
- possession of mandatory safety certificates, and
- attendance on mandatory pre-sea courses at Seamen Training Centre approved by the DOS.

The following are the classes or categories of certificates issued to different ratings :

a. Certificate of Deck Rating forming Part of a Navigational Watch
b. Certificate of AB Seaman
c. Certificate of Ship's Cook
d. Certificate of Engine Rating to form Part of an Engine Room Watch
e. Certificate of Engine Room rating nominated as the Assistant to the Engineer Officer in Charge of the Watch
f. Certificate of Special Category Engine Rating.

Figure 6.1 shows the proposed multi-skilled ratings training system.

Figure 6.1- Multi-Skilled Ratings Training System



Under the multi-skilled system the following certificates may be issued to successful candidates :

a. Semi-skilled provisional certificate for rating
b. Multi-skilled rating certificate
c Steward-cook certificate
d. Chief multi-skilled rating/Bosun certificate

Additionally the ratings will also be issued with the existing AB-Seaman or Watch Rating certificates according to the capacity in which they sailed at sea and experience they acquired.

Institution based certificates will be issued to the successful trainees on completion of the courses, regular or specialized, on fulfillment of certain assessment criteria. In setting the assessment criteria, performance standards have to be the driving force, not the ability to learn and regurgitate material at a written examination. The present challenge of training is the question of standards. In short, there is a need in recruitment to attract those who have been successful at sea and have academic attainments as well. In training, there is a need to devise standards and from those standards build task based modules, the completion of which will ensure competent seafarers. Qualifications must be spread through the entire ship's company so that everybody has a recognizable part to play in the safe operation of the ship and can make a proper contribution towards that end.

6.5. Emergency procedures training - short course elements

There are a number of short courses which the STC

currently requires certificate of competency trainees to attend and pass in line with STCW'78 requirements.

It would be a sign of healthy growth for the STC to continuously develop and amend its courses and course materials in the light of regulatory and technological developments. The STC should be revitalized so that it can provide more effective courses for its trainees in accordance with the various conventions adopted by the IMO.

Arrangements could be made to offer short specialized courses of one to six weeks' duration designed on a modular concept so that those maritime related sectors that wish to upgrade the knowledge and skills of their personnel will be able to do so without losing the benefit of their services for a long period of time. In support of these activities, a number of shorter specialized courses may be designed to achieve specific training objectives so that those completing the training course concerned will be enabled to perform their duties more effectively. There is also a vital need to provide training in emergency procedures, disaster management, pollution prevention and contingency planning. As Bangladesh is prone to natural calamities and common pollution incidents, emphasis should be directed to provide exposure to those problems. In addition to providing specialized training courses in the well established fields, a number of 'state of the art' courses should be developed to assist the transfer of new or recently developed technology from the developed countries. These latter courses may include modules of particular interest to teachers of other maritime (inland and fisheries) institutions who are anxious to keep abreast of developments in the industry, as they must do if they are to succeed in preparing their students to meet the demands which will be placed upon them in their chosen career.

6.6. Educational recognition of training

The employment histories of seafarers indicate that many come ashore after spending some time at sea. This is due to a number of well-understood factors, prominent among which are family pressures, limited opportunities for advancement and the lack of job availability. Even if the supply(surplus) and demand factors presently governing the market place change, the reality is that trainees must be prepared to compete successfully in the job market ashore because many will choose to work there. At present in Bangladesh it is virtually impossible for someone with sea experience and qualifications to find a job in a non-maritime sector. To compete with training for other sectors of employment, MET must provide its graduates with, in addition to specialist skills for shipboard use, a flexible education which will be a foundation for continuing education as well as meaningful employment prospects should they become redundant. The education will be even more useful if an individual fails to meet the continued sea-going proficiency requirements.

Maritime training institutes such as the STC can be viewed as a resource designed to further not only the national interest but also the interests of the students. As publicly supported education becomes more and more wide spread and as technical education becomes integrated in one form or another into the national system of education, the training received at the STC is also expected to fulfil the traditional role of education : facilitating the student's access to the opportunities of the society and fixing a place for him/her at an acceptable level in the social structure. Towards these ends, it is essential not only that the academic qualifications of the system be widely

promoted to employers but also that the system be recognized by the national educational authority. To achieve this, links with national polytechnic authorities should be established. The writer is of the opinion that to design such a scheme (as described earlier) will not be too difficult and that it should be much easier to get it off the ground than the proposed multi-purpose scheme. Ideally, the post graduate scheme should be designed in such a way that the curriculum could be nicely fitted into the later stages of shore based studies of a mainstream multi-skilled scheme.

6.7. Infrastructure support

Infrastructure support is crucial for the implementation of the new scheme. Presently STC has very little infrastructure support at its disposal except that it is now being relocated to the 3rd floor of the Seamen's Hostel. It has only two lifeboats and handful of equipment with which to train seafarers. However, a significant development has taken place during the past few years. In response to an administrative request, the Government of Japan has agreed to provide grant aid to establish a permanent seaman training school. Formulated and approved by the Executive Committee of the National Economic Council (ECNEC) in 1992, the project is to be executed during the 4th five-year plan of the Government of Bangladesh. It has all the ingredients and support elements necessary for the implementation of a multi-skilled training scheme.

Among the major infrastructure support elements the following are included in the project.

a) Construction of a training building : The training

building will contain class rooms, seamanship block, a machine workshop, cargo lifting facility model, a training kitchen, a dining room, a store room and a model room for practical training.

b) Accommodation for instructors and employers : There is also the provision for accommodation of the faculty staff.

c) Other training facilities include fire tower house, boat davit facility etc.

d) Training equipment : One of the core elements of a training scheme is the supply and availability of the equipment. Major items included in the project are :

1. Life saving equipment, distress and other signals
2. Equipment for fire-fighting
3. First aid training equipment
4. Items related to navigational and bridge operations
5. Meteorological equipment
6. Equipment/items related to engineroom operations
7. Workshop machinery
8. Electrical installations
9. Steering gear system simulator
10. Navtex and weather facsimile
11. Seamanship tools
12. Galley equipment
13. Radio equipment
14 Other teaching aids (projector, video etc)
15. Duplicating machine and typewriters.

The existing 3-storey hostel will be fully utilized for the following purposes :

a. first floor to contain dining room, main galley/ kitchen, recreation room, pharmacy, store rooms,

offices for STC, instructors' room, general office, reception and principal's office;

b. second floor to be utilized as dormitory for the trainees; and

c. third floor to contain accommodation for trainees and visiting seamen.

For multi-skilled ratings, the facilities can be utilized both for deck and engine operations. It is envisaged that 200 new entrant ratings and 1000 re-trainee seafarers will be able to avail themselves of the facility every year.

6.7.1. Staffing

It is vital in the interest of the seamen's training program that instructors with relevant merchant marine qualifications be recruited, apart from polytechnic instructors. All the efforts to produce high quality seamen will be in vain if adequately qualified instructors are not recruited. Since its inception, STC has been beset with problems caused by a reduced staff strength. An adequate number of teachers should be employed to maintain the student- teacher ratio at a low level. The primary problem has always been the procurement of qualified maritime instructors. Due to the difference between the earnings of officers serving at sea and the salary of the maritime instructors at an institution such as STC, it will not be an easy task to secure adequately qualified instructors. However, the teaching posts at STC may be made more attractive for maritime personnel by offering contract agreements (similar to the scheme adopted in the Marine Academy) or other incentives such as fringe benefits and

extra allowances. At least 3 nautical, 3 engineering and 2 catering instructors are required, in addition to teachers with polytechnic and general academic backgrounds. Others may include fire fighting, first aid and workshop instructors.

The proposed staff requirement as shown in the project is 58 including general service staff and instructors. A multi-skilled training scheme may provide the impetus for a further reduction in faculty and general staff and eventually a total of 50 staff should suffice.

Staff distribution :

Proposed staff strength	:	58
Current staff strength (STC : 18 and hostel : 25)	:	43
Additional requirement	:	15

The proposed staffing level includes 35 administrative and clerical staff and the imbalance may be remedied in the future by replacing a few with polytechnic and academic staff. This would provide an impetus for setting up good training programs.

Staff qualifications

The issue of recruiting adequately qualified staff requires a major re-thinking and a subsequent re-structuring if STC is to succeed in achieving its goals. Presently none of the academic staff has any merchant marine qualification, which is a far cry from what has to be developed. Instructors with the following levels of sea-going experience should be recruited for a multi-skilled scheme.

1. Navigational : 4 (2 with Class 1 certificate and 2 with lower grade cert. and sea experience)
2. Engineering : 4 (2 with Class 1 certificate and 2 with lower grade cert. and experience)
3. Communications : Radio telephony/telegraphy cert.
4. Catering : Minimum 2 with requisite qualifications
5. In addition, the academic lecturers should possess relevant academic degrees in their specialization.
6. Other instructors for fire-fighting and short courses should possess vocational certificates and merchant marine work experience.

A staff development policy must also be adopted to enable staff to improve the performance of their existing functions to the advantage of the institute by maintaining and improving their professional and vocational knowledge.

6.7.2. Support facilities

Support facilities are needed to provide arterial functions for the scheme. The major support elements should include :

a. A proper library (not included in the project) stocked with text books, reference books, IMO documents, maritime journals, periodicals, recreational books, newspapers and periodicals. (It should be emphasized that a properly equipped library will help to enhance the student's learning process).
b. A printing unit to produce teaching materials and handouts.
c. Arrangements with the life raft servicing station to service deflated rafts regularly.

d. Computers installed for practical hands-on training and for computerized training package demonstrations. Typewriters installed for practical exercise for catering trainees.

e. Other support facilities including internal/external communications (telephone, telex and telefax) and transport to facilitate the efficient running of the scheme.

6.7.3. Funding

Funding or finance is the key element in the development of any system. As explained earlier, the initial establishment costs will be funded from grant aid under an economic and technical cooperation program of the Government of Japan. The total cost of the project has been estimated at Tk. 21 crores (approx.), equivalent to USD. 5.25 million (approx.). The above includes Tk. 6.22 crores (USD. 1.56 mill.) in local currency, to be borne by the government of Bangladesh.

The projected annual recurring expenses may be subdivided into :

1. Operational costs, which include payments for electricity, gas, water diesel fuel, petrol, lubricating oil, workshop perishables, cooking ingredients and communication bills.

2. Maintenance costs, which refer to the costs of repairs and maintenance of equipment, facilities, hostel expenses and property/land tax etc.

3. Personnel management costs, which include annual staff salaries, leave pay, allowances etc.

An approximate breakdown provides the following :

Operating costs : Tk. 3,24, 525.00
Maintenance costs : Tk.11,00, 000.00
Personnel costs : TK.24,98, 000.00
Total : Tk.39,22, 525.00 (USD.$ 98,063)

It is estimated that about USD.$ 100,000 will be needed for annual operation and maintenance of STC. From a dormant state, the activity of STC has gained momentum from 1990 onwards. The following budgetary provision will provide a better view of the situation :

Table 6.1 - Budget and expenditure of STC

year	Budget (in taka) 1 USD = Tk.40 (approx.)	Expenditure (in taka)
1987/88	586,000	462,000
1988/89	800,000	442,000
1989/90	642,000	543,518
1990/91	596,000	1,048,086
1991/92	2,546,000	-

Source: STC

At the same time, the budgetary provision for the Seamen's Hostel for the year 1991/92 amounted to Tk. 1,159,500 (USD 28,987). For the fiscal year 1992/93 the provision for STC was TK. 13,72,000.00 (USD.34,300). Therefore the total yearly budgetary provision for both institutions would amount to Tk. 26,00,000 (USD.65,000). This amount falls within the provisions for the proposed

annual budget for the project, which are shown below :

Manpower/personnel	: Tk.26,34,000.00
Electricity and fuel	: Tk. 2,60,000.00
Maintenance and others	: Tk. 7,50,000.00
Maintenance(in foreign - exchange)	: Tk. 1,05,000.00
Total	: TK. 37,49,000.00 per year (USD.$ 93,725.00)

The above expenditures may be partially covered by the following yearly generation of funds by the STC and the hostel (amounts based on approximation) :

Boarding charges to trainees/other seafarers	: Tk.5,50,000
Contributions by the shipping industry	: Tk. 25,000
Lease of the cafeteria	: Tk. 12,000
Short course charges	: Tk. 5,000
Total	: Tk.5,92,000 (equivalent to USD.$ 14,800)

Under the present budgetary system, all the amounts generated must be deposited with the national treasury and are not directly available for utilization. Since STC is a publicly funded organization, there should be no complications in acquiring the stated amount from the central budget. It may therefore be concluded that a multi-skilled training scheme would fit in perfectly under the budgetary provisions of the new project. However, it would be necessary to raise the present financial (spending) power of the Principal in order to gain operational mobility. Various sources and means of funding for STC can be explored from within Bangladesh.

Among the sources that can be considered are :

a. The annual allocation of the operating and development budget of the government. The STC should also be able to receive a portion of the funding allocated to education, while remaining in the capable hands of the Ministry of Shipping;
b. There is a provision for mandatory contributions by the shipping industry for the upkeep of the maritime training institutions which has never been enforced. If such contributions were made, it would ease the burden on public spending;
c. Further development programs such as the setting up of a library, computer laboratory etc. could be undertaken through technical aid and co-operation schemes whereby funds may be obtained from donor agencies such as the United Nations Development Programme (UNDP), the Japan International Co-operation Agency (JICA), the Swedish International Development Agency (SIDA) etc.
d. STC could also generate limited funds through boarding charges, meal charges, short course charges, post study charges etc.
e. Scrap dealers and shipowners may be encouraged to make donations or bequests, in the form of equipment for the continued upgrading process.
f. Seminars and conferences may be organized at STC for publicity reasons and fund generation.

6.8. System difficulties

So far only the positive aspects of the system have been discussed. Like any other MET system, multi-skilled

training system has its drawbacks, too. The system will not provide the specialization that could be achieved through a monovalent scheme. The duration of training will be longer than in the existing system and the shipboard supervised training scheme may prove to be a difficult one to implement. However, the creation of specialized ratings under a monovalent system may not be necessary for Bangladesh at all. One reason is that the trained ratings will be mainly intended for overseas employment, and the other reason is that, with improved intake and training standards, multi-skilled ratings will be able to comfortably adjust themselves to a monovalent type of operation. Other difficulties can easily be overcome by administrative drive and initiative.

6.9. Implementation

The system described can be implemented in stages under the current national five year plan. The first 3 years should be devoted to the tapping of financial resources, the development of infrastructure support, the review of the existing system, the procurement of funding, the establishment of a permanent faculty of instructors, the streamlining of the recruitment procedure, the restructuring of examination rules and the acquisition of equipment and teaching aids. At the same time, the first phase of system transformation can also be implemented through the placement of the first group of trainees on board ships under the guided study and task programme. During the next two years an action plan can be drawn up for the possible merger of the system into the current national education system.

6.9.1. Concurrent promotional measures

Measures should be taken to promote the employment of trainees and successful ratings on board national and foreign flag vessels, with the aim of removing the bottle neck effect. A government manning agency system can be developed similar to the scheme adopted in the Philippines. Administrative initiative should be directed to encourage the formation of a collective bargaining agent(CBA). Affiliation of such a CBA with the International Transport Workers Federation should pave the way to better job prospects for Bangladeshi seafarers in the world market. Shipowners and shipmanagement organizations can be attracted to choose and utilize the services of quality multi-skilled ratings from Bangladesh.

> `The purpose of a business is to keep customers. To do this, goods and services must be produced and delivered that people want and value, at prices and conditions that are more attractive than those of competitors. To continue, enough profits must be made to keep investors. To achieve this, all companies must clarify their purposes, strategies and plans, and clearly communicate them to the workforce. The larger the enterprise, the greater the need for a clearly written and reviewed set of goals. All enterprises must have a system of rewards, audits and controls to ensure the proper pursuit of those goals.´
>
> T. Levitt (1983)

CHAPTER SEVEN

'No matter how developed the technology is, well trained human resource is, and will be, the first and last guarantee of the safety of the ships.'

Charles H. Larsimont (1991, 6)

7.1 CONCLUSIONS :

The administrative thrust has always been pointed in the direction of creating job opportunities and thereby making great strides towards the eradication of poverty and the development of human resources in Bangladesh. The most abundant resources available in Bangladesh are human resources. The primary responsibility of harvesting such human resources and utilizing them appropriately to the maximum national advantage in the maritime field cannot be overlooked and has to be assumed by the national authority. Seafarer employment has again become crucial for sustaining the economic development of the country. There are many advantages for Bangladesh in having a viable and competitive pool of trained seafarers. In creating such a pool of well trained ratings, adequate maritime training is expected to have a great effect upon efficiency and productivity.

In this paper, an effort has been made to address the long overdue issue of ratings education and training. Reform is essential to the survival of the Bangladeshi seafaring community, which can make a real contribution to the economy. The provision of proper education and

training, will yield benefits for the nation in terms of employment, foreign exchange earnings and the more profitable utilization of human and financial resources.

The fundamental policy should be to develop and strengthen the country's maritime sector through the provision of adequately trained seamen to man its oceangoing fleet and to provide a pool of trained ratings available for overseas employment. The promotion of seafarers' employment is confronted with various obstacles, but if addressed properly these can easily be overcome.

Among the difficulties in promoting quality assurance and the employment of seafarers, the first and foremost is the low level of MET. Without infrastructure development, qualified instructors, sufficient equipment and supporting facilities, it has not been possible to impart adequate education and training as per the standards demanded by the STCW'78 convention. Major maritime disasters around the world have further increased the global concern about the absence of unified standards of training and certification. Moreover, improperly trained seafarers are not able to cope with the changing world of technical advancement in shipping, which calls for more specialized and more integrated training, education and qualifications.

Among the other problems confronting the declining seafaring community (ratings) of Bangladesh are :

. the low level of basic education;
. the lack of promotional policy initiatives;
. the non-existence of a collective bargaining agent and the failure to obtain ITF affiliation;
. the relatively high average age;
. the frequent desertion from ships;
. the negative attitude of the industry towards the

education and training of seafarers; and

. the non-recognition of qualifications by the Education Board, which leads to social disenchantment among seafarers as future job seekers.

One could possibly go on listing the series of problems faced by the declining number of seafarers in Bangladesh. In tackling these issues, we have to set the priorities. With the Government and international fora seeking `education for all in Bangladesh by the year 2000´, priority has been given to the elevation of education and training standards. With the sophisticated and competitive shipping industry heading towards a demanding future, upgrading the education and training of seafarers has become a major objective. In pursuing this objective, a number of requirements should be met.

First of all, it is difficult to predict how the ship of the 21st century will be manned and what blend of knowledge and skills her crew will require. This suggests that the future MET system must be flexible in order to respond to new training needs as they become apparent.

Secondly, there should be a more coherent system of education, training and qualification for the seafarers. Therefore, the system should be closely related to the national educational pattern so that the seafarers will be better equipped for employment in industries ashore as well as at sea.

Thirdly, the general level of world education is rising and this must be reflected in maritime training.

Fourthly, in contrast to present practice, the future system should be considered in terms of cost effectiveness and relevant cost to the community as a whole, and not only in terms of cost to the industry.

Realising the above, the writer has made an effort to propose a system which would provide greater flexibility and upgraded standards of training for the seafarers who will compete in the future manning market. Multi-skilling appears to be the talk of the day and provide the answer for modernized fleet management. To implement such a system in Bangladesh, an adjustment to the basic intake level will have to be made.

It would appear that there is a need for more instruction in mathematics, basic science (physics) and computer technology. A sound background in these areas will enable students to develop an understanding of the complex technological systems of the future. Therefore, MET will be strengthened if it is integrated into the general educational system of the country. Moreover, a close link with the general education system could provide better interaction, including the exchange of teaching staff, between the STC and the Polytechnic institutes.

At the same time, the training scheme should be properly structured, so that skills and understanding are gained as the result of organized instruction, demonstrations and supervised 'hands on' training. Appropriate testing and evaluation would be part of the course and at the end of the training on multi-skilling there should be a short probationary period of work when the actual tasks and duties are carried out under supervision. The philosophy of training can be further strengthened by way of comparisons with other systems developed by the leading maritime states. However, one must also be aware of the dangers in trying to reach final conclusions on the basis of international comparisons.

On the financial side, the institution could be supported by government funding, as in the case of the

major maritime nations. The seafarers' institution should have a place in the social structure and draw as much attention and support from the national education authority as it will from the Ministry of Shipping.

7.2. Recommendations :

In concluding the investigation of ratings training in Bangladesh, the following recommendations are put forward to illustrate the directions that need to be taken in future to develop a new infrastructure to meet the challenges of a changing maritime world.

* It is essential to formulate and implement an effective training policy for seafarers in Bangladesh, especially taking into account the recommendations of relevant IMO/ILO conventions.

* The training programme should take special note of the relevant international conventions, including further developments in the field, and be directed towards both new entrants and in-service seamen.

* The objective should be to keep on improving the seamen's level of competence on an ongoing basis in order to keep pace with the changing circumstances, technological or otherwise.

* Certificates issued should be upgraded so as to give them equal standing with the certificates and diplomas conferred by the polytechnic institutes.

* The formation of the planned `National Maritime Board' should be expedited. This board should coordinate/synchronize the various maritime training activities which are carried out in different parts of the country. In addition, it should take effective measures to ensure the international acceptance of various certificates issued by the individual maritime training institute in Bangladesh.

* Serious thought should be given to the unification of the two inland maritime training institutions, viz the Deck Personal Training Centre and the Bangladesh Institute of Marine Technology. This would result in considerable cost savings, which in the present economic climate of Bangladesh would be highly desirable.

* The selection of new entrants should be channelled through a selection board comprising members from all sectors of the maritime field with the administration playing the key role. Selection should be strictly on the basis of supply/demand criteria, which would go a long way towards correcting the present imbalance which has arisen in the absence of an effective mechanism in this regard.

* Compulsory retirement after 25 years of sea service should be actively considered. This would help in attaining a healthy state of affairs in terms of the average seafarer age.

* The signing on of at least four new recruits on all Bangladesh ships (oceangoing) at the time of a crew (article) change should be made mandatory. This would

also open up more employment opportunities for young and energetic seamen who may not be gainfully employed on a continuous basis.

* Deserving and interested seamen should be provided with opportunities to follow a career path as watchkeeping officer and above.

* To create a healthy and cordial atmosphere among seafarers and in an effort to promote employment prospects through affiliation with the International Transport Workers Federation (ITF), the existing multiplicity of fora should be ended. The National Labour Directorate should actively consider promoting the formation of a single collective bargaining agent.

* The desirability of having a single national roster, incorporating the current roster maintained by the National Shipping Corporation, should be considered. This would lead to more suitable opportunities for seamen as a whole and thus help in reducing the social tension which is currently prevailing.

* The services of the overseas embassies of Bangladesh should be examined with a view to their utilization in furthering employment opportunities for Bangladeshi seafarers.

* Bangladesh should learn from the experience of major Asian seamen supplying nations such as the Philippines, Burma and South Korea, by way of studying/reviewing their training and employment

policies as well as curricula.

Bangladesh has tremendous potential for producing competent seafarers who can find their places in the international maritime market. There is no doubt that the formation and implementation of an effective training policy for Bangladeshi seafarers would be a great boon from a social as well as an economic perspective. It would provide job opportunities for the rising number of unemployed youths and earn much needed foreign exchange for the country. The stature of the nation as a whole would get a significant boost. At the end of the day, every good seafarer would prove himself to be a de facto harbinger of goodwill for Bangladesh.

APPENDICES

Appendix - 1 Earlier Entry and Promotion Procedure :

STATEMENT SHOWING THE ADVERTISEMENTS MADE FROM TIME TO TIME FOR RECRUITMENT OF MERCHANT SEAMEN SINCE 1970.

Advertisement	Rating	Educational requirements	Age
1970	a) G/P Seaman	Upto Matric	Between 17 - 20 years.
	b) Baker/ Cooks	Upto Class vll	-do-
	c) Laundrymen	Primary Class	-do-
	d) Barbar	-do-	-do-
	e) Topass / Scullion	-do-	-do-
1974	a) Trainee seaman	8th Class pass	Between 17 -21 years.
	b) Trainee Firemen/ Viper/Coaltrimmer	-do-	-do-
	c) Topass	-do-	-do-
	d) G.P. Trainee	-do-	-do-
	e) Carpenter	Diploma in Carpentry	Between 17 - 28 years.
	d) Fitter /Diesel Mechanic.	Diploma in Mechanical / power engineering or Matriculate having 4 years trade apprenticeship on Marine Engine	-do-
	f) Electrician	S.S.C.pass with diploma in Electrical engineering.	-do-
1976	a) Trainee seamen	8th Calss pass	Between 17 - 21 years.
	b) Trainee Fireman/ Viper/Coaltrimmer	-do-	-do-
	c) Topass	-do-	-do-
	d) Second Cook	-do-	-do-
	e) Bhandary	-do-	-do-
	f) Lanudrymen	-do-	-do-
	g) Carpenter	8th class pass with carpentary certificate.	Between 17 - 28 years.
	h) Fitter	S.S.C. pass with Diploma in Mechnical power engineering	Between 17 - 28 years.
	i) Electrician	S.S.C. Pass with diploma in electrical engineering	-do-
	j) Pumpmen	8th Class pass.	-do-
	k) Plumber	-do-	-do-

-2c-

1977 1978	2ND Cook	8th Class pass	Between 17 - 21 years .
1978	a) Trainee seamen	8th class pass	between 17 - 21 years .
	b) Trainee Firemen/ Wiper/Coaltrimmer	-do-	-do-
	c) Topass		
	d) Trainee Cooks	-do-	-do-
	e) 2 nd Cook	-do-	-do-
	f) Boandary	-do-	-do-
	g) Laundrymen	-do-	between 17 - 28 years .
	h) Carpenter	8th class pass with carpentary certificate	-do-
	i) Fitter	Diploma in Mechanical / Power engine ring	-do-
	j) Electrician	Diploma in electrical engineering .	-do-
	k) Pumpmen	8th Class pass.	-do-
	l) Plumber	-do-	-do-

PRINCIPLES OF PROMOTION FROM LOWER TO HIGHER RATINGS.

Existing rating.	Next promoted rating.	Maximum age limit.	Qualification.	Minimum service	REMARKS.
	DECK DEPARTMENT.				
Dk. Topass	Seaman III	33 Years	Should be able to speak & understand Deck English.	2 regular voyages or total minimum service of 24 months	2 good certificates. 2 recommendations for promotion. In case of holders of steering certificates, promotion may be given directly to seaman II after 1 voyage
Seaman III	Seaman II	36 years	-do-		Promotion will be granted automatically
Seaman II	Seaman I	40 years	-do-	Minimum 3 years service as seaman III and II	2 Certificates / Recommendations.
Seaman II	Helmsman	40 "	-do-		Promotion will be granted automatically. For promotion from seaman II to Helmsman must be in possession of steering Certificate.
Seaman I	Helmsman	No age limit.	-do-	-	Promotion will be allowed as soon as a seaman obtains a Steering Certificate.
Seaman I/ Helsman/	Cassab.	45 years.	-do-	2 years service as seaman I/ Helsman.	Certificates with suitable recommendation. Promotion will be granted by ~~EE.X~~ S.E.B./P.C.
Seaman I/ Helsman/ Cassab.	Tindal	45 Years.	-do-	One year service as Cassab. 2 yrs. service as seaman/ Helsmann. 3 yrs. service as seaman I.	Must be in possession of certificate with suitable recommendation. Promotion will be granted by S.E.B./P.C.
Seaman/ Helsman/ Cassab/ Tindal.	Serang.	50 Years.	Should be able to speak & understand English.	2 yrs' service as Tindal or 5 yrs' service as Cassab. At least 6 yrs' service as seaman/ Helsman.	Must be in possession of certificates with suitable recommendation. Promotion will be granted by S.E.B./P.C.

P.T.O.

ENGINE DEPARTMENT .

a) Ek Topass	Coal Trimmer/ Wiper	33 yrs.	Should be able to speak & understand Deck English.	2 regular voyages.	Good certificate . Promotion will be granted by S.E.B/P.C.
b) Dk.Topass	-do-	30 "		Do	Do
c) Saloon Topass	-do-	30 "			
Dk.Topass	Fireman	35 yrs.	-do-	3 regular voyages.	Good certificates. Promotion will be grant by S.E.B./P.C.
Coal Trimmer.	Fireman	35 yrs.	-do-	One regular voyage	Promotion will be granted automatically .
Fireman	Greaser	38 yrs.	should be able to speak & understand Deck English.	3 years service may be reluxed upto 2 yrs.on merits.	Promotion will be granted by shipping Master on merits of the case .
Fireman	Donkeyman	40 yrs.	-do-	Minimum 3 yrs. service as Fireman .May be relaxed on merits of the individual case.	Promotion will be granted by the S.E.B./P.C.
Greaser.	Donkeyman	40 yrs.	-do-	Minimum 3 yrs. service as Fireman & Greaser . May be relaxed on merits of the individual case.	Promotion will be granted by the S.E.B./P.C.
Greaser/ Donkeyman.	Cassab	45 "	-do-	Minimum 2 voyages.	Must possess certificatew tih suitable recommendation . Promotion will be allow by S.E.B./P.C.
Greaser/ Donkeyman/ Cassab.	Tindal	45 "	-do-	4 yrs' service as Greaser or 2 yrs service as Donkeyman or 2 voyages as Cassab.	Must be possession of certificates from Masters with suitable recommendation . Promotion will be allowed by S.E.B./ P.C.
Donkeyman/ Cassab/ Tindal	Serang	50 yrs.	should be able to speak & understand English .	5 yrs'service as Donkeyman or 3 yrs' service as Donkeyman or 2 yrs' service as Tindal .	Must be in possession of certificates from Masters with suitable recommendati Promotion will be allowed by S.E.B./P.C

SA' 'CN DEPARTM.NT .

S.Topass/ Scullion / Gallyboy .	M.R Mate/ Pantrymate/ ½ G.S.	33 yrs.	-do-	3 regular voyages with good reports .	Promotion will be granted by S.E.B./P.C.
M.R. Mate/ Pantrymate/ ½ G.S.	G.S.	38 yrs.	-do-	2 yrs. service with good reports	Promotion will be granted automatically .
G.S.	Pantryman/ 2nd Steward.	40 yrs.	Should be able to read, write & speak simple English & mix maintain xpx simple accounts.	5 years ' service .	Certificates with suitable recommendations. Promotion will be granted by S.E.B./P.C.
G.S./Pantryman/ 2nd Steward	Butler/ Ch. Steward.	45 yrs.	should be able to read, write & speak English. Should know typing, preparations of menus & also keeping maccounts.	2 yrs. service when promoted from pantryman or 2 nd steward. When promoted from G.S. 7 yrs. service will be required.	Promotion will be allowed by the S.E.B./P.
Scullion / Gallyboy / 3 rd Cook .	2nd Cook	40 yrs.	should be able to speak & understand English .	3 yrs. service & suitable recommendation from the Master for promotion .	Candidates will be subject to trade test on board ship ships before promotion is considered by S.E.B./P.C.
G.2nd Cook	Chief Cook	50 yrs.	should be able to speak understand English .	as per board of Trade Rules .	

NOTE:1. 'Services ' means satisfacto y service on board ships.
2. S.E.B.means Seamen's Employments Board.
3. P.C.means promotion committee .

Appendix - 2 Syllabuses Followed

SYLLABUS FOR TRAINING:- 1983

(1) Physical Training and Marching in uniform.
(2) Ship's organisation,Command, Departments and routines.
(3) Types and parts of ship's.
(4) Nautical terms and sea customs.
(5) Seamen's Articles of Agreements,conduct and discipline.
(6) Health and Hygiene.
(7) Fire Fighting and First Aid.
(8) Types of life-boats,parts and equipments.
(9) Swimming.
(10) Life saving appliances.
(11) Instructional Films.

A. DECK DEPARTMENT ELEMENTARY KNOWLEDGE.

(1) Types of ships and nautical terms:-
(2) Ships equipments;-
Ships fitting and parts,Anchor and cables windless,winches, Chain locker,Steering gears.

(3) Types of ropes and wires and their uses:-
Constructions,sizes, Measurements, strength in manipulation, splices, Knots, send and hitches, Parcelling, Nipping and serving, Stoppers, Heaving line.

(4) Deck stores and other Gear:-

Accommodation ladder, Pilot ladder, side ladder,Jumping ladder, Blocks, Shackles, Tackles, Purchases, Hooks, Cargo gears, Hatches, Tarpauline, Derricks and gear boat wire chair.

(5) Boat work :-

Life boats,Topass, and equipment, Marking capacity, Launching, Steering orders, Rowing orders, Towing, Mooring, Mashing,receiving, Boat falls. Sailling boat, Gears, Term of marking Rules of the the road, Anchor work. Boat station, envils and its operation. Life Buoy and life jacket and life saving appliances.

(6) Cleaning Gears:-

Washing and scrubbing,Deck cleaning brass,Metal cleaning, paint cleaning.

(7) Painting:-

Composition & Mixing of paints repairing of surface for painting,brushes,Rear Derricks,Funnels,Masts,Top side, Iron Deck, Ship side, Varnishing.

(8) Navigational Duties:-

Types of Compass reading,steering and steering order, sounding by lead line marking,Calling the sounding and operation of sounding Machine, Patent log-streaming and reading. Uniform system of maritime voyage, Time ou t water bells.

(9) Sailing Jobs :-

Canvas-construction,Grade,Swing,Twine,sail needles Bee Wax, Eylates, Awning spreading,Lacting,Marking, Fenders, Fontom, Look out duty.

00) Flag Signalling:-

White,Blue and Red ensigns,Flying and dipping hours flag, Mail Planent,steam jack,Half mast,Dressing ship,Ships number.

8. ENGINEERING DEPARTMENT ELEMENTATION

(1) What is a ship and how it floats ?
(2) How a ship is propelled ?
(3) Types of Engines,Auxilliary machinery and propellers.
(4) Elementary general engineering science and heat e.g. heat work function.
(5) Units of heat,temperature length,areas,volume weights and pressure etc.
(6) Oil,water storm and air,their physical properties and uses on board merchant ships.
(7) Brief descriptions of propellers,Electric generators and system,fuel lubricants,tools and stores.
(8) Ships construction,interest to engineering deptt. Engine Deck, Boiler room,Workshop, Shaft tunnels,Double bottom tanks, Fuel service tanks,Engine steering, Tank Tops and Bilges.

C. STEAM ENGINE AND BOILER:-

(1) Description of different types of boilers. (Scotch boiler, Cochran boiler and water tube boiler) and their function.
(2) Description of Steam recepracating engine and names of parts.
(3) Description of steam tubines and names of parts,
(4) Path of steam for boilers through cylinder of the engine to the condensor and back to the boiler.
(5) Steam auxiliary machinery.

D. DIESEL ENGINE :-

(1) Description of a diesel engine and name of parts.
(2) how motor ships and diesel engine differ from steam ships and steam engine.
(3) Diesel and electric driven auxilliaries for motor ships.

E. MISCELLANEOUS :-

(1) Safety precautions in engine and boiler rooms against fire, explosion flooding, movement of articles due to rolling and pitching etc. personal injury shock, burning and heat exhaustion etc.
(2) Chipping Scrapping and painting of machinery and engine room etc.
(3) Bunkering.
(4) Oil and greasing of all types of machinery.
(5) Pipe systems, stowage of Fuels, Fresh water, Tube, Oils and distilled water etc. Their pumping. Transfers and discharge, pumping out bilges.
(6) Hoisting and dumping of ashes and disposal of oily bilges, ballast or other dirty water and/or fuel or lub, pollution of sea with oil.
(7) Cleaning and maintenance of main engine and auxiliary machinery.

SYLLABUS FOR TRAINING - 1990

A.PERSONAL SURVIVAL TECHNIQUE COURSE(PSTC):-

S.No.	Code No.	Name of the subject	Total Period
1.	PSTC-1	Ship(s Ettiquettes.	01
2.	Pstc-2	Life boat Regulations.	02
3.	PSTC-3	Life boat Construction.	02
4.	PSTC-4	Parts of Life boat.	02
5.	PSTC-5	Life boat gears and their correct uses	06
6.	PSTC-6	Instruction on steering Under oars sails and power.	01
7.	PSTC-7	Sails,sailing terms & pulling orders	04
8.	PSTC-8	Boat compass.	01
9.	PSTC-9	Launching Instruction of sea anchor.	02
10.	PSTC-10	Marking of life boat,life Rafts & their parts.	04
11.	PSTC-11	Life Raft gear & their correct uses.	04
12.	PSTC-12	Launching of life rafts.	02
13.	PSTC-13	Shipboard organisation and watchkeeping	01
14.	PSTC-14	Life boat/Life Rafts:-Pyro Techniques & rations.	05
15.	PSTC-15	Hatches:-Opening/closing precautions.	01.
16.	PSTC-16	Swinging out Davits,Emparkation & Launching of life Boat.	02
17.	PSTC-17	Mustering,Embrgency station and emergency signals .	03
18.	PSTC-18	Cargo handling equipments .	01
19.	PSTC-19	General knowledge of a ship.	02
20.	PSTC-20	Life Jackets & Life buoys .	02
21.	PSTC-21	Knots,Bends & Hitches:-Practical .	02
22.	PSTC-22	Safety Aboard .	02
23.	PSTC-23	Practical Training on Boardship in BSC Ship.	07
24.	PSTC-24	Life boat pulling practice/Swimming Tests.	20
25.	PSTC-25	Revision/Test .	02
		G/TOTAL.81 Per.	

e.		BASIC FIRE FIGHTING COURSE(BFFC):-	
1.	BFFC- 1	Theory of Oxygen supply & Fire , Elements of fire and source of Ignition	02
2.	BFFC- 2	Flamability,Flash and Ignition point, burning temperature,removal of combustible materials .	02
3.	BFFC-3	Classification and causes of fire,with reference to Tanker Gas Carrier,Engine and pump Room fire,Jute coal phosphorus fire.	02
4.	BFFC- 4	Gaseous Explosions,Fire hazard & reactivity.	01
5.	BFFC- 5	Fire prevention and F.F.Methods .	02
6.	BFFC- 6	F.F. Agents,their uses,fire pumps,hydrants emergency fire pumps,isolation valves, international shore connection, Nozzles and hoses .	02
7.	BFFC- 7	Construction of fire extinguishers .	02
8.	BFFC-8	Inhibiting,cooling,smothering starving.	01
9.	BFFC- 9	Uses of soda-acide extinguishess.	01
10.	BFFC-10	Uses of Foam Type Ext.	01
11.	BFFC-11	Uses of Co2 Extars and Precaution against Co2 and Halon gas.	01
12.	BFFC-12	Uses of Dry powder extgr s & precaution .	01
13.	BFFC-13	Revision and test (1 TO 12)	01
14.	BFFC-14	F.F.Kits.Personal General equipments & outfits .	02
15.	BFFC-15	Breathing Apparatus,types and their parts.	02
16.	BFFC-16	F.F. Fixed Installation systems .	01
17.	BFFC-17	Automatic water sprinkler system .	01
18.	BFFC-18	Foam Compound Injection system .	01
19.	BFFC-19	Co2 Flooding system .	01

S/No.	Code No.	Name of the Subject	Total Hours
20.	BFFC-20	Inert Gas Generation system.	01
21.	BFFC-21	Revision and test (14 To 20).	01
22.	BFFC-22	F.F.Organisation drill, station, Mustering, patrolling & safety handling casualty .	02
23.	BFFC-23	Fire, alarm, Location and isolation of fire,	01
24.	BFFC-24	Demonstration . of Portable Fire extinguishing alarm, Equipments I.S.G.C. Compound.	03
25.	BFFC-25	Undertakes extinguishing small fire with F.F.Ext. AT:STC .	03
26.	BFFC-26	Demonstration at CAA fire service.	06
27.	BFFC-27	Revision and Test (21 To 26).	01
		G/TOTAL=	45

C. FIRST AID ... (FAS):-

1.	FAS- 1	Basic anatomy of Human body .	01
2.	FAS- 2	Treatment of heat stroke, electric stroke burn, bleeding .	01
3.	FAS- 3	Shock, unconsciousness, drowning .	01
4.	FAS- 4	Fever, Cold loose motion .	01
5.	FAS- 5	bandages, splints, pressure points, bandages.	01
6.	FAS- 6	Revision FAS - 1 To 5	01
7.	FAS- 7	Administration of artificial respiration, Heartmessage, Inter masculer injection, oral poisoning .	01
8.	FAS- 8	Syphilis .	01
9.	FAS- 9	Gohnoriha	01
10.	FAS-10	Aids .	01
11.	FAS-11	Family planning, nutrition & drug addiction	01
12.	FAS-12	Revision of FAS (7 To 11) .	01
13.	FAS-13	Care of health and hygiene on board ship	01
14.	FAS-14	Care of medical chest and ability to consult medical guide .	01
15.	FAS-15	Revision of FAS - 1 To 14 .	01

D. DECK PROFESSIONAL COURSE (DPC) :-

1.	DPC-1	Nautical Terms	02
2.	DPC-2	Ropes/wire Ropes .	04
3.	DPC-3	Helmsmanship .	01
4.	DPC-4	Working of cable/ anchors .	02
5.	DPC-5	Various splices .	02
6.	DPC-6	Whippings .	01
7.	DPC-7	Thimbles .	01
8.	DPC-8	Hand Lead Line .	02

S/NO	CODE NO	NAME OF THE SUBJECT	TOTAL PERIOD
9.	DRC - 9	Windlass, Capstan & Cable, Locker,	02
10.	DRC- 10	Blocks .	01
11.	DRC- 11	Shakles .	01
12.	DRC- 12	Paint work .	01
13.	DRC- 13	Tackle stopper .	01
		G/TOTAL =	21

PROFESSIONAL

5. ENGINE RATING COURSE. (ERC) :-

1.	ERC- 1	Lay out plan of Machinery in a ship Diagram .	01
2.	ERC- 2	Fire main line and Bilges Line-diagram.	01
3.	ERC- 3	Fresh water & hydrophore systems-diagram.	01
4.	ERC- 4	Aids for starting diesel engine. Air starting system-diagram.	01
5.	ERC- 5	H.P. Air compressor(diagram starting & stopping .	01
6.	ERC- 6	Watchkeeping of H.P. Compressor & preperation to start Motor boat engine	01
7.	ERC- 7	Preperation to start propulsion diesel engines W/Keeping of diesel generator,	01
8.	ERC- 8	Cooling system of Marine diesel engine diagram .	01
9.	ERC- 9	Revision/Test .	01
10.	ERC-10	Marine refrigeration plant .	01
11.	ERC-11	Starting, Stopping and watchkeeping refriguration plant .	01
12.	ERC-12	Principle & operation of oil purifire diagram .	01
13.	ERC-13	Fuel Oil and Lubricating oil system-diagram .	01
14.	ERC-14	Shafting arrangement of a ship .	01
15.	ERC-15	Types of steering system-diagram.	01
16.	ERC-16	Refenishment, Testing and connecting up in emergency .	01
17.	ERC-17	Fresh water generator, working principes (diagram).	01
18.	ERC-18	Name and uses of precision tools .	01
19.	ERC-19	Safety precautions when working in workshop and entering in confined spaces.	01
20.	ERC-20	Boiler types & construction(diagram)	01.
21.	ERC-21	Revision & Test .	01
		G/TOTAL =	21

F. SALOON RATING PROFESSIONAL COURSE(SRC):-

S.No	Code No.	Name of the subject	Total Period.
1.	SRC-1	Watchkeeping duties of saloon department.	02
2.	SRC-2	Personnal appearance & behaviour.	02
3.	SRC-3	Genl. Hygiene & Inspection.	01
4.	SRC-4	Service work on board,waiting at Table.	02
5.	SRC-5	Room cleaning,Bed making,cleaning Tables and pots.	02
6.	SRC-6	Food/Cooking/Cleanliness.	02
7.	SRC-7	Insect Killing/Insecticides.	02
8.	SRC-8	Hazards involved,stowing & securing during bad weather & also under normal condition.	01
9.	SRC-9	Handling of saloon equipments,knives forks etc.	02
10.	SRC-10	Arranging parties/Looking after Guests & port officials.	01
11.	SRC-11	Some shipboard Terms for catering staffs	02
12.	SRC-12	Some french Glossery for catering.	02
			G/Total.21

G. MISCELLENEOUS (MISE):-

1.	MISC-1	Welcome address & Importance of IMO course.	03
2.	MISC-2	Maritime Board(B.D):- Memorandum of steelements	01
3.	MISC-3	Regulation for maintaining discipline esertion/its reaction & various punishments	01
4.	MISC-4	Various pay and allowance damissibel to a Bangladeshi Seamen.	01
			G/Total-06
H.		EXAMINATIONS (EXAM).....	14
			G/Total-182

Appendix - 3 Existing Manpower of Seaman Training Centre

Name of the sanctioned Posts	Number of Posts	Filled-up Posts	Vacant Posts
Principal	1	1 (Master Mariner)	-
Chief Nautical - Instructor	1	-	1
Chief Engineering - Instructor	1	1 (Ex-Navy)	-
Nautical Instructor	2	2 (Ex-Navy)	-
Engineering Instructor	2	2 (Ex-Navy)	-
Physical Training Instructor	1	1 (Ex-Army)	-
Teacher	2	2	-
Head Assistant	1	-	1
Accountant	1	1	-
L.D.A cum Typist	2	2	-
Store Keeper	1	1	-
Driver	1	1	-
Errand-boy/daftary	1	1	-
M.L.S.S. (Lower - category staff)	6	4	2
Total	23	19	4

Appendix - 4 Annual Budget Allocation for Seamen Training Centre, 1992 -93

Description	Budget Allocation 1992-93 (USD approx.)
(a) Officers Salary	Tk.4,00,000 (USD 10,000)
(b) Staff Salary	Tk.2,90,000 (USD 7,250)
(c) Allowance etc. :-	
1. Travelling	Tk. 55,000 (USD 1,375)
2. Subsistence	-
3. House Rent	TK.2,24,000 (USD 5,600)
4. Medical Allow.	Tk. 31,000 (USD 775)
5. Festival/holiday	Tk.1,22,000 (USD 3,050)
6. Transportation	Tk. 8,000 (USD 200)
7. Other Allowance	Tk. 12,000 (USD 300)
Total (c) :	Tk.4,52,000 (USD 11,300)
(d) Other Associated field :	
1. Post & Telecom.	Tk. 10,000 (USD 250)
2. Telephone	Tk. 90,000 (USD 2,250)
3. Vehicle maintenance and Fuel	Tk. 80,000 (USD 2,000)
4. Other related fields	Tk. 50,000 (USD 1,250)
Total (d) :	Tk.2,30,000 (USD 5,750)
Grand Total :	Tk.13,72,000 (USD 34,300)

Appendix - 5 Summary of ILO Conventions (Relevant)

THE ILO INSTRUMENTS

Various ILO Conventions and Recommendations deal with general policy matters concerning the employment of seafarers both on national and foreing ships. Selected Arucles from these ILO instruments are quoted below.

Recommendation 139, Employment Problems Arising from Technical Developments on Board Ships (1970)

I. Manpower Planning

1. Each Member which has a maritime industry should ensure the establishment of national manpower plans for that industry within the framework of its national employment policy.

2 In preparing such manpower plans, account should be taken of-

(a) the conclusions drawn from periodic studies of the size of the maritime labour force, the nature and extent of employment, the distribution of the labour force by such characteristics as age and occupuional group and probable future trends in these fields;

(b) studies of trends in the evolution of new techniques in the maritime industry, both at home and abroad, in relauon, among other things, to structural changes in the industry in the form of -

(i) changed methods of operation of ships, technically and organisationall and

(ii) modifications in manning scales and job contents on different types ships;

(c) forecasts, in the light of the foregoing studies, of the probable requiremen at different dates in the future, for various catagones and grades of seafarers

II Recruitment and placement

5. Recruitment of seafarers into the maritime industry should take account c existing manpower plans and of the forecasts contained therein

III. Training and retraining

10. Where changes in functions and required skills arising from technica developments are likely to affect seafarers, basic training of those concerned including certificated personnel, should be reviewed to take account of these changes and to ensure that seafarers are adequately trained for the functions they will be required to carry out.

IV. Regularity of employment and income

16. (1) Efforts should be made to meet the needs of seafarers, particularly older persons, who have special difficulty in adjusting to technical change.

(2) Amongst possible measures, consideration should be given to -

(a) retraining for other industries through government and other schemes that are available and

(b) the provision of adequate benefits, within the framework of social security systems or other schemes, for those who are required to leave the maritime industry at an earlier age than is generally the case.

Convention 145, Continuity of Employment (Seafarers) 1976

Article 4

1. Where the continuity of employment of seafarers is assured solely by the establishment and maintenace of registers or lists, these shall include all occupational categories of seafarers in a manner determined by national law or practice or by collective agreement.

Article 5

1. To the extent that national laws or regulations permit, the strength of registers or lists of seafarers shall be periodically reviewed so as to achieve levels adapted to the needs of the maritime industry.

2. When a reduction in the strength of such a register or list becomes necessary, all appropriate measures shall be taken to prevent or minimise detrimental effects on seafarers, account being taken on the economic and social situation of the country concerned.

Recommendation 154, Continuity of Employment (Seafarers) 1976

6. (1) Where the measures to obtain regular employment for seafarers provide for the establishment and maintenance of registers or lists of qualified seafarers, criteria should be laid down for determining the seafarers to be included in such registers or lists.

9. (1) In so far as practicable, any necessary reduction in the strength of such a register or list should be made gradually and without recourse to termination of employment. In this respect, experience with personnel planning techniques at the level of the undertaking and at industry level can be usefully applied to the maritime industry.

(2) In determining the extent of the reduction, regard should be had to such means as—

(a) natural wastage;

(b) cessation of recruitment;

(c) exclusion of men who do not derive their main means of livelihood from seafaring work;

(d) reducing the retirement age or facilitating voluntary early retirement by the grant of pensions, supplements to stage pensions, or lump-sum payments.

The ILO has various instruments concerning the training and certification of seafarers. The IMO (International Maritime Organisation) and the ILO meet regularly in the Joint Commitee on Training of Seafarers. The Committee has noted that IMO's STCW Convention is not in conflict with existing ILO Conventions. The Joint IMO/ILO Commiuee has prepared an International Maritime Training Guide. Annex 3 shows the contents of basic training programmes as required by the STCW Convention.

The ILO standards concerning the training and certification of seafarers are:

Convention No. 53	**Officers' Competency Certificates,1936**
Convention No. 69	**Certification of Ships Cooks, 1946**
Convention No. 74	**Certification of Able Seaman, 1946**

Almost all ILO Conventions refer to training. For example:

Convention 134, Prevention of Occupational Accidents to Seafarers, 1970

Article 9 stipulates that instruction in the prevention of accidents and health protection measures should be included in vocational training institutions of seafarers. A recent ILO study shows that most accidents on board ship happen in the 'lower grade' ratings because those grades are exposed to higher accident risks. Thus the accident prevention instructions should be directed to them.

The ILO instrument which gives guidelinces on how to implement vocational training for seafarers is

Recommendation 137, Vocational Training (Seafarers) 1970

The Recommendation lays down all aspects of vocational training such as the objectives of training, planning and administration (organisation and co-ordination, financing, training standards, training programmes, general training schemes for seafarers, advanced training, training methods and the international cooperation). Two Provisions of this Recommendation are :

18. (1) Retraining, refresher, familiarisation and upgrading courses should be available as required for suitable officers and ratings to enable them to increase and widen their technical skills and knowledge, to keep abreast of technolgical changes, in particular in the development of automated ships, and to meet the requirements of new methods of operations on board ship.

10. (5) Retraining necessitated by the introduction of technical innovations should be provided free of charge to the seafarers concerned. During the period of such retraining, seafarers should receive adequate allowances; seafarers sent to courses of such retraining by a shipowner should receive their full basic wage.

Another important ILO instrument should also be mentioned here. This is the 'umbrella' Convention 147 Merchant Shipping (Minimum Standards). The Convention deals with safety standards, social security measures, shipboard conditions of employment and shipboard living arrangements. It refers back to recommendation 137 and stipulates members to ensure that employed seafarers are properly qualified or trained for the duties for which they are engaged.

One important feature of this Convention is that articles on inspection and control mechanism are included, not only the inspection of national ships but also the inspection of foreign ships as described below.

Convention 147 Merchant Shipping (Minimum Standards) 1976

Article 4

1. If a member which has ratified this Convention and in whose port a ship calls in the normal course of its business or for operational resons reacieves a complaint or obtains evidence that the ship does not conform to the standards

of this Convention, after it has come into force, it may prepare a report addressed to the government of the country in which the ship is registered , with a copy to the Director-General of the International Labour Office, and may take measures necessary to rectify any conditions on board which are clearly hazardous to safety or health.

A 'complaint' means information submitted by a member of the crew, a professional body, an association, a trade union or any other person with an interest in the safety of the ship, including an interest in safety and health hazards to its crew.

Appendix - 6 Recruitment, Training and Certification Rules, 1991 (Deck/Engine/Saloon Ratings)

বাংলাদেশ গেজেট

অতিরিক্ত সংখ্যা

কর্তৃপক্ষ কর্তৃক প্রকাশিত

বুধবার, জুলাই ২৪, ১৯৯১

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

নৌ-পরিবহন মন্ত্রণালয়

ঢাকা, ৪ঠা শ্রাবণ, ১৩৯৮/২০শে জুলাই, ১৯৯১

S R O নং ২২৪-আইন/৯১/JAHAJ-2/BIDHI-7/90—In exercise of the powers conferred by section 95 of the Bangladesh Merchant Shipping Ordinance, 1983 (XXVI of 1983), the Government is pleased to make the following rules, namely :—

1. Short title and application : (1) These rules may be called the Bangladesh Merchant Shipping (Recruitment, Training and Certification of Deck Ratings and Saloon Ratings) Rules, 1991.

(2) (a) They shall apply to sea-going ships registered under the Bangladesh Merchant Shipping Ordinance, 1983 and foreign flag ships intending to employ Bangladeshi seafarers as Deck & Saloon Rating.

(b) Notwithstanding the provisions of clause (a), in respect of ships operating between locations in such areas as may be specified, the Director General may, in conformity with international practices, grant exemption from all or any of the provisions of these rules for classes of cases or individual case on terms and conditions as he may so specify and may, subject to giving reasonable notice, alter or cancel any such exemption.

2. Definitions : In these rules, unless there is anything repugnant in the subject or context,—

(a) "Department" means Department of Shipping, Government of the People's Republic of Bangladesh;

(b) "Director General" means Director General, Department of Shipping;

(c) "Ordinance" means the Bangladesh Merchant Shipping Ordinance 1983 (XXVI of 1983);

(d) "Qualified Deck Rating and Qualified Saloon Rating" means a rating who is qualified as a Deck Rating or Saloon Rating, as the case may be, in accordance with these rules and issued with an appropriate certificate;

(e) "Rating" means a crew member other than an officer or a cadet;

(f) "Schedule" means a schedule to these rules;

(g) "Sea Service" means service under crew agreement on board a sea-going ship as a qualified deck rating or a qualified Saloon rating or a trainee as either.

3. Classes of Certificates : Classes of certificates to be issued to deck rating or saloon rating as the case may be, under these rules shall be as follows :—

(a) Certificate of Deck Rating forming part of a Navigation Watch;

(b) Certificate of AB Seaman;

(c) Certificate of Ship's Cook.

4. Recruitment of Deck Ratings and Saloon Ratings:

(a) General recruitment policy of deck ratings and saloon ratings shall be determined by the Government from time to time taking into account the employment situation and the need for fresh seamen.

(b) A selected applicant for training as a deck rating or a saloon rating shall be required to furnish an undertaking as given in Schedule II prior to joining the training.

5. Deck Ratings : (1) The minimum qualifications and other requirement for recruitment of Trainee deck ratings shall be as follows :—

(a) Educational Qualification	..	Secondary School Certificate.
(b) Age	..	Between 17 and 24 years.
(c) Health and Physique	..	Sound physical and mental health with emphasis on hearing and eye-sight and free of any such disease which may affect a career at sea. A candidate with bad stammering, cardio-vascular disease, T. B. or diabetes will not be acceptable. Height 1600 mm; Chest 816 mm with expansion capability of 50 mm; Weight 50 kgs or proportionate to height

(d) A candidate selected for traning as a deck rating will undergo a course of training which shall include Basic Sea Survival/Personal Survival Techniques, Basic First Aid and Fire Fighting as specified in the International Convention on Standards of Traning Certification and Watch-keeping for Seafarers, 1978 (hereinafter referred to as STCW '78). A deck rating will also be trained how to steer the ship on a given course or by helm orders, switch over to auto steering from hand and *vice versa*, and on bend knots, hitches and splices of ropes and wires, maintenance of look-out on the Bridge, sounding by hand led line, sounding of tanks and bilges operation of winch, windlass and capstan, and on Knowledge of pyrotechnic distress signals and emergency duties. Further details of the training will be as per IMO Model Course for training of deck ratings. On successful completion of such training a trainee deck rating will be issued with a certificate of Personal Survival Techniques as per resolution 19 of the STCW' 78 and will be eligible for employment on sea-going ships as OD/Seaman or OD/Deck Rating.

(2) On completion of one year satisfactory sea-service as a deck rating and production of a steering certificate from the Master of the ship, if the seaman can satisfy the shipping master that he fulfils the conditions and requirements as laid down in Reg. II/6 of the STCW'78, he may be issued with a certificate of Deck Rating forming part of a Navigational Watch and be eligible for employment as Helmsman.

(3) On completion of 2 years of sea-service and production of Survival Course Certificate (CPSC) and EDH Certificate, the seaman may be certified as AB seaman in accordance with ILO Convention on AB Seamen, 1946, and be eligible for employment as such.

(4) Deck Ratings Special Category : (a) Depending on the requirements carpenters, Plumbers, Pumpmen and deck fitters may be recruited for training as deck ratings. The syllabus for training will be same as for other Deck ratings as outlined in clause (d) of sub-rule 1 and on completion of training, a certificate on Personal Survival Techniques will be issued.

(b) A candidate selected for this category must be in possession of a diploma or a Trade Certificate in the relevant field, such as, carpentry, mechanical or power engineering from a Polytechnic or Technical Institute recognized by the Government in addition to Secondary School Certificate. Upper age limit will be 24 years and standard of health and physique will be the same as outlined in clause (c) of sub-rule 1.

(c) On completion of one year satisfactory sea servivce and production of steering certificate from the Master of a ship a special category deck rating may be issued with a Certificate of deck rating forming part of a Navigational Watch in accordance with Reg. II/6 of the STCW '78 Convention.

(d) On completion of two years of satisfactory sea-service and production of Survival Course Certificate (CPSC) and EDH certificate, a special category deck rating may be issued with a AB Seaman certificate.

(5) Deck Rating Ex-Navy : Persons under 45 years of age who have serv Bangladesh Navy for at least 10 years in the Seamen Branch may apply fo enrolment to the Shipping Master as OD/seaman or OD/Deck Rating an on production of a Steering Certificate will be eligible for issuance of certi cate of Deck rating forming part of a Navigational Watch as stated in Re II/6 of STCW '78. On completion of two years satisfactory sea service an production of Survival Course Certificate and EDH Certificate, such a seame may be issued with a AB Seaman certificate.

(6) Deck Bosun : A Deck rating including a special category deck ratin who has served at sea for at least 5 years after obtaining a certificate as A Seaman may apply to the Shipping Master for eligibility for employmen as Deck Bosun. Candidates will be placed for this purpose, before Selection Board appointed by the Director General.

(7) Service on Tankers : A Deck rating who has either served on O Tankers for at least twenty four months or has attended a familiarizatio course on safety aspects of service on Oil Tanker will be issued with a certi ficate as shown in REC 7.

6. Saloon Ratings—Stewards : (1) The minimum qualification and othe requirement for recruitment of Trainee stewards shall be as follows:

(a) Educational qualification : Secondary School Certificate and certificate from the Bangladesh Parjatan Corporation Training Institute or other recognised training Instititute of having done a course of the relevant trade.

(b) Age : Between 17 and 24 years.

(c) Health & Physique : Sound physical and mental health with emphasis on hearing and eye-sight and free from any such disease which may affect a career at sea. A candidate with bad stammering, cardio-vascular disease, T.B. or diabetes will not be acceptable. Height 1600 mm, chest 816 mm with expansion capability of 50 mm. and weight 50 kgs or proportionate to height.

(d) A candidate selected for training as a saloon rating—steward will undergo a course of training which shall include Personal Survival Techniques, Fire-fighting and Basic First Aid as specified in STCW '78. A steward will also be trained in preparation and presentation of tea, coffee, drinks, snacks and sandwiches, service in Saloon/Mess for casual/formal dinners, cleanliness and upkeep of accommodation including baths/toilets, cleanliness and upkeep of stores, pantry, crockery, cutlery, etc,. making beds and changing linen, guiding passengers to emergency stations etc. On successful completion of the training, a trainee Saloon rating will be issued with a certificate of Personal Survival Techniques in accordance with Resolution 19 of STCW' 78 and will be eligible for employment on sea-going ships as Steward-II.

(2) On completion of two years satisfactory sea-service as Steward II the rating will be eligible for employment as Steward or Steward-I or Pantryman.

(3) Steward—Ex-Navy : Persons under 45 years of age who have served Bangladesh Navy as a Steward for at least 10 years may apply for enrolment to the Shipping Master as Steward-II. On completion of two years satisfactory sea service as Steward-II, the rating will be eligible for employment as Steward or Steward-I or Pantryman.

(4) Chief Steward : A rating who has served for atleast 5 years as Steward or Steward-I or Pantryman, obtained CPSC and has developed typing capability of atleast 30 w.p.m may apply to the Shipping Master for eligibility for employment as Chief Steward . For this purpose, the candidates will be placed before a Selection Board appointed by the Director General.

(5) Saloon Rating—Cooks : The minimum qualification and other requirements for recruitment of Trainee Cooks shall be as follows :—

(a) Educational Qualification : Secondary School Certificate and a certificate from the Bangladesh Parjatan Corporation Training Institute or other recognised Institute of having done a course on cooking.

(b) Age : Between 17 and 24 years.

(c) Health and Physique : Sound physical and mental health with emphasis on hearing and eye sight and free from any such disease which may affect a career at sea. A candidate with bad stammering, cardio-vascular disease, T.B. or Diabetes will not be acceptable. Height 1600 mm, Chest 816 mm with expansion capability of 50 mm and weight 50 kgs. or proportionate to height.

(d) A candidate selected for training as a saloon rating-cook will undergo a course of training which shall include Personal Survival Techniques, Basic Fire-fighting and Basic First Aid as specified in STCW '78. A cook will also be trained in preservation of food and provisions specially those relating to meat, fish and poultry, gradation of food-proteins, fats, etc., utensils-pots, pans, skillets, etc., peeling, cutting dressing, topping, etc., different joints and methods of cutting, cooking-Bangladeshi/European/Continental, Chinese, egg-fried, boiled, omletee, scrumble, baking-bread, rolls, biscuits and cakes, curry puff (hot patties), soups and broth, chop, cutlet, steak, burger, roast and stew, rice-polao, biryani, fried rice and bhuna khichri, chop-suey and chow-mein, kofta, kabab and curry, salads and cock-tails, chapatti, puri and paratha, desserts-firni, halwa, zardas, shahi tukra, custard, trifle pudding, ice cream fruit jelly, tea, coffee, cocoa and chocolates, cleaning of utensils, galley, pantry and store rooms specially cold rooms. On successful completion of training a candidate will be issued with a certificate of Personal Survival Techniques in accordance with Resolution 19 of STCW '78 and shall be eligible for employment as Cook-II.

(6) On completion of two years satisfactory sea service as cook-II the rating will be eligible to appear at the Examinations of Cooks to be conducted by the Director General and if successful, will be issued with a certificate of Cook in accordance with the ILO's Certification of Ships' Cooks Convention, 1946. A rating holding this certificate will be eligible for employment as Chief Cook or Cook-I.

(7) Cooks—Ex-Navy : A person under 45 years of age who have served the Bangladesh Navy for at least 10 years as Cook may apply to the Shipping Master for enrolment as Cook-II.

On completion of 2 years satisfactory sea service as Cook-II, the rating will be eligible to appear at Examination of Cooks to be conducted by the Director General and if successful, he will be issued with a certificate in accordance with the ILO's Certification of Ships' Cooks Convention, 1946. A rating holding this certificate will be eligible for employment as Chief Cook or Cook-I.

7. Rating of Other Categories : Ships may be allowed to employ Topass, Barbar, Washerman or Pharmacist for which specific approval of the Director General shall be required. They may be recruited from amongst those who apply for recruitment as trainee deck ratings fulfilling the requirements but fail to get so selected.

8. A deck rating or a saloon ratining of any category, who holds a CDC on the date of commencement of these rules, but does not fulfil the educational and other conditions of his capacity laid down in these rules, will be eligible for employment in his capacity until he attains the maximum age limit.

9. Specimen of Forms and Certificate: The specimen of forms and proforma of various applications, certificates etc., shall be as given in Schedule I.

এম, আজিজুল হক
সচিব।
(M. Azizul Huq)

বাংলাদেশ গেজেট

অতিরিক্ত সংখ্যা

কর্তৃপক্ষ কর্তৃক প্রকাশিত

বুধবার, জুলাই ২৪, ১৯৯১

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

নৌ-পরিবহন মন্ত্রণালয়

তারিখ, ৪ঠা শ্রাবণ, ১৩৯৮/২৩শে জুলাই, ১৯৯১

No. SRO ২২৩-আইন/৯১-JAHAJ-2/BIDHI-9/90—In exercise of powers conferred by section 95 of the Bangladesh Merchant Shipping Ordinance, 1983 (XXVI of 1983) the Government is pleased to make the following rules, namely :—

1. **Short title, commencement and application**—(1) These rules may be called the Bangladesh Merchant Shipping (Recruitment, Training and Certification of Engine Ratings) Rules, 1991.

(2) They shall come into force on such date as the Director General, Department of Shipping may, by notification in the official Gazette, appoint.

(3) (a) They shall apply to all Bangladesh sea-going ships having registered power of not less than 350 Kilowatt except fishing vessels and pleasure crafts.

(b) Notwithstanding the provisions of clause (a), in respect of ships operating between locations in such areas as may be specified, the Director General may, in conformity with international practices, grant exemptions from all or any of the provisions of these rules for classes of cases or individual case on terms and conditions as he may so specify and may, subject to giving reasonable notice, alter or cancel any such exemption.

2. **Definitions**—In these rules, unless there is anything repugnant in the subject or context,—

(a) "Director General" means the Director General of the Department of Shipping, Government of the People's Republic of Bangladesh;

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(b) "Limited Voyage" means voyage between ports and places located in the Bay of Bengal between Singapore on the South-East and Colombo on the South-West; and such near coastal voyages anywhere else as may be determined by the Director General for the duration of such engagement;

(c) "Qualified Engine Rating" means a rating who is qualified as such in accordance with these rules and issued with appropriate certificate;

(d) "Rating" means a member of a ship's crew other than master or Officer or Cadet ;

(e) "Schedule" means a schedule to these rules ;

(f) "Sea-going ships" means a ship engaged on unlimited or limited voyage other than those which navigate exclusively in inland waters or waters within or closely adjacent to sheltered waters or areas where port regulations apply;

(g) "Sea service" means service under crew agreement onboard a sea going ship as a qualified engine rating or a trainee;

(h) "Unlimited voyage" means voyages any of which could be beyond the limits of limited voyage.

3. **Classes of Certificates**—(1) Classes of certificates to be issued to engine ratings under these rules shall be as follows :

(a) Certificate of Engine Rating to form Part of an Engine Room Watch;

(b) Certificate of Engine Rating nominated as the Assistant to the Engineer Officer in Charge of the Watch ; and

(c) Certificate of Special Category Engine Rating.

4. **Recruitment of Engine Ratings :**

(a) General recruitment policy of engine ratings shall be determined by the Government from time to time taking into account the employment situation and the need for fresh seamen.

(b) A selected applicant for training of engine rating shall be required to furnish an undertaking as given in Schedule I prior to joining the training.

5. **Engine Ratings :**

(1) **Trainee Engine Ratings :**

The minimum qualification and other requirements for recruitment

(b) Age : Between 17 and 23 years;

(c) Health & Physique : The candidate must possess sound physical and mental health with emphasis on perfection of hearing and eye-sight and weight proportional to height. He must be free of any such disease which may affect a career at sea. A candidate with bad stammering, cardio-vascular disease, T.B. or diabetes will not be acceptable; and

(d) A canidate selected as a trainee engine rating will undergo a course of training regarding fire-fighting, basic first aid, basic sea survival/personal survival techniques, health hazards and personal safety. On successful completion of these, the trainee engine rating will be issued with a Certificate of Personal Survival Techniques (as per resolution 19 of International Convention on Standards of Training, Certification and Watch-keeping for Seafarers, 1978.

(2) **Ordinary Engine Rating :**

On obtaining the certificate on personal survival techniques as mentioned in sub-rule (1), a rating will qualify to join ships as Ordinary Engine Rating.

(3) **Engine Rating forming part of an engine room watch :**

On completion of two years' satisfactory sea-service as ordinary engine rating, a seaman may apply to the Shipping Master for an Oral examination for certificate of Engine rating forming part of an engine room watch to be taken by a Board of Examiners consisting of at least two members and appointed by the Director General. The candidate must satisfy the Board as to his:—

(i) ability to understand orders and that he is generally conversant with matters relevant to his duties;

(ii) knowledge of engine room watch keeping procedures and the ability to carry out a watch routine appropriate to his duties;

(iii) knowledge of terms used in machinery spaces and names of machineries and equipments relative to his duties :

(iv) knowledge of safe working practices as related to engine room operations;

(v) knowledge of basic environmental protection procedures;

(vi) ability to keep a boiler watch and maintain the correct water levels and steam pressures as well as knowledge of the safe operation of boilers ;

(vii) familiarity with his watch keeping duties in the machinery spaces on the ship on which he is to serve, in particular, with respect to that ship the rating shall have :

(a) knowledge of the use of appropriate internal communication systems ;

(b) knowledge of escape routes from machinery spaces;

(c) knowledge of engine room alarm systems and ability to distinguish between the various alarms with special reference to fire extinguishing gas alarms;

(d) familiarity with the location and use of fire-fighting equipment in the machinery spaces ;

(e) knowledge of use of various tools used in the engine room and other machinery spaces ;

(f) knowledge of dangers due to leakage of fuel oils, luboils ;

(g) knowledge of sounding bilges, tanks, operation of small pumps (e.g. bilge pump, general service pump, sludge pump, emergency bilge pump, emergency fire pump, etc.).

(4) **Engine ratings nominated as the Assistant to the Engineer Officer in charge of the Watch:**

On completion of three years' satisfactory sea service as Engine Rating forming part of an Engine room watch, a seaman may apply to the Shipping Master for an Oral examination for a Certificate of Assistant to the Engineer Officer in charge of the watch to be taken by a Board of Examiners consisting of at least two members and appointed by the Director General. An engine rating must satisfy the Board as to his :

(i) Knowledge of the function, operation and servicing of main propulsion and auxiliary machinery ;

(ii) Knowledge how to use hand tools and portable power tools;

(iii) ability to read indicating instrument related to his watch keeping duties and understand the significance of the readings;

(iv) Knowledge of the function, operation and servicing of the various pumping systems.

(5) Special Category Engine Ratings :

Depending on the requirements, fitters, Diesel Mechanics, Refrigeration Mechanics, Drivers for Cargo pumps and Electricians may be recruited as trainee Special Category Engine Ratings. The selection and training of these ratings shall be as follows :

(a) Trainee Special Category Engine Rating :

(i) Educational qualification : The candidate must be in possession of a Diploma (not less than 3 years duration) from a Polytechnic or Technical Institute recognised by the government in addition to Secondary School Certificate.

(ii) Age : Below 25 years.

(iii) Health & Physique : The candidate must possess sound physical and mental health with emphasis on perfection of hearing and eye-sight. He must be free of any such diseases which may affect a career at sea. A candidate with bad stammering, cardio-vascular disease, T.B. or diabetes will not be acceptable : and

(iv) A candidate selected for this category, must also undergo a course of training regarding fire-fighting, basic sea survival/ personal survival techniques, basic first aid and health hazards. On completion of this, he will be issued with a Certificate on personal survival Techniques as per resolution 19 of STCW. 1978).

(b) Special Category Engine Rating on Probation:

On obtaining the certificate on Personal Survival Techniques, as mentioned in clause (a) a rating will qualify to join ships as Special Category Engine Rating on Probation:

(c) Special Category Engine Rating:

On completion of two years satisfactory sea-service as a 'Special Category Engine Rating on Probation,' a rating may apply to the Shipping Master for a Certificate as 'Special Category Engine Rating'. For this purpose the Candidates will be placed before a Selection Board

(d) On completion of two years' satisfactory sea service as a 'Special Category Engine Rating on Probation' a rating may also apply to the Shipping Master for an oral examination for a certificate of Assistant to the Engineer Officer in Charge of the Watch, For this purpose, the candidate shall have to undergo the oral examination as outlined in sub-rule (4).

Engine Bosun :

A qualified engine rating who has served satisfactorily at sea for at least three year's after obtaining the Certificate of 'Special Category Engine Rating', may apply to the Shipping Master for eligibility for appointment as Engine Bosun. Candidates will be placed before a Selection Board appointed by the Director General.

Existing Engine Ratings :

(a) An engine rating who holds a CDC on the date of commencement of these rule, but not issued with a certificate of personal survival technique, will, on successful completion of training on fire fighting, personal survival technique and basic first aid and health hazards, be issued with a certificate of personal survival technique.

(b) Any such engine rating with a certificate of personal survival technique issued whether before or after commencement of these rules, may apply to the Shipping Master for an oral examination for certificate of engine rating forming part of an engine room watch of a certificate of engine rating nominated as assistant to the Engineer Officer incharge of the watch. For this purpose, an engine rating shall have to undergo the oral examination as outlined in sub-rule (3) and sub-rule (4), as the case may be.

(c) A Fitter, Diesel Mechanic, Refrigeration Mechanic, Driver for cargo pumps or Electrician who holds a CDC on the date of commencement of these rule, but not issued with a certificate of personal survival technique, will on successful completion of training on fire fighting, personal survival technique and basic first aid and health hazards, be issued with a certificate of personal survival technique.

(d) Any such Fitter, Diesel Mechanic, Refrigeration Mechanic, Driver for cargo pumps or Electrician with a certificate of personal survival technique issued whether before or after commencement of these rule, may apply to the Shipping Master for a certificate of special category Engine rating. For this purpose, the candidate will be placed before a Selection Board appointed by the Director General.

(8) **Special training of Engine Rating for serving on oil tankers, chem tankers and liquefied gas tankers:**

Any engine rating required to serve on oil tankers, chemical tanl and liquefied gas tankers having specific duties and responsibilitie connection with cargo and cargo-equipments, before joining such ve must undergo one week's special training as approved by the Direc General. This training will be in addition to the normal trainings engine ratings as laid down in these rules. On satisfactory complet of such training the rating will be issued with appropriate Certific or his existing Certificates will be endorsed accordingly. The train will include recommendations as per resolutions 10, 11 & 12 of Inter tional Convention on Standards of Training, Certification & Wa keeping for Seafarers, 1978.

(9) **Engine Rating-Ex Navy:**

(a) Any person under 45 years of age who has served Bangladesh N for at least 6 years in any capacity in the Engineering Branch i apply for enrolment with the Shipping Master as Ordinary En Rating. But before, joining a vessel as Ordinary Engine Rating shall obtain Certificate of Personal Survival Techniques after un going necessary course of training as outlined in clause (d) sub-rule (1).

(b) Any such ordinary engine ratings issued with a certificate of p sonal survival technique, may apply to the Shipping Master for oral examination for certificate of engine rating forming part engine room watch or a certificate of engine rating nominated assistant to the Engineer Officer in charge of the watch. For purpose an engine rating shall have to undergo the oral exami tion as outlined in sub-rule (3) and sub-rule (4), as the case may

6. **Fees :** Necessary fees as decided by the Government shall have tc paid at the time of every application for recruitment, training, examination, et

7. **Specimen of Forms and Certificates :** The specimen of forms and p forma of various applications, certificates, endorsements, etc. shall be as gi in schedule II.

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Appendix - 7 Selection Board for New Recruits (1990)

1. Principal, Seamen Training Centre : Chairman
   (In the absence of the Principal, Vice-Principal to act as Chairman)
2. Shipping Master, Govt. shipping office : Member
3. Representative from the Ministry of Shipping : Member
   (not below the rank of Assistant Secretary)
4. Representative from the Department of Shipping: Member
   (not below the rank of Assistant Director)
5. Representative from Bangladesh Shipping Corporation : Member
   (not below the rank of Assistant General Manager)
6. Directorate of Seamen and Immigration Welfare : Member
   (not below the rank of Assistant Director)
7. Competent representative of Foreign Ship Owners Agent : Member
8. Competent representative of Bangladesh Ocean-going Ship Owners Association : Member
9. Representative of Seamen's Union * : Member
   (to be nominated by the Director of Seamen and Immigration Welfare)
10. Instructor of Relevant Trade, Seamen Training Centre : Member-Secretary

The presence of six members including the chairman will constitute a quorum and at least one member should be present from serial number 7 and 8.

* Serial number 9 has recently been omitted from the list.

Appendix - 8 Proforma of undertaking by a trainee

SCHEDULE II

(see rule 4)

Undertaking to be furnished by a Trainee Deck/Saloon Rating
(On non-judicial stamp paper)

I, ... S/o... .....

of village..... .....P.O.....P.S.....

Dist. .. ..hereby solemnly promise and agree that I shall abide by the rules, codes, conducts and orders given by the appropriate authorities.

I shall remain obliged to accept any punishment impised on me by authority concerned if I fail to abide by rules, codes, conducts and orders. I also pledge to abide by the following :

(1) I shall obey all the disciplinary and good conduct rules of Seamen's Training Centre and of any ship where I may be employed as a trainee rating in any capacity.

(2) I shall obey all lawful orders/instruction of my Seniors at ashore and afloat under whom I may be working.

(3) When I am employed on a ship shall be obliged to go to any place/ places where the ship may call and carry out orders/instructions given to me on emergency situation.

(4) I shall not under any circumstances desert the ship or shall not leave without prior permission of the Master or Owner in any foreign port when I am employed on board a ship.

(5) I shall not claim any financial gain of any kind other than with has been agreed upon in the article of agreement of the ship or agreed with Master or Owner of the ship. I shall not instigate anybody to claim any financial gains other than agreed wages.

(6) I understand that failure to comply with any of the above conditions may entail cancellation of my Continuous Discharge Certificate (CDC).

Signature of Guardian	Signature of Trainee Rating
Name	Name .....
Date	Date .....
Full address.....	Full address .....
.....	.....
.....	.....

Signed in front of me on.....

Signature of Principal
Seamen's Training Centre.

Appendix - 9 Current Equipment Status at Seamen Training Centre

Name of equipments	Number
1. Lifeboats	2
2. Oars	5 set
3. Steering oar	1
4. Boat hooks	2
5. Crutches	5 sets
6. Rudder	1
7. Lifeboat lamp	1
8. Mast	1
9. Sails	1 set
10. Boat compass	1
11. Sea anchor	1
12. First aid kit	1
13. Day light signalling mirror	1
14. Buoyant heaving lines	2
15. Manual pump	1
16. Whistle or sound signal	1
17. Lifebuoys	5
18. Foam extinguisher	5
19. Water-CO2 extinguisher	5
20. Nozzle	2
21. Safety lamp	1
22. Flag mast	1
23. International code flags	1 set
24. National flag	1 set
25. Ship's model showing the construction	1
26. Navigation light	1
27. Thermometer	1
28. Sea water thermometer	1

(2)

Name of equipments	Number
29. Bosun's chair	1
30. Set of deck tools	1
31. Triangle for cargo gear	1
32. Various shackles	7
33. Turnbuckle	1
34. Hatchet	1
35. Chipping hammer	1
36. Three square sirapen	1
37. Sail yarn in reels	2
38. Yarn in reels	1
39. Magnetic compass	1
40. Assorted blocks (cargo & other)	4
41. Sheave for block	1
42. Swivel	1
43. Monkey plate (triangle)	1
44. Shackle several kind	6
45. Mooring shackle	1
46. Lifeboat equipment crate	1
47. Steering stand	1
48. Anchor (small)	1
49. Bollard with fair lead	1
50. Compass card (wooden)	1
51. Model derrick booms	2
52. Magnetic compass with binnacle	1
53. Steering padestral	1
54. Used deflated liferaft	1

Source : Department of Shipping.

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