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Reorganization and improvement of nautical training, examination and certification schemes in Somalia

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MALMÖ, SWEDEN

REORGANIZATION AND IMPROVEMENT OF NAUTICAL TRAINING, EXAMINATION AND CERTIFICATION SCHEMES IN SOMALIA

by

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Somalia

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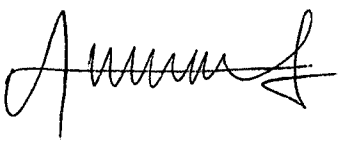
The contents of this paper reflect my personal views and are not necessarily endorsed by the UNIVERSITY.

Signature: 

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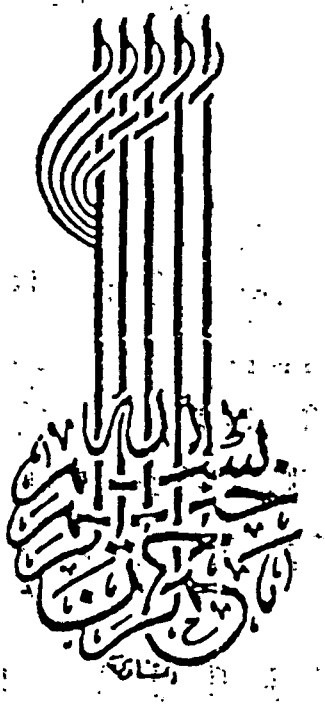

IN THE NAME OF ALLAH
THE BENEFICIENT, THE MERCIFUL

" ALLAH IS WHO HAS SUBJECTED
THE SEA TO YOU THAT SHIPS MAY
SAIL THEREON BY HIS COMMAND AND
THAT YOU MAY SEEK OF HIS BOUNTY
AND THAT MAY BE GRATEFUL "

A L - Q U R A N

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PREFACE

The present nautical training, examination and certification of Somalia does not meet the requirements of International Convention on Standard of Training, Certification, and Watchkeeping for Seafarers, 1978 (STCW Convention).

Due to these deficiencies, the Somali government has been sending its cadets to the Arab Maritime Transport Academy in Sharjah and other maritime colleges training and certification.

In the light of the above, I intend to propose an improvement of nautical training, examination and certification schemes for Somalia in order to comply with the minimum requirement laid down by the STCW Convention.

Chapter 1 of this paper will deal with the introduction of maritime history, coastal geography and present maritime administration.

Chapter 2 describes the nautical training, examination and certification schemes in Somalia today. It covers areas such as syllabus/curriculum and admission requirements.

Chapter 3 compares present nautical training in Somalia and nautical training required by the STCW Convention.

Chapter 4 proposes reorganized and improved nautical training, examination and certification schemes for meeting the requirements of STCW Convention.

Chapter 5 contains conclusions and implementation.

REORGANIZATION AND IMPROVEMENT OF NAUTICAL TRAINING, EXAMINATION AND CERTIFICATION SCHEMES IN SOMALIA

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 Maritime History

Uncertain legendary reports dated the third millenium B.C. had it that Somalia has had ancient commercial ties with some parts of the Arabian gulf area and Egypt.

Somalia being situated at the Horn of Africa had a beautiful environment which attracted the attention of the desert dwellers of Arabia across the Red sea and Gulf of Aden for a profitable trading position with the inhabitants of the Horn of Africa vis-a-vis their neighbours on the opposite shore of the Red Sea.

Although Somalis are not good fishermen, they are talented seamen. For centuries they sailed with their dhows across the Gulf of Aden, the Arabian sea and the Indian ocean. Most of the trade between Somalia and the Gulf is up to now carried by these dhows owned by Somalis. These are primitively built vessels which have not changed in their design since the days of Sindbad.

Somali seamen ventured abroad and were well known in the British merchant fleet. Most of the present Somali population living in the U.K are descendents of these sailors.

Somalia had been under colonial powers between 1984 and 1960 before she gained her independence.

With the attainment of the independence in 1960, Somalia inherited a total vacuum in the field of shipping. Somalia had been dependent on foreign owned and operated ships for the carriage of its international seaborne trade.

In 1970, the Somali government established the Marine and Fisheries Institute. The general objectives of the Institute was to impart both theoretical and practical training in the field of nautical science, fisheries and marine mechanics to promote maritime and fishing activities.

In 1972, when the volume of trade increased and the market of inbound and outbound commerce widened, the government decided to create the shipping company which was started with the acquisition of 4 second hand ships with the following particulars:

Type of the ship	built	GRT
1. " Juba", banana carrier	1963	5170
2. " Banadir", banana carrier	1964	4766
3. " Boolimog", general cargo carrier	1971	1360
4. " Pundland", general cargo carrier	1960	641

Due to old age, increased maintenance, and the repair costs, it was difficult to run some of these ships. The company decided to sell three of these ships and replace them with the new ones.

In 1975, the Somali government which is a member of Arab League started to give fellowships for a small number of the graduates of Marine and Fisheries Institude to study

at the Regional Training Center of Arab League in Egypt for watchkeeping officers and higher courses in order to obtain certificate of competency. The training program provided by the Marine and Fisheries Institute was not adequate to train watchkeeping officers due to shortage in training facilities. The annual training requirements were very small as the country's national tonnage was very small.

In 1978,the government established a Marine Department as one of the Departments of the Technical Teachers College to prepare teachers for the Marine and Fisheries Institute but the Graduates were not qualified to teach some of the courses required due to lack of training facilities and the lack of qualified maritime lecturers as well as maritime expertise in the Technical Teachers College.

In 1980,the Regional Training Center of Arab League was transfered to Sharjah,U.A.E when the membership of Egypt in the Arab League was suspended.

During the last few years, the government stopped overseas training of her cadets and did not utilize the Arab Maritime Transport Academy, Sharjah because of the high fees (US dollar 5000 per annum) which were to be paid for a sponsored student. Besides this, the membership contribution to the Arab maritime Transport academy was US dollar 60,000 per annum.

In 1988, the government started a program of sending national maritime teachers to World Maritime Univesity for Maritime Education and Training Course (nautical) and Maritime Education and Training Course (marine engineering) in order to get higher qualifications in the

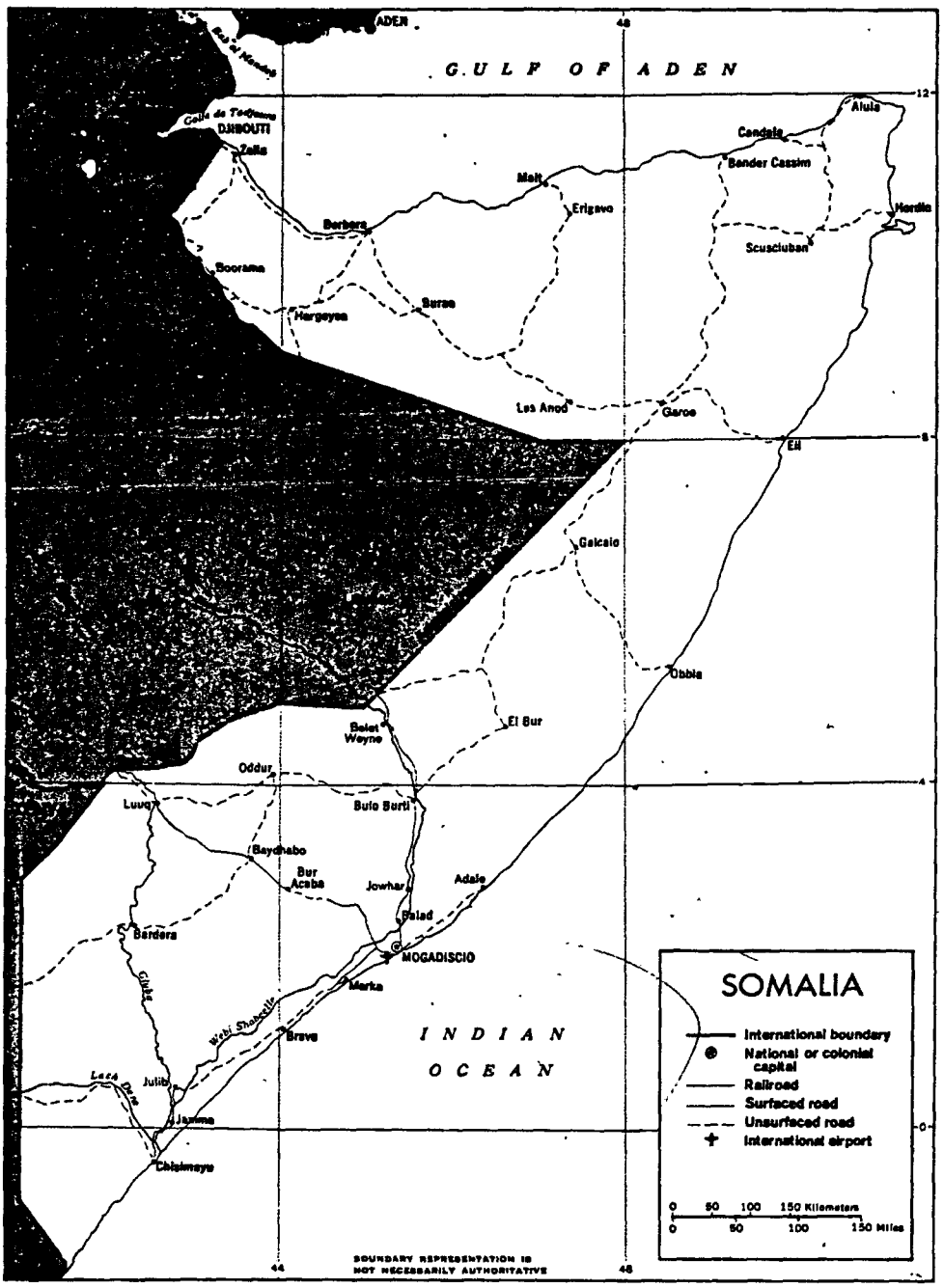
maritime field so that they will be able to train and examine the national seafarers. Upto now there is only one who attended the World Maritime University for Maritime Education and Training (nautical).

1.2 Coastal Geography

1.2.1 General

The Somalia Democratic Republic lies in East Africa. It has a coastline on the Indian Ocean and Gulf of Aden, forming the "Horn of Africa". To the North, Somalia faces the Arabian Peninsula, with which it has had traditional trade links.To the north west it is bounded by the Republic of Djibouti, while its western and Southern neighbours are Ethopia and Kenya.

The coastline of Somalia extends about 3330 km from Cape(Ras) Kiomboi in the South to Loyado in the North.It is the longest coast in the African Continent, after the coast of South Africa. The north east consists of a series of sandy bays interrupted by rocky promontories extending into the sea to a shallow depth. There are no coral reefs in the coast. There is a steep slope in the bottom and the extension of the continental shelf is very limited. The two hundred miles contour line extends, for most of the coastline only ten to fifteen kilometers from the shore. The continental shelf extends fifty kilometers from the shore to Ras Asir. The shelf mainly sixteen to thirty kilometers wide. Many trawlable areas exist along this part of the coast. Somalia has an exclusive economic zone (EEZ) of two hundred miles and a total continental shelf of thirty nine thousand square kilometers.


ADEN
Bab el Mandeb
G U L F O F A D E N
Golfe de Tadjoura
DJIBOUTI
Zeila
Aluula
Candala
Bender Cassim
Hafun
Mait
Erigavo
Berbera
Scusciuban
Boorama
Burao
Hargeysa
Las Anod
Garoe
El
Galcaio
Obbia
El Bur
Belet Weyne
Oddur
Luuq
Bulo Burti
Baydhabo
Bur Acaba
Jowhar
Adale
Balad
Berdera
MOGADISCIO
Merka
Giuba
Webi Shebeli
Brava
I N D I A N
O C E A N
Lugh Ganana
Julib
Jamame
Chisimaye
SOMALIA
International boundary
National or colonial capital
Railroad
Surfaced road
Unsurfaced road
International airport
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BOUNDARY REPRESENTATION IS NOT NECESSARILY AUTHORITATIVE
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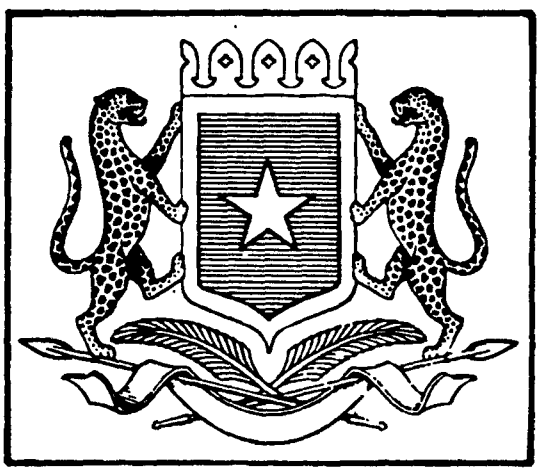


1.2.2 Coastal Activities

Most of the old cities in the Country are found along the coast, from where Somali civilization originated.

All the major commercial ports are the ancient towns. Berbera which is the major sea port for the north western part of Somalia serving particularly the inland capital cities of the two regions i.e. Hargeisa and Buro. Livestock, the Country's number one export, are shipped by the port of Berbera.

Mogadishu, the capital of Somalia situated on the shores of the Indian Ocean, is the chief seaport. It is mainly need for the import of the goods.

Kismanyo which is located on the east coast towards the south, is the major banana exporting port.

A number of small ports on the Makhir coastline handle most of the nation's trade with the Arab Gulf countries. These ports include: Hiis, Maidh, Las-koreh, Alula and Bosaso.

In 1986, export of live stock and bananas each of these made up 38% approximately of the country's total export, the remaining being hides, mollases, and canned meat. Statistics for 1985 and 1986 show that cargo handled (export plus import) amounted to 1,100,082 and 1,137,047 tons respectively.

1.2.3. Fishing activities

Somalia has 3300 km coastline and an estimated potential fisheries yield is around 180,400tons/year.However, due to extreme remoteness of scattered fishing communities and poor road communications less than 1% of the fisheries resource is exploited.

The Ministry of Fisheries and Marine Transport is responsile for fishing activities in Somalia. Its main funtions include:

1. The establishment of fisheries strategies and policies.
2. Implementation of the necessary structural changes in the fishing communities.
3. The establishment of fishing companies and the involvement of the national enterpreneurs in the fisheries sector.
4. The creation of skilled fisheries manpower.

The Artisanal Sectors

There are 28 small coastal settelements with a total population of about 90,000, many of them depend on fishing as their main source of livelihood for at least part of the year.However, number of fulltime fishermen is about 4,000. Part-time fishermen are estimated 10,000.

The coastal development project which was established as technical arm of the Ministry of Fisheries and Marine Transport is responsible for the four settlement areas of Brava, El Ahmed, Eil and Adele.

Boats and Catches

The total number of traditional and motored boats in the Somali inshore fleet are :

1. Motorboats 354
2. Traditional boats 1067

According to the figures provided by the department of Fisheries, it estimated an average catch of 3.5 to 11 tons/annum per boat assuming 50% of vessels are in operation.

There are a number of fish processing industries in the country of which the most important ones are the following:

1. Laskoreh Fish Cannery
2. Boolimog Fish factry
3. Prodma Fish Processing Factory
4. Habo Tuna Cannery
5. Qandala Tuna Cannery

Bilateral Agreement on Fishing Activities

Off shore fishing activities are taken by joint venture mainly with Italian involvement notably the SOMIT which operates fishing fleet which consist of 3 67m trawler, manned by nationals and Italians.

1.3. A brief overview of the present Maritime Administration in Somalia.

The Ministry of Fisheries and Marine Transport has been recently created as a result of the unification of the

former Ministry of Fisheries and the Ministry of Marine Transport and Ports.The Ministry is responsible for the maritime administration, registration of ships, seafarers, certification of competency, ports, shipping lines, and for the development of fishing activities in the country.

The Ministry of Fisheries and Marine Transport consists of the Minister, the Deputy Minister, the Director General of the Ministry, the General Manager of Somali port Authority, and the General Manager of Shipping lines.The Director General of the Ministry who is the chief maritime administrator reports directly to the Minister and the Deputy Minister and he is further assisted by six Departmental Heads namely: Planning Contracts Department, Research and Training Department, Marketing and Legal Department, Fisheries Development Department, Communication and Technical Department, and Marine Department.

The functions of the Ministry of Fisheries and Marine Transport fall into the principal aims and objectives mainly exercised in the head office of the Ministry. The Minister and the Director General of the Ministry carry out the duties and the responsibilities for the implementation of strategies in the administrative and technical departments.

The duties and the responsibility of the departments are delegated to Directors who directly report to the Director General. These duties include:

1. Planning and Contracts Department

1.1 Maintenance and coordination of relations with International Organizations such as IMO, UNCTAD, ILO etc;

1.2 Planning of short and long term development projects;

1.3 Planning and evaluation of needs for the port and shipping services;

2. Research and Training Department

2.2 Collection of data;

2.3 Feasibility studies;

2.4 Publications;

2.4 Development of training programmes and training needs for marine personnel of the Ministry of Fisheries and Marine Transport.

3. Marketing and legal department

3.2 To promote the output of fishing industry and thereby generate sales, revenue and profits;

3.3 To formulate law regulating fishing in Exclusive Economic Zone and fishing rights;

3.4 Creation, promulgation, and enforcement of rules and regulations for the safety of life and property at sea and protection of marine pollution;

3.5 Adoption, issuance, and promulgation of regulations

for fees, dues, and charges for ports, and for the promotion of national shipping and fishing services;

4. Fisheries Development Department.

4.1 To obtain benefits from marine resource;

4.2 To organize fishing support industries such as boat yards to build new types of vessels;

4.3 To develop a programe to make coastal settlements self-supporting;

4.4 To construct technical infrastructure such as cold storage.

5. Telecommunication & Technical Department.

This department is responsible for technical and telecommunication services in the direction and control of shipping movement and fishing activities in the territorial water of the country. It has several tasks, some of which are not currently being exercised due to lack of adequate qualified marine personnel and equipment.

6. Marine Department.

6.1 Registration of ships;

6.2 Administration, operation, and maintenance of aids to navigation;

6.3 Administration and operation of hydrographic services;

6.4 Registration of seafarers and licensing of seafarers;

6.5 Issue of certificate of competency to seafarers;

6.6 Casualty investigation;

6.7 Conciliation of disputes between master and crew of the ship.

7. Administration and Personnel Department

7.1 Financial planning, budgeting, accounting, and reporting;

7.2 Supplies and purchases, and assets management;

7.3 Personnel administration;

7.4 General office adminstration;

1.3.1. The Somali Port Authority

The Somali Port Authority was created in 1962 under the Ministry of Marine Transport as a national agency for all ports of the country and in particular to administer the ports of Mogdishu, Kismanyo, and Berbera. The funtion of SPA is to facilitate the implementation of an integrated programme for planning, development, financing, operation and maintenance of ports or port districts for the entire country.

In addition to its management, operations, and general port administration, SPA operates a wide variety power

driven vessels including:

1. 6 tug boats with individual horse powers from 750 to 1400;

2. 1 seagoing salvage tug with a horse power of 6,000;

3. 4 pilot boats.

The tugboatmasters, engineers and pilots are all marine institute graduates with little practical experience and they require a proper training in their respective fields.

1.3.2. Shipping and trade in Somalia

The major overseas trade regions are western Europe, especially Italy, USA and Saudi Arabia and to a minor extent the Far East.

Coastal freight trade within the country is more or less negligible, However it exists between Somalia, Kenya, Djibuti, and the Arabian Peninsula.

The country's main products are livestock and bananas. The Somali Shipping Agency which belongs to the government operates a coastal ship of 1,500 GRT.The Somali Shipping Cooperation which is owned by the government operates multipurpose/roro vessel of 999 GRT.

They are used for trading in the area between Djibuti, Kenya, Red sea, Persian Gulf, Gulf of Aden as well as in the local area from the North to the South. With respect to the export of the livestock and bananas, at the present time ships are chartred for that purpose.

1.3.3. The future shipping in Somalia.

In the near future it is expected to acquire an 8,000 DWT livestock carrier and a 6,000 DWT reefer, which will carry the above mentioned commodities.

The following vessels are also expected to be added to the merchant fleet of Somalia in the future:

1. One general cargo 8,000 DWT coaster to transport cement from the newly built cement factory at Berbera to Mogdishu.

2. One tanker, 2,500 DWT coaster to transport oil.

3. One livestock carrier newly built, and donated by Japan.

When the government had acheived the above mentioned vessels, it will usefully engage some of the seagoing staff who became idle and will also require more qualified and certificated officers.About 20 watchkeeping deck officers and 80 deck ratings will need to be trained.

Due to lack of national senior marine personnel, senior positions are expected to be accupied by expatriates.

1.3.4. The role of Maritime Administration in relation to training, examinations, and certification of marine personnel.

The role of maritime administration in a developing country as regards marine personnel (seafarers) needs to

cover essentially the followings:

1. Crew matters in general
2. Examination and certification of seafarers
3. Manning of ships
4. Maritime training

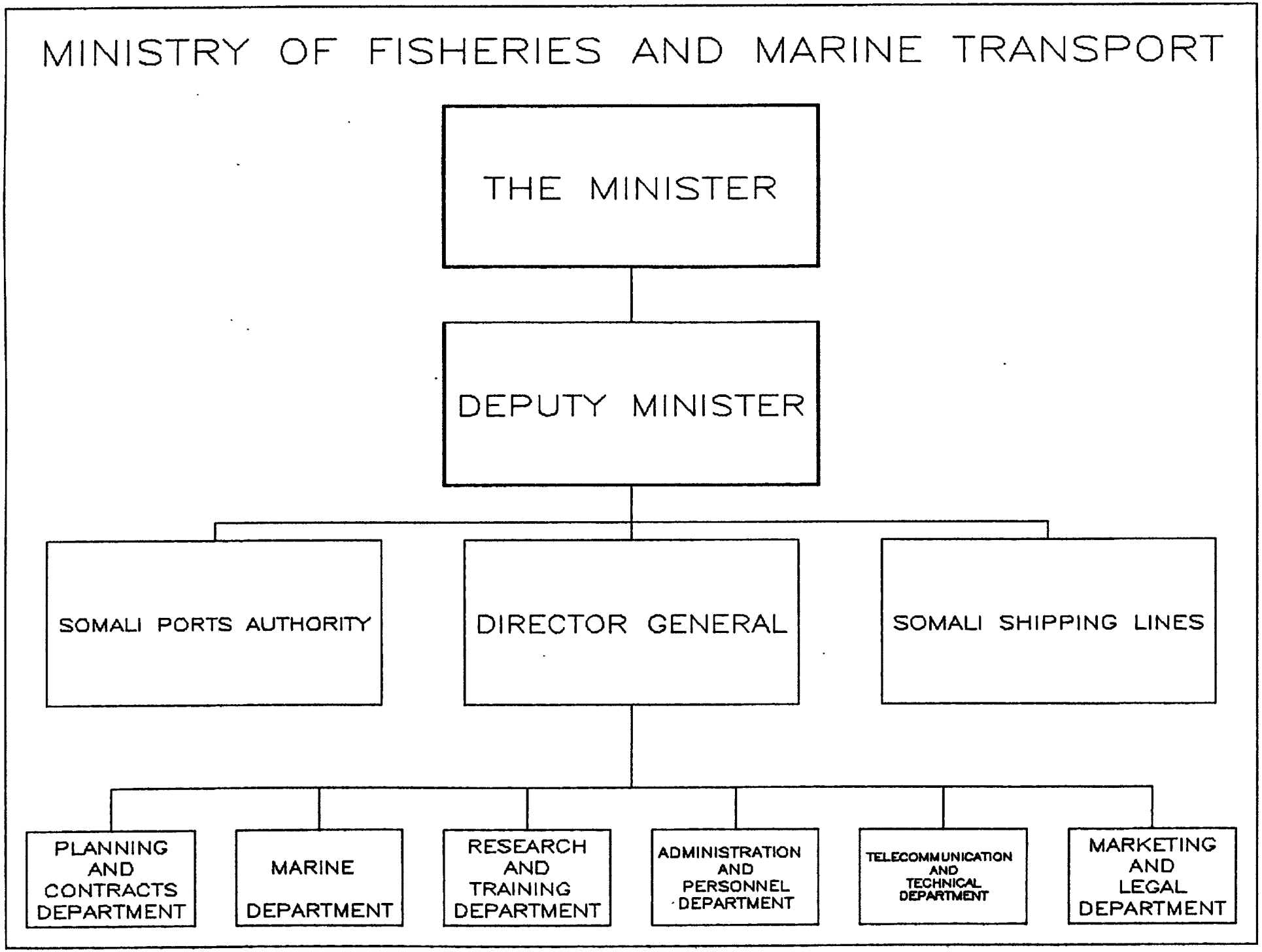
Maritime training, examination/certification of seafarers, and manning of ships are three vital inseparable links in a chain which determine the standard of safety and efficiency of operation of ships.

In the light of the above, there is no proper maritime administration in Somalia since there is no role of present maritime administration which links the above mentioned three vital elements.

In the provision of Somali maritime legislation, nothing is mentioned about the maritime training, examination/certification of seafarers, and safety manning of ships.

It is the government's belief that through training of its citizens at the World Maritime University by acquiring high scientific and technical skills, the maritime administration will be properly set up to examine and issue the certificates of competency to its seafarers.

MINISTRY OF FISHERIES AND MARINE TRANSPORT



CHAPTER 2

PRESENT NAUTICAL TRAINING, EXAMINATION AND CERTIFICATION SCHEMES IN SOMALIA

2.1 Present nautical training

2.1.1 Overview, entrance requirement, examination of various levels/schemes.

General education prerequisities for nautical training in Somalia include:

1. Elementary school
2. Intermediate school

The elementary school education starts at the age of 7-8, children enter this school for 4 years at which they complete elementary level at the age of 11-12 years, by taking an examination which will give them the elementary school leaving certificate.

The Intermediate school follows the elementary school. At the age of 12-13 years, the students enter this school for 4 years at which they complete the intermediate level at the age of 16 to 17, by taking an examination which will give them the intermediate school leaving certificate.

The following are the basic prerequisities for the entrance into the marine and fisheries institute in Mogdishu, Somalia:

1. Somali by birth
2. Higher school degree in average of all subjects.

3. To complete intermediate and elementary school.

4. The minimum age limit for entrance is between 17 years.

There are no physical or medical examination to determine who is and who is not qualified for acceptance as a candidate. For example there are no tests for eyes and colour blindness.

During 4 years of studies, the students are taught several basic and professional subjects which are necessary for training of navigation and engineering watchkeeping officers. However, the syllabus/curriculum, educational level and practical training do not meet the minimum requirements of 1978 STCW convention in respect of watchkeeping officers, as it is analysed in chapter 3.

All the teachers are the graduates of the Marine and Fisheries Institute who have been trained as a lecturers in the Marine Department of the Technical and Commercial Teachers College. However, they have no sailing experience and have not attended any pratical training courses.

Teaching is primarily classroom oriented because practical training facilities are not adequate. The institute has no library and there is a need of library books and IMO publications which are presently not available for teaching staff. The Institute is the only one which provides marine personnel for the maritime industry and there is a lack of direct contact with maritime industries since the institute is under the administration of the

Ministry of Education and Culture. There is a need of close cooperation between the Minstry of Fisheries and Marine Transport and Ministry of Education and Culture for the development of such an institute.

After completion of 4 years, the students then take an examination which will give them a marine and fisheries school leaving certificate (secondary level). After that, the graduates have to work in the National Service Program for two years. The graduates who have completed the National Service Program (military service) can apply for a job in the maritime industry or fishing industry.They also can sit an entrance examination for the Technical Commercial Teachers College, Marine Department. A few of them are employed in the shipping industry and they are normally sent on board merchant ships as cadets. The government issues second mate certificate of competency to cadets who have successfully completed two years sea service and acquired relevant experience but without examination. The Somali government does not run certificate preparatory courses (i.e. a course of each grade of certificate) to assess the knowledge requirements after experience has been acquired. This course is necessary for local trained officers to accupy senior positions (see fig.1).

The institute has a potential to provide well trained junior technical staff for the Ministry as well as sea going personnel. The present situation in the Institute makes it necessary however to adopt steps to gradually up-grade the standards for the fulfilment of these objectives. The main weaknesses are the following:

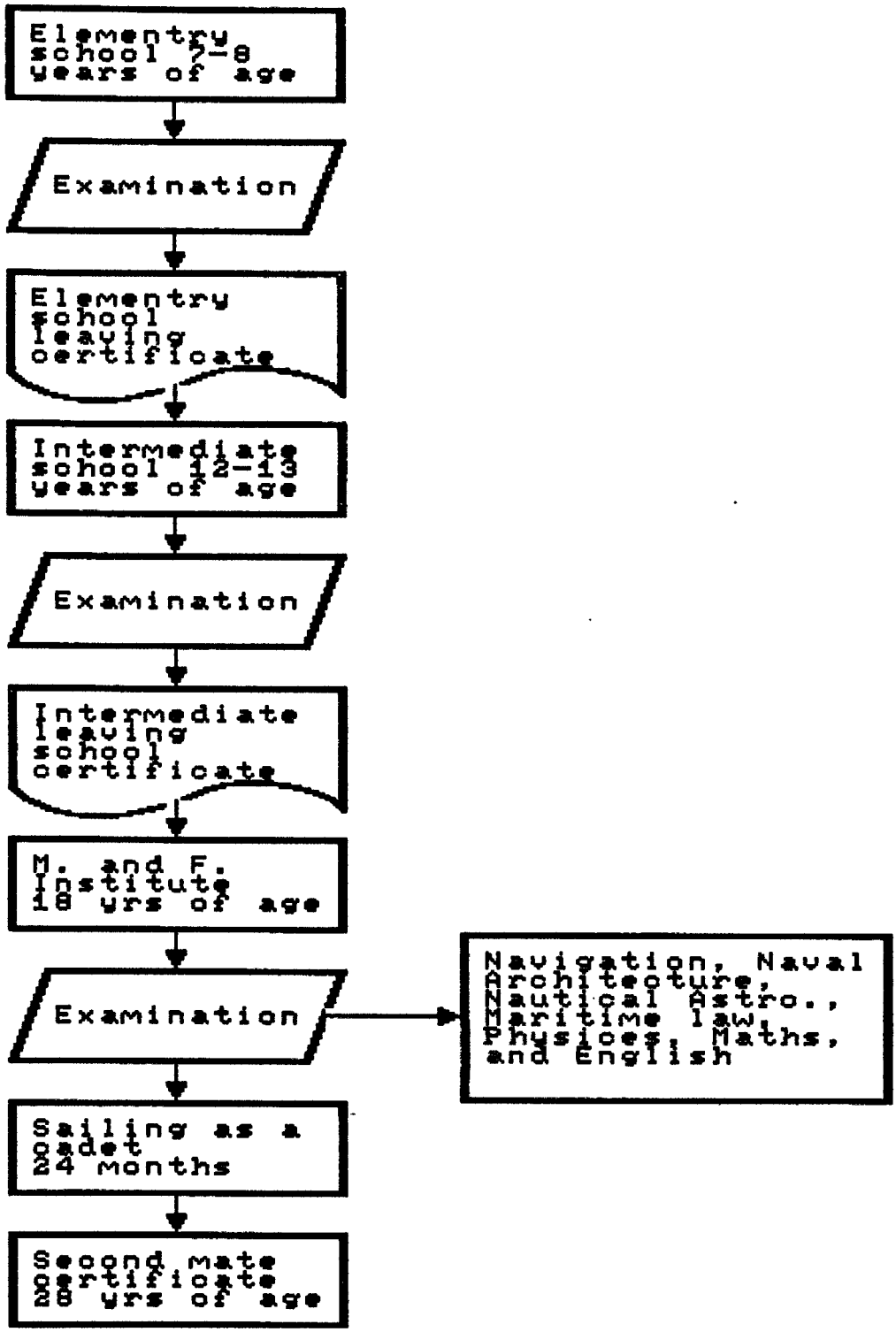


Fig.1 Requirements of nautical training of deck officers in Somalia.

- Deficient basic building infrastructure of the training Institute.

- Shortage of nautical training facilities and lack of adequate equipment

- Low standard of nautical training.

- Lack of practical training

- Lack of upgrading and specilized course to train sea going personnel at all levels, as per STCW convention.

- Lack of qualified teachers.

- Lack of adequate syllabus/curriculum.

Number of the students who attend the nautical science course are estimated 30 each year. About 25 students graduate each year.

2.2 Nautical science syllabus/curriculum

The following table shows the syllabus divided into 4 years.The figures indicate the number of periods utilized to cover each subject in the whole year.

Subjects	1st year	2nd year	3rd year	4rd year
General subjects				
Somali language	1	1	1	--
English language	6	4	4	--
Physical education	1	1	1	--

Religion	1	1	1	--
Basic science subjects				
Mathematics	8	4	4	--
Physics	4	4	--	--
Inorganic chemistry	--	2	--	--
Organic chemistry	--	2	--	--
General biology	2	--	--	--
General geagraphy	2	--	--	--
General technical subjects				
Hydrography	--	2	--	--
Oceanography	2	--	--	--
Meteorology	--	--	2	--
Technical drawing	2	--	--	--
Applied mechanics	--	--	2	--
First aid and fire fighing	--	--	--	1
Sea survival	2	--	--	--
Swimming and sea-manship training	5	6	--	--

Special technical subjects				
Seamanship	2	3	3	2
Navigation	--	2	4	4
Chartwork	--	--	4	4
Nautical astro.	--	--	4	6
Naval architecture	--	--	3	3
Cargo work	--	--	--	6
Electro-technology	--	--	2	--
Marine and fisheries law	--	--	2	2
Total =	38	32	37	28

* Each period is 45 minutes and each year comprises 36 weeks.

Pratical training:
1. 6 weeks in school boat training
3. 12 weeks on the merchant and fishing vessels.

* Some of the requirements are just on paper and are not implemented. These requirements are :
1) first aid and fire fighting 2) 12 weeks of practical training on merchant and fishing vessels.

2.3. Examination and certification for deck officers

The standard of examinations for various grades of seafarers (officers) and their appropriate certification in a country are intended to establish and provide proof competency of the respective seafarers concerned for the levels at which they have to perform duties/operate on ships. These in turn constitute the first element which determines the standards of the safety and efficiency at which the ships of the country are operated.

As far as Somalia is concerned, there is no standard of examinations for various grades of seafarers(officers) and the country does not have an authorized examination board to conduct examinations of officers for the issuance of certificates of competency.

In the provisions of the present maritime legislation/code, nothing is mentioned about examination and certification of officers(see chapter 1)

The Marine Department of the Ministry of Fisheries and Marine Transport should again be responsible for the examination and certification of officers.

In the light of the above, there are no examinations held by the Marine Department of the Ministry of Fisheries and Marine Transport for the certificate of competency in a deck capacity for service in Somali registered merchant ships.

Examinations are only those which are taken during studies in marine and fisheries institute. After 4 years of

studies students of the nautical science course sit for final examination of marine and fisheries leaving certificate on the following subjects:

1 Navigation	5.Marine law
2.Naval architecture	6.Mathematics
3.Seamanship	7.Physics
4.Astronomy	8.English

The above mentioned certificate is issued to the students who pass at least five subjects with 40% and above in each of the subjects and a minimum of 50% in the aggregate of total marks scored in five subjects.

LEVELS/SCHEMES OF VARIOUS CERTIFICATES OF COMPETENCY IN NAUTICAL EDUCATION AND TRAINING.

1.1. Master of foreign going ship
2. First mate of foreign going ship
3. Second mate of foreign going ship
4. Tugmaster

1.2. Skipper (fishing)
3. Mate (fishing)

2. DURATION OF VARIOUS NET SCHEMES IN SCHOOL TIMES AND SEA TIMES.

NET SCHEMES	DURATION IN YEARS/MONTHS	
	SCHOOL TIMES	SEA TIMES
1. Master of foreign going	----------	18 months
2. First mate foreign going	----------	18 months
3. Second mate foreign going	4 years	24 months
4. Tugmaster	4 years	24 months
5. Skipper (fishing)	----------	24 months
6. Mate (fishing)	4 years	24 months
7. Pilots	4 years	24 months

The Marine Department of the Ministry of Fisheries and Marine Transport grants certificates of competency to the officers who have already graduated from marine and fisheries institute, and have relavant sea experience but there is no special training course for them in the country. Some Somali candidates have obtained unrestricted certificates of competency by attending course in Egypt and U.K.

Requirements for the issue of certificate of competency.

Second mate foreign going: the candidates who have completed the 4 years Marine and Fisheries Institute leaving certificate or equivalent and two years of sea services. All other levels as from second mate to master mariner, are mostly those who have obtained

unrestricted certificate of competency by attending courses abroad and acquiring sea experience.

The above mentioned levels/schemes, duration and requirements of deck officers for the issuance of certificate of competency are not mentioned in the maritime code.

2.4 Resources and nautical training facilities.

2.4.1 Manpower

In the Marine and Fisheries Institute of Somalia, the number of teachers at the moment is thirty(30). The teaching staff members of nautical science section are as follows:

- Head of Nautical Science Section

- 5 lecturers

- 2 Instructors

All the lecturers of nautical science are graduates of the Technical and Commercial Teachers College.

There are no qualified examiners in the Marine Department of the Ministry of Fisheries and Marine Transport to conduct examination of seafareres. There is a need for examiners to be trained.

2.4.2 Nautical training facilities

Most of the equipment available at the Institute which is in operable status are navigational equipmemt.

The main practical training available in the Institute is two training boats which are only used for seamanship training for the students, they have no navigation equipment on board.

It is essential that for training of cadets who will become ships officers capable to man and operate modernships, the teaching staff should have thorough knowlege of modern technology.

2.4.3 Finance

The Government only provides a salary for teaching staff which is very low compared to that of sea-going staff. No funds are provided for maintenance of building, instrument and equipment used for training. There is no finance for buying new equipment as replacement for unusable old equipment and also new equipment of modern technology and develoment. Funds available to the Institute from the fees of the students is very limited due to the small number of the students and low rate of fees charged.

CHAPTER 3

COMPARISON BETWEEN PRESENT STANDARD OF NAUTICAL TRAINING IN SOMALIA AND THE REQUIREMENTS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION, AND WATCHKEEPING FOR SEAFARERS, 1978 (STCW CONVENTION)

3.1 Somalia has 2 merchant ships of more than 200 GRT . Their gross regitered tons are 999 and 1500. Graduates trained in the Marine and Fisheries Institute are employed on these ships as navigation watchkeeping or engineering watchkeeping officers. It is expected that Somali officers trained in the Marine and Fisheries Institute will also be employed on foreign ships.

The STCW Convention specifies the minimum mandatory requirements for the certification of officers.

Comparison has been made between the minimum knowledge requirements for nautical officers as prescribed in regulation II/4 of the STCW Convention (Mimimum knowledge required for certification of officers in charge of a navigational watch on ships of 200 gross registered tons or more) to the present nautical training curriculum of the Marine and Fisheries Institute in order to determine whether the training standard of the Institute meets the requirements of the Convention.

The comparison will be presented in tabular form.

3.2 Specification of "yes" and "no" in the tabular form.

Yes means subject/requirements required by the regulation II/4 of the STCW Convention and is trained for the Marine and Fisheries Institute of Somalia.

NO means subject/requirements required by the regulation II/4 of the STCW Convention but not trained for at the Marine and Fisheries Institute of Somalia.

3.2.1 Nautical science syllabus/curriculum and certification requirements.

3.2.1.1 Professional subjects

Nautical training programme shown in the appendix to Regulation II/4 of STCW Convention 1978.	Present Nautical Training programme in Somalia.
.1 English	yes
.2 Medical aid	no
.3 Celestial navigation	yes
.4 Terrestrial and coastal navigation	yes
.5 Radar navigation	no
.6 Watchkeeping	no
.7 Electronic systems of	no

position fixing and navigation.	
.8 Radio-direction finders and echo sounders	yes
.9 Meteorology	yes
.10 Compass-magnetic and gyro	yes
.11 Automatic pilot	no
.12 Radio telephony and visual signalling	yes
.13 Fire prevention and fire-fighting apparatus	no
.14 Life-saving	yes
.15 Emergency procedures	no
.16 Ship maneuvering and handling	no
.17 Ship stability	yes
.18 Ship construction	no
.19 Cargo handling and stowage	yes
.20 Search and rescue	no
.21 Prevention of pollution of the marine environment	no

From this table, it can be seen that the nautical training syllabus/curriculum of the Marine and Fisheries Institute is deficient compared to the requirements of the STCW Convention.

3.2.1.2 Certification requirements by the regulation II/4 of the Convention.	Certification requirements in Somalia.
Every candidate for certification shall:	
.1 be not less than 18 years of age;	yes
.2 satisfy the Administration as to the medical fitness, particularly regarding eyesight and hearing;	no
.3 satisfy the Administration by passing the appropriate examination that he possesses adequate practical and theoretical knowledge appropriate to his duties.	no

3.3 Detailed comparison on the equipment.

3.3.1 List of the equipment available in the Institute.

Navigational laboratory class room:

Instrument	Quantity
.1 Sextant	1
.2 Celestial Globe	1
.3 Direction finder	1
.4 Magnetic compasses	4
.5 Tools for chart	
.5.1 protractor	40
.5.2 divider	20
.5.3 parallel rules	13
.6 Equipment locker	2
.7 Filing cabinet	1
.8 Bookshelf	1
.9 Station pointer	2

.10 Shelf mounting compass	4
.11 Lecturer's desk and chair	1
.12 Navigational charts	64
.13 Sets of the admiralty light	2
.14 Sets of the admiralty tide tables	2
.15 Sets of the admiralty radio signal	1
.16 Marine chronometer	1

Other equipment such as one gyro repeater, helm stand are out of order.

The present building is adequate for the installation of the equipment.

3.3.2 Recommended list of the equipment for the Marine and Fisheries Institute.

.1 According to the UNESCO report of the consultant in nautical science, Federico Hatzenbuhler, 1988 , the training equipment and facilities which are necessary to provide the Marine and Fisheries Institute are given below

The laboratories and training areas necessary consists of the following:

.1.1 Chartroom

.1.2 Electronic navigational aids room

.1.3 Stability construction and cargo room

.1.4 Seamanship area

.1.5 Fire fighting facilities

The list of the necessary equipment are in the attached appendix A2.

Recognizing the need to advance gradually, all items have been assigned a suggested priority level according to the following graduation:

Priority (1) : basic training equipment

Priority (2) : necessary training equipment, in addition to the above , to meet the requirements of the appendix to the regulation II/4 of STCW 1978 (Minimum knowledge required for certification of officers in charge of a navigational watch on ships of 200 gross register tons or more.

Priority (3) : advisable as a training tool but not necessary to meet the above mentioned requirements.

No approximate cost given for certain items. It is assumed that those training aids can be provided locally by the Institute.

In addition to above mentioned necessary equipment and facilities, the following equipment and facilities are required:

.2 Library, hardware and software:

.2.1 Reference material

.2.2 Books and publications

.2.3 Periodicals, 3 year's subscription

.2.4 Audio visual

.2.5 Transparencies

.2.6 Video cassettes

.2.7 Training films

The total cost (U.S. dollar) of these equipment have been estimated 100,000.

From the above comparison of equipment, it can be seen that the training equipment in the Institute are not adequate compared to the required equipment to meet at least the minimum standard 1978 STCW Convention.

3.4 Practical experience

According to the minimum standard requirements specified by the regulation II/4 of STCW convention, " every candidate shall have approved sea-going services in the deck department of not less than three years which shall include at least six months of bridge watchkeeping duties under the supervision of a qualified officer; however an administration may allow the substitution of a period of special training for not more than two years of his approved sea-going service, provided the Administration is satisfied that such training is at least equivalent in value to the period of sea-going service it replaces.

Training to achieve the necessary theoretical and practical experience shall be based on the regulation 2/1-"Basic principles to be observed in keeping navigational watch" and relevant international regulations and recommendations."

Present nautical training standards in Somalia do not meet minimum standard requirements specified by the regulation II/4 of STCW convention (see chapter 2).

The reason for the deficiency in the syllabus/curriculum is that the curriculum has not been revised and updated for a long time due to lack of maritime expertise.

The maritime lecturers of Marine and Fisheries Institute are aware of the existing deficiencies in the nautical training syllabus/curriculum.

"It is not too difficult for the outside advisers to say

what is wrong with the existing syllabus/curriculum and how it should be altered and enriched. But doing it is a different matter.To have a real change of success, the first requirement is to achieve a wide understanding of what is proposed. Second is to generate a broad-based supportive consensus among those who have to carry it out, the teachers and their supervisors who are scattered in the country. They require a major teacher-training effort and careful preparation of teaching manuals, text books and other appropriate teaching materials and aids.

The quality of education and the learning achievement of the students depend heavily on the competence, personality, and dedication of the teacher. In addition to that they also depend on the conditions under which the teacher and the students are working - for example, on whether the size of the class is manageable and its atmosphere conductive to learning or whether there is an ample supply of equipment, text books, and other learning materials" (The World Crisis in Education, Philip H. Coombs, 1985).

Philip H. Coombs concluded that the quality of education and learning achievement of the students also depend on the characteristics of the students themselves and on whether they are well nourished, physically and mentally, healthy, strongly motivated to learn, and enjoy strong family support.

The main resources needed at the Marine and Fisheries Institute to bring national nautical training program up to the standards required by the STCW Convention are well qualified teachers, modern training facilities, proper building infrastructure and finance.

1978 STCW Convention specified a minimum standard requirement, so that every state can upgrade its training programme to meet the standard requirements by the Convention or even higher.

The nautical training in Somalia can be upgraded with well qualified teachers and training facilities to meet STCW requirements.

Although the teachers who are involved in nautical training have a Bachelor of Science degree in nautical science, they did not receive practical training, sea experience and also they did not attend any specialized short courses. So that they can not teach mandatory specialized courses effectively.

CHAPTER 4

PROPOSAL FOR REORGANISATION AND IMPROVEMENT OF NAUTICAL TRAINING, EXAMINATION AND CERTIFICATION SCHEMES IN SOMALIA

4.1 Introduction

According to Rosengren and Bassis (Social Organization of Nautical Education, 1976), "Nautical schools differ in the degree to which they offer their students occupationally transferable training and certification which might enable them to find suitable employment should they decide to leave the sea and come ashore. Such schools are, on the one hand , constrained to equip students to become ships officers with highly specialized skills and knowledge and are , on the other hand, pressed to offer both educational experience and academic credentials that will allow the seafarer to enter into land-based jobs that bear some relation to the four years or more of specialized training he has under gone. The graduates of these schools are seen as comprising an important resource by which to implement the attainment of national economic goals".

Due to the above-said reasons, nautical education and training of some countries, mostly in Europe and North America are based on a double-function system: Service on board ships, on the one hand, and work in land-based jobs, on the other.

For the same reason, it is necessary to reorganize, improve and make substantial changes in the system of nautical training in Somalia so that the graduates will be

flexible for various tasks within the range of the maritime industry.

The general objective of the proposed reorganization and improvement of nautical training, examination and certification schemes is to provide a balanced theoretical and practical knowledge which will allow the graduates to be qualified to carry out the following duties:

- To take positions in the deck department of merchant ships as a watchkeeping officer.

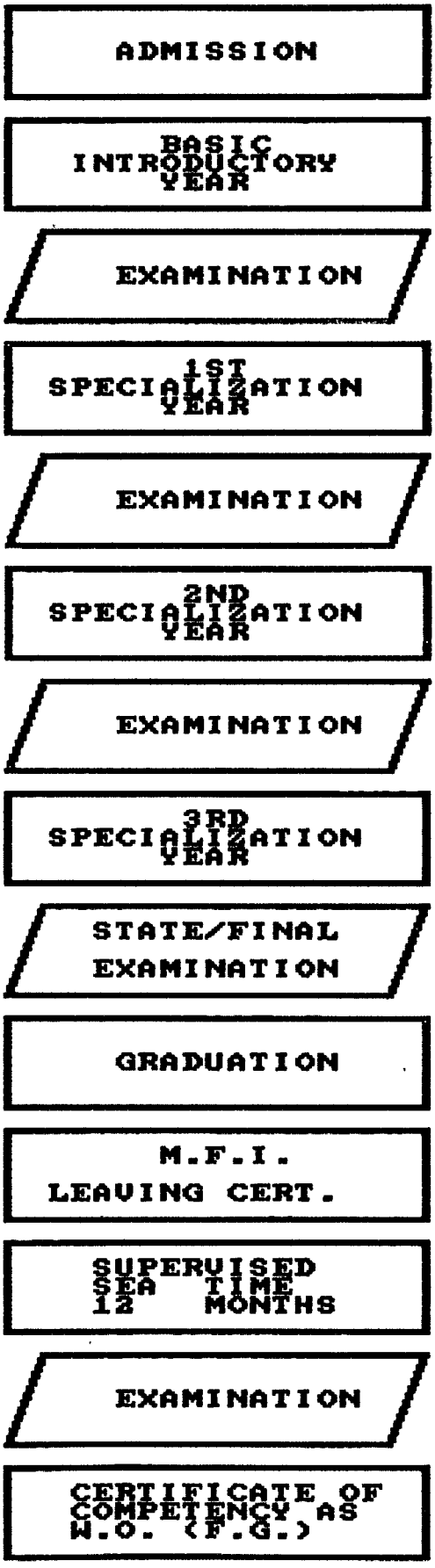
- To take junior technical positions in the maritime industry and maritime administration.

- To begin studies in the Marine Department of the Technical and Commercial Teachers College.

The nautical training curriculum proposed consists of 5 years training including one year sea time (fourth year) and a common basic introductory year for the students who have fulfilled the admission requirements (see Fig 1). During the practical year, the students should be sent on board merchant ships under the supervision of the Institute and the Ministry of Fisheries and Marine Transport.

The nautical training curriculum proposed includes examination and certification approved by the maritime administration. The sea training proposed is a minimum requirement for the award of the certificate of competency as a watchkeeping officer in the deck department. The certificate should be restricted to the specification of the regulation II/4 (Officers in charge of navigational

FIG.1 PROPOSED NAUTICAL TRAINING PROGRAMME.



watch on seagoing ships of 200 GRT or more).

4.2 Entrance requirements.

4.2.1 General entrance requirements.

.1 Somali by birth

.2 Minimum age of 17

.3 8 years of intermediate school

.4 Passing an entrance examination

4.2.2 Physical entrance requirements

All candidates for the admission to the nautical training of the Marine and Fisheries Institute must be in good physical health and must meet the requirements below. The physical and medical examinations should be conducted by specialists in the General Hospital in Mogadisho that is run by the Ministry of Health.

.1 Vision

Minimum uncorrected vision of 20/20 in both eyes.

2. Hearing

Auditory acuity of all candidates will be determined by a specialist in the General Hospital. Hearing should be normal.

.3 X-ray

All the candidates should undergo an x-ray examination of the chest.

.4 Dental standards:

All candidates should undergo a special examination with the dentist.

.5 Long term diseases

Candidates should not suffer from diabetes, tuberculosis and other long term diseases.

4.2.3 Entrance examination requirements.

All the candidates are required to take examination on the dates scheduled by the Institute.

Since there is no arrangement of such dates at the moment, the dates should be organized in such a way that the examination will held two months before the admission. It is the candidate's responsibility to register for the examination.

The registration instructions should be available in the secretariat of the Marine and Fisheries Institute.

The main subjects in the Marine and Fisheries Institute in which the applicants are examined are:

.1 Physics

.1.1 measurements

.1.2 mechanics

.1.3 motion in one dimension

.1.5 motion in a plane

.1.6 hydrostatics

.1.7 work and energy

.2 Mathematics.

.2.1 algebra

.2.2 arithmetics

.2.3 plane geometry

.2.4 basic trigonometry

.3 English language

.3.1 composition

.3.2 comprehension

.3.3 grammar

.3.4 dictation

Duration of each of the three written examination paper should be two hours (120 minutes).

4.3 Proposed Nautical Science Syllabus/Curriculum

The Institute working times are:

6 hours of 45 minutes each per day, 6 days per week,
36 working hours per week.
Each academic year consists of 39 weeks of which 36 are used for studies.

In the following table, the syllabus/curriculum is divided into 4 years.

List of all subjects of all years	Number of hours
.1 Supporting subjects	
Mathematics	288
Physics	504
Commercial geography	108
Chemistry	216
Maritime history	72
English	684
Technical drawing	72
Shipping economics	72
Organization/management	108

.2 Nautical science subjects

Introduction to nautical science	216
Life-saving	108
Fire prevention and fire fighting appliances	108
Emergency procedures	72
Compasses-magnetic and gyro	108
Ship construction	72
Terrestrial and coastal navigation	144
Search and Rescue	108
Ship manoeuvering and handling	144
Ship stability	72
Meteorology	144
Electronic systems of position fixing and navigation	180
Radio-direction finder and echo sounders	72
Automatics pilot	72

Radiotelephony and visual signalling	72
Watchkeeping	108
Prevention of pollution of marine environment	72
Celestial navigation	108
Radar navigation	108
Cargo handling and stowage	108
.3 Other subjects	
First aid	72
Physical education	216
Somali and Revolutionary studies	180
Arabic and Religion	180
Total hours =	5184

4.3.1 First year

.1 Supporting subjects	weeks	LEC	LAB	total
Arithmetics and Algebra.	5	180	---	180
Physics	4	144	---	144
Commercial geography	3	108	---	108
Chemistry	3	108	---	108
Maritime history	2	72	---	72
English	5	180	---	180
Technical drawing	2	---	72	72
.2 Nautical science subjects				
Introduction to nautical science, and fisheries	6	216	---	216
.3 Other subjects				

---

1) LEC = lectures

2) LAB = laboratory/practice

Physical education (*)	2	---	72	72
Somali and Revolutionary studies	2	72	---	72
Arabic and Religion	2	72	---	72
	36	1116	180	1296

4.3.2 Second year

.1 Supporting subjects	weeks	LEC	LAB	total
Chemistry	3	108	---	108
Physics	6	216	---	216
Shipping economics	2	72	---	7
English	6	216	---	216
.2 Nautical science subjects				
Life-saving	3	44	64	108
Fire prevention and fire fighting appliances	3	54	54	108
Emergency procedures	2	36	36	72

(*)- Physical education is the training and assessing of physical skills required for safety. e.g. swimming, boarding a lifecraft, jumping into the sea, rowing.

Compasses-magnetic and gyro	3	54	54	108
Ship construction	2	54	18	72
.3 Other Subjects				
Physical education	2	---	72	72
First aid	2	36	36	72
Somali and Revolutionary studies	1	36	---	36
Arabic and Religion	1	36	---	36
	36	1214	82	1296

4.3.3 Third year

.1 Supporting subjects	weeks	LEC	LAB	Total
Trigonometry	3	108	---	108
Physics	4	144	---	144
Organization/management	3	108	---	108
English	5	180	50	180
.2 Nautical science subjects				
Terrestrial and coastal navigation	4	---	144	144

Search and Rescue	3	60	48	108
Ship manoeuvring and handling	4	74	70	144
Ship stability	2	42	30	72
Meteorology	4	102	42	144
.3 Other Subjects				
Physical education	2	---	72	72
Somali and Revolutionary studies	1	36	---	36
Arabic and Religion	1	36	---	36
	36	940	356	1296

4.3.4 Fourth year

.1 Supporting subjects	weeks	LEC	LAB	Total
Statistics	3	108	---	108
Organization/managment	3	108	---	108
English	3	108	---	108
.2 Nautical science subjects				
Electronic systems of position fixing and navigation	5	50	130	180

Radio-direction finders and echo sounders	2	30	42	72
Automatic pilot	2	36	36	72
Radiotelephony and visual signalling	2	10	62	72
Watchkeeping	3	108	---	108
Prevention of pollution of marine enviroment	2	72	---	72
Celestial Navigation	3	108	---	108
Radar navigation	3	38	70	108
Cargo handling and Stowage	3	88	20	108
.3 Other Subjects				
Somali and Revolutionary studies	1	36	---	36
Arabic and Religion	1	36	---	36
	36	1058	238	1296

Total lecture hours in four years = 4328
Total laboratory/practice hours in four years = 856

Total hours in four years = 5184

4.3.5 Specification of main subjects.

According to Regulation II/4 (Minimum knowledge required for certification of officers in charge of a navigational watch on ships of 200 gross register tons or more) of 1978 STCW Convention, the main subjects have been specified as follows:

.1 "Watchkeeping

.1.1 Demonstrate thorough knowledge of content, application and intent of the International Regulations for preventing collisions at sea, including the annexes.

.1.2 Demonstrate knowledge of content of Regulation II/1- "Basic Principles to be observed in keeping in navigational watch".

.2 Celestial navigation

.2.1 Ability to determine the ship's position and compass errors.

.3 Terrestrial and coastal navigation

.3.1 Ability to determine the ship's position by the use of:

.3.1.1 landmarks;

.3.1.2 aids to navigation, including light houses

.3.1.3 dead reckoning, taking into account winds, tides,

currents and speed by propeller revolutions per minute and by log.

.3.2 Thorough knowledge of and ability to use navigational charts and publications, such as sailing directions, tide tables, notice to mariners, radio navigational warnings and ships' routeing information.

.4 Radar navigation

.4.1 Knowledge of the fundamentals of radar and ability in the operation and the use of the radar and ability to interpret and analyze information obtained by the use of the radar including the following:

.4.1.1 factors affecting performance and accuracy;

.4.1.2 setting up and maintaining displays;

.4.1.3 detection of misrepresentation of information, false echoes, etc;

.4.1.4 range and bearing;

.4.1.5 identification of critical echoes;

.4.1.6 course and speed of other ships;

.4.1.7 time and distance of closest approach of crossing, meeting or overtaking ships;

.4.1.8 detecting course and speed change of the other ships;

.4.1.9 effect of change in own ships course or speed or both;

.4.1.10 application of the International Regulations for Preventing Collisions at sea.

.5 Compasses-magnetic and gyro

.5.1 Knowledge of principles of magnetic and gyro-compasses including errors and corrections. With regard to gyro-compasses, an understanding of the systems under the control of master gyro and knowledge of the operation and care of the main types of the gyro-compasses.

.6 Electronic systems of position fixing and navigation

.6.1 Ability to determine the ships' position by using electronic navigational aids.

.7 Radio direction-finders and echo-sounders

.7.1 Ability to operate the equipment and apply the information correctly.

.8 Meteorology

.8.1 Knowledge of shipborne meteorological instruments and their application. Knowledge of the characteristics of various weather systems, reporting procedures and recording systems and the ability to apply the meteorological information available.

.9 Automatic pilot

.9.1 Knowledge of automatic pilot systems and procedures.

.10 Radiotelephony and visual signalling

.10.1 Ability to transmit and receive messages by morse light;

.10.2 Ability to use the International Code of Signals;

.10.3 Knowledge of the procedures used in the radiotelephone communications and ability to use radio telephones, in particular with respect to distress, urgency, safety and navigational messages.

.11 Fire prevention and fire-fighting appliances

.11.1 Ability to organize fire drills;

.11.2 Knowledge of the classes and chemistry of fire;

.11.3 Knowledge of fire-fighting systems;

.11.4 Attendance of an approved fire-fighting course.

.12 Life-saving

.12.1 Ability to organize abandon ship drills and the knowledge of the operation of the lifeboats, liferafts, buoyant apparatus and similar life-saving appliances along with their equipment, including radio apparatus and emergency position-indicating radio beacons (EPIRBs). Knowledge of

survival at sea techniques.

.13 Emergency procedures

.13.1 Knowledge of the items listed in the appropriate Appendix of the current edition of the ILO/IMCO "Documents for Guidance".

.14 Ship maneuvering and handling

.14.1 Knowledge of :

.14.1.1 The effect of various deadweights, draughts, trim, speed and underkeel clearance on turning circles and stopping distance;

.14.2 Effects of wind and current on ship handling;

.14.3 Maneuvers for the rescue of man-overboard;

.14.4 Squat; shallow water and similar effects;

.14.5 Proper procedures for anchoring and mooring.

.15 Ship stability

.15.1 Working knowledge and application of stability, trim and stress including equipment;

.15.2 Understanding of fundamental actions to be taken in the event of partial loss of the intact buoyancy.

.16 Ship construction

.16.1 General knowledge of the principal structural elements of a ship and proper names of various parts.

.17 Cargo handling and stowage

.17.1 knowledge of safe handling and stowage of cargoes and the effect of these factors on the safety of the ship.

.18 Search and Rescue

.18.1 Knowledge of the IMO Merchant Ship Search and Rescue Manual (MERSAR).

.19 Prevention of pollution of the marine environments

.19.1 Knowledge of the precautions to be observed to prevent pollution of the marine environments."

4.5 Examination and Certification as a part of the Curriculum.

It would be feasible and sensible for the government to delegate a large part of work of examining seafarers to the Marine and Fisheries Institute without affecting the standard but little purpose would be served by the government's relinquishing control of arrangements for securing the appropriate level and uniformity of the standards.

The Educational Authority should conduct the examination. The Ministry of Fisheries and Marine Transport should be responsible for supervising the examination and for the issuance of certificates of competency as watchkeeping officers for the candidates holding Marine and Fisheries Institute leaving school certificates.

Examination should be by continuous assessment and those who fail are encouraged/allowed at their own time during the vacation periods to resit examinations in subjects in which they failed.

There will be one state examination/final examination conducted at the end of third year specialization before the students go to the sea in order to complete one year seatime.

4.5.1 Examination

4.5.1.1. The state examination should comprise practical and written examinations . The graduates will be issued marine and fisheries institute leaving certificate.

The state examinations should be arranged as follows:

.1 Written/practical examination

Subjects	Time allowed in hours	Total marks	% passing
- Physics	2	150	50
- Mathematics	2	150	50

- English	2	100	50
- Statistics	2	100	50
- Organization/management	2	100	50
- Shipping economics	2	100	50
- Electronic systems of position fixing and navigation	3	200	50
- Radio direction finders and echo sounders	2	100	50
- Automatic pilot	2	100	50
- Prevention of pollution of marine environment	2	100	50
- Celestial navigation	3	150	70
- Radar navigation	3	150	70
- Cargo handling and stowage	2	100	50
Total =	29	1600	60

The subjects of the examination are the same as those in the third year specialization with addition of physics and mathematics.

4.5.1.2 On the completion of required seatime, there will be an oral examination which leads to award of certificate of competency as watchkeeping officer.

This examination should be held at the Institute three times a year.

An oral examination will be taken in the following subjects:

	% passing
- Watchkeeping	70
- Radiotelephony and visual signalling	70
- Fire prevention and fire-fighting appliances.	70
- Life-saving	70
Total marks	= 70

4.5.1.3 Examination board

All examinations should be conducted by the Institute under the auspices of the Authorized Examination Board nominated by the Government, which will comprise a representative each from the Educational Authority, Maritime Administration, Maritime Industry and Nautical science section lecturers of the Institute.

4.5.2 Certification

Certification is essential to ensure minimum standard of competence for safety at sea.

It should form an integrated part of the administration's objectives for promoting safety at sea.

4.5.2.1 Minimum Certification Requirements

Every ship requires a master, who has to fulfill duties and obligations under various conventions . Every ship also needs one or more deck officer in addition depending on the size of the ship, to share navigational watchkeeping duties. Senior deck officer is the chief mate and the onus of the command falls on him in the event of death or incapacity of master. The 1978 STCW Convention does not specify the deck officers manning scale of a ship but lays down the minimum requirements to be met for master, chief mate and watchkeeping officers.

4.5.2.2 General information concerning the issue of certificates of competency.

The Marine Department of the Ministry of Fisheries and Marine Transport should be responsible for the issue of certificate of competency as watchkeeping officers for the graduates of the Marine and Fisheries Institute holding Marine and Fisheries Institute School Leaving Certificate.

The Somalia Democratic Republic is a member of IMO and has an obligation to ensure the improvement of maritime safety and the reduction of oil pollution incidents. It is

necessary to fulfill the above-mentioned obligation through the new training and certification programme and other appropriate measures for higher safety and pollution standards.

4.5.2.3 General provisions

Each watchkeeping officer on board Somali vessels of over 200 GRT will hold a certificates of competency issued by the Marine Department which authorizes the execution of the duties corresponding to the position described in such a certificate.

According to the provision of Regulation II/4, the Marine Department can issue statutory certificate of competency.

4.5.2.4 Revalidation of Certificates of Competency

According to regulation II/5 (Mandatory Minimum Requirements to ensure the continued proficiency and updating of the knowledge for Masters and Deck officers).

"Every master and every deck officer holding certificate who is serving at sea or intends to return to sea after a period ashore shall, in order to continue to qualify for sea going service, be required at regular intervals not exceeding five years to satisfy the Administration as to:
a) medical fitness, particular regarding eyesight and hearing; and
b) professional competence:

i) by approved sea-going service as master or deck officer of at least one year during the preceding five years; or

ii) by virtue of having performed functions relating to the duties appropriate to the grade of certificate held which are considered to be at least equivalent to the sea-going service required in the paragraph .1 (b) (i); or

iii) by one of the following:

- passing an approved test; or

- successfully an approved course or courses; or

- having completed approved sea-going service as a deck officer for a period of not less than three months in a supernumerary capacity immediately prior to taking up the rank to which he is entitled by virtue of this certificate.

The Administration shall, in consultation with those concerned formulate or promote the formulation of the structure of refresher and updating courses, either voluntary or mandatory, as appropriate, for masters and deck officers who are serving at sea, specially for re-entrants to sea-going service. The Administration shall ensure that arrangements are made to enable all persons concerned to attend such courses as appropriate to their experience and duties. Such should be approved by Administration and include changes in modern technology and relevant international regulations and recommendations concerning the safety of life at sea and the protection of marine environment.

Every master and deck officer shall for a continuing sea-going service on board ships for which special training requirements have been internationally agreed upon,

successfully complete an approved relevant training.

The Administration shall ensure the text of the recent changes in the international regulations concerning the safety of life at sea and the protection of marine environments are made available to the ships under its jurisdiction ".

4.6 Updating and upgrading of present deck officers

4.6.1 Updating of present deck officers

The dynamic development of marine engineering and various forms of ships operations requires a continuous improvement of navigating officers' qualifications. The importance of training and improvement of officers is constantly growing. Taking care of bringing up to date the knowledge of present deck officers, the shipping authority have to set up regulations, obliging the shipping company or ship owners to permanent education of their employees (A survey undertaken by the Nautical Institute with assistance from The Hochschule fur Nautik, Bremen, October, 1977.)

The present deck officers will have to undergo the following specialized short courses in order to update their qualifications:

- Personal survival

- Basic fire fighing

- Radar observer course

4.6.2 Upgrading present deck officers

Since no formal training can be given immediately to the officers (from second mate to chief mate and masters), the Institute should start an informal guidance classes where available teachers can give guidance to the students. Later the officers should go to Arab Maritime Transport Academy in Sharjah or another maritime academy in order to attend a 6-month preparatory course prior to their examination for chief mate or master certificate.

4.7 Teaching Staff.

The Somali government should provide adequate nautical equipment, text books and should also properly maintain the building of the Institute. Especially the navigational laboratory building must be renovated to protect the equipment and to ensure that the conditions under which the teachers and students work are adequate.

The teachers who are involved in nautical training should receive practical training on board merchant ships and should attend advanced maritime courses like those offered by the World Maritime University.

The programme of sending national maritime teachers to the World Maritime University (see chapter 1) should be carried out on a regular basis every year by the government in order to meet the requirements of qualified teachers in the maritime field.

The training of the teachers is much more important than the construction of the buildings. To equip the buildings

with the most modern laboratories and teaching aids is much easier than building up a nautical teaching staff. It must always be borne in mind that properly qualified teachers will themselves create programs, produce teaching materials, training aids, etc. Training of the nautical teachers should therefore be given a priority.

The Somali government should be aware of the problems of the teaching staff. The solution to this problem is the creation of the reasonable good condition of employment to attract potential teachers and the improvement of the condition of the present teachers. One way of achieving this is to offer sufficiently high salaries to attract qualified Somalians and to motivate the present teachers.

CHAPTER 5

CONCLUSIONS AND IMPLEMENTATION.

6.1 Conclusion

For the reorganization and improvement of nautical training, examination and certification schemes, it is necessary to assess the present situation, identify the needs, propose an improved nautical training programme and establish examination and certification schemes to comply with 1978 STCW Convention.

As on 25 April, 1988, out of the 39 IMO Conventions, protocols, amendment and codes, Somalia has ratified only one convention, the International Loadline Convention, 1966. Somalia has not yet ratified the 1978 STCW Convention.

It has been identified that the nautical training programme in Somalia does not meet the requirements of STCW Convention in the areas of theoretical and practical training. In order to identify these deficiencies, a comparison has been made between present nautical training and STCW Convention requirements.

It has also been identified that at present, entrance requirements for nautical training are inadequate and there is lack of standard of examination and certification for various grades of seafarers.

Due to these deficiencies the Somali government has been sending cadets to the Arab Maritime Transport Academy in Sharjah and other maritime academies for training,

examination and certification. The reason for such deficiencies is that there is a shortage of qualified maritime teachers and lack of adequate equipment.

Another reason is that there is no proper maritime administration set up to frame legislative acts concerning the following important elements:

- Entrance requirements;

- Nautical training; and

- Examination and certification.

Due to above mentioned deficiencies, the present maritime administration does not fully meets its obligation to provide for the manning of ships with satisfactory qualified officers in sufficient numbers.

The Somali government is aware of these shortcomings and believes that her citizens on their return after training in different maritime courses and at the World Maritime University, will set up a proper maritime infrastructure to train and certify seafarers.

For the time being, there is a need of external experts to participate in the training of personnel in addition to the maritime teachers in the Institute.

There is also a need of technical assistance from International Organizations in the areas of nautical training, examination, certification and supply of equipment.

6.2 Implementation

6.2.1 Entrance requirements

.1 Rules and regulations should be prepared to select candidates in order to fulfill entrance requirements, as proposed in chapter 4.

.2 Having seen the standard of different systems of maritime education and training in different countries, I would recommend that the standard of entrance requirements should be raised in the near future from 8 to 10 or 12 years of education. Thereafter, it may become possible to award a degree equivalent to a university degree to the students completing their training in the Institute.

6.2.2 Syllabus (including specialized courses)

For the implementation of the the proposed nautical syllabus the following is required:

.1 Maritime lecturers

Maritime lecturers with university degree who can teach the students for the certificate of competency should be employed.

.2 Instructors

Instructors should be employed who hold a certificates of competency of master foreign-going and have acquired two years navigational watchkeeping experience to give

practical training to the students for certificates of competency.

As shown in the comparison in chapter 3, the following subjects are presently not being taught:

- Radar navigation
- Watchkeeping
- First aid
- Electronic system of position fixing and navigation
- Automatic pilot
- Fire prevention and fire-fighting apparatus
- Emergency procedures
- Ship maneuvering and handling
- Ship construction
- Search and rescue
- Prevention of pollution of marine environments

The required number of nautical teachers and instructors for a teaching above mentioned subjects are the following

- 2 nautical lecturers

- 2 instructors

- 1 medical doctor as part time teacher

It is necessary to improve the standard of maritime teachers and instructors in the Institute. This can be achieved by sending the maritime teachers and the Instructors to the World Maritime University in order to attend different courses which are offered by the University.

About 20 students will be admitted by the Institute each year for nautical training.

6.2.3 Practical experience

In order to provide practical experience to the students (cadets) during the practical year, arrangements should be made with shipping companies by the government to identify shipboard vacancies for training.

During practical year the students (cadets) should be sent on board merchant ships under the supervision of the Institute and the Ministry of Fisheries and Marine Transport.

A cadets record book will be specified and issued to all students (cadets). Cadets should be given a record book before they go to sea. The record book will be an integral

part of the training programme and provide evidence of shipboard training.

The objectives of the record book is to provide a comprehensive record of progress of training of cadets. Planned training at sea will ensure that the best use is made of the opportunity by cadets, so that they gain relevant practical training and experience for becoming competent deck officers.

The cadets must present their record book to the Institute before the oral examination. If the Institute is not satisfied with the training of the cadets as shown in the record book, the cadets will be required to complete additional sea service.

6.2.4 Examination and Certification

For the implementation of the proposed examination and certification, the following are required:

.1 Examination

.1.1 Rules and Regulations

The government is required to establish appropriate rules and regulations to conduct examinations.

.1.2 Examiners

The above mentioned maritime lecturers and instructors will be in charge of theoretical and practical examinations respectively.

.1.3 Supervision by Maritime Administration

The Maritime Administration should amend the procedure for the examination and certification of candidates.

The examination should be conducted by the Institute and supervised by the maritime administration and administrated so that all candidates can take examinations at an appropriate time.

.1.4 Bank of questions and their answers.

The Institute should set up a bank of question papers for examinations. One of these papers will be chosen at random by the examiner. Model courses to questions should also be prepared by the Institute.

In the future this bank of question can be stored in a data processing system.

.2 Certification

.2.1 The Marine Department of the Ministry of Fisheries and Marine Transport should be responsible for the issuance of certificates of competency as proposed in chapter 4

.2.2 Rules and regulations should be made by the government which will specify the standard of competency and the conditions to be satisfied before

the issuance of a certificate of competency.

.2.3 The candidate should satisfy the Marine Department by passing the oral examination for the award of certificate of competency as navigational watchkeeping officer.

.2.4 the form of the certificate of competency will be as attached Appendix A1.

.2.5 The form of endorsement of certificate as required by 1978 STCW Convention is also attached Appendix A1.

6.2.5 Expertise

The expertise for the implementation of the specific subjects shown below is not available in the Institute.

- Statistics

- Organization/management

- Shipping economics

The participation of experts from outside the Institute as e.g. from maritime administration, port authority,is required to carry out the following:

- To teach the above subjects;

- To give advice for the development of the Institute.

6.2.6 Technical Assistance

Somalia like many other developing nations, is very much in need of technical assistance in the areas of nautical training, examination and certification as well as of technically qualified manpower.

Regarding nautical training, examination and certification schemes, the problems facing Somalia are numerous and complex. The most important ones are : lack of financial resources and adequate training facilities, shortage of trained and experienced personnel and lack of effective maritime legislation.
Because of the above reasons Somalia looks to IMO and other International Organizations for technical assistance in order to be able to bridge the gap between the nautical training requirements of 1978 STCW Convention and the existing standard of nautical training in Somalia (see chapter 3). Somalia expects the IMO and other International Organizations to provide her with technical and financial assistance for manpowr development by sending maritime experts who will help in the training of personnel. On the other hand assistance in the procuring of necessary equipment (see chapter 3) for the Institute.

In addition to the outside assistance, Somalia government should allocate funds for the development towards the proposed nautical training, examination and certification schemes.

At present no funding is available to the Institute from the government, apart from the salary of the teaching

staff (see chapter 2)

For example, in France, the maritime education and training is funded through the government and through a special taxation from the companies.

Similarly, the Somali government should allocate an annual budget and encourage the companies to contribute special funds for the training.

After the implementation of the programme, the benefits will be such that the institute will meet the training needs of junior marine personnel in maritime field. The maritime industry will benefit by securing a reliable supply of well-trained marine personnel, the students will benefit by having some career guarantee; and the Educational Authority will be satisfied that the Institute is also serving public interest by emphasizing that the nautical training will not be limited to vocational purpose.

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CERTIFICATE OF COMPETENCY

No ____

To _____

WHEREAS you have been found duly qualified to fulfil the duties of _____of a Foreign-going Ship in the Merchant Navy, the Board of Trade in exercise of their powers under the Merchant Shipping Acts and of all other powers enabling them in that behalf hereby grant you this Certificate of Competency.

Dated this _____ day of _____ 19___

Countersigned

Registrar General

An Under Secretary of the Board of Trade.

REGISTERED AT THE OFFICE OF THE REGISTRAR GENERAL OF SHIPPING AND SEAMEN.

Form of Endorsement of Certificates

ENDORSEMENT OF CERTIFICATES

(Official Seal) *(Country)*

Issued under the provisions of the

INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978

Either* { The Government of (*Name*) certifies / I, the undersigned certify

that the present Certificate/Certificate No. .....**, is issued to ..... (*full name of person*), who has been found duly qualified in accordance with the provisions of Regulation ..... of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as .....*** with the following limitations only:

Insert here limitations or "none" as appropriate } .....
.....
.....

Date of issue of this endorsement: .....

Signed .....

(*Official Seal*) (*Name and signature of duly authorized official*)

Date of birth of the holder of the Certificate: .....

Signature of the holder of the Certificate: .....

* Use one line or the other.
** Delete as appropriate.
*** Insert Convention grade or class of Certificate.

This Appendix A2 is from UNESCO report of the Consultant in nautical science, Federico Hatzenbuler, 1988

Equipment details

Qty	Description	Cost US	Priority 1	2	3
5	CHART TABLES 2.5 m x 0.75 m x 0.92 m plastic laminate working surface		X		
1	BENCH UNIT 0.75 m x 0.92 m with chart shelves, plastic laminate working surface		X		
20	CHART STOOLS wooden, 0.38 m x 0.3 m x 0.65 m		X		
1	LECTURER'S DESK AND CHAIR incorporating chart storage similar to a ship's chart locker		X		
1	EQUIPMENT LOCKER for storage of sextants parallel rules, dividers, etc.		X		
1	FILING CABINET for exercise papers and others		X		
1	BOOKSHELF for storage of navigational publications		X		
25	PARALLEL RULES 24" perspex, graduated	60	X		
50	SQUARES perspex, graduated, with handle	120		X	
25	CHART DIVIDERS 7" one-handed, brass with steel points	25	X		
3	TRANSPARENT STATION POINTERS 6" protractor 0-360°, with 14" metal arms	60	X		
10	MARINE MICROMETER SEXTANTS complete with electric light	1500	X		
2	MARINE PRISMATIC BINOCULARS 7 x 50	150		X	
1	MAGNETIC COMPASS,SPIRIT, AND BINNACLE complete with correctors and light	3800	X		
1	SHELF MOUNTING COMPASS, spirit, with correctors and light	500	X		
1	AZIMUTH MIRROR adaptable to the magnetic compass	100	X		
1	AZIMUTH MIRROR adaptable to the shelf mounting compass	50	X		
1	PELORUS 7" acrylic dial 0-360° with brackets	100	X		
1	DEVIASCOPE for practical training and demonstration of magnetic theory as well as compensation methods	3000		X	

Equipment details (Cont.)

Qty	Description	Cost US	Priority 1	2	3
200	NAVIGATIONAL CHARTS, 40 each of 5 different charts showing different navigational features (e.g. Admiralty chart 2952, Mogadishu; Admiralty chart 4705, Berbera; Dover and Gibraltar straits ; Tasmania)	100	X		
50	INSTRUCTIONAL CHARTS "not to be used for navigation"	5	X		
21	SETS OF ADMIRALTY TIDE TABLES 1989		X		
1	SET OF SAILING DIRECTIONS		X		
2	SETS OF ADMIRALTY LIGHT LISTS		X		
1	SET OF ADMIRALTY RADIO SIGNALS		X		
1	ADMIRALTY CHART CATALOGUE		X		
21	ADMIRALTY NAUTICAL ALMANACS 1989	2000	X		
21	SIGHT REDUCTION TABLES No. 229 covering latitude 2°		X		
21	SIGHT REDUCTION TABLES No. 229 covering an intermediate latitude e.g. 35°		X		
21	SETS OF SIGHT REDUCTION TABLES No. 249		X		
21	AMPLITUDE TABLES		X		
2	GUIDE TO PORT ENTRANCE		X		
2	DIGITAL NAVIGATION COMPUTERS type Tamaya	500		X	
1	CELESTIAL TRANSPARENT GLOBE capable of visualizing the celestial sphere and the coordinates systems used by the navigator	150	X		
1	STAR IDENTIFIER for demonstration purposes, approx. 1.2 m diameter with transparent disc for latitude 5° and 35°	300	X		
21	STAR IDENTIFIERS , type Rudde, complete for calculation purposes	600	X		
6	THERMOMETERS	25	X		
6	WHIRLING PSYCHROMETERS	60	X		
1	ANEMOMETER with masthead cup unit and indicator. Power supply 220 V,50 Hz	200	X		
1	WIND DIRECTION EQUIPMENT with masthead unit and indicator. Power supply	200	X		

Equipment details (Cont.)

Qty	Description	Cost US	Priority 1	2	3
1	PYROHELIOMETER	1600			X
1	MERCURIAL BAROMETER	600	X		
1	PRECISION ANEROID BAROMETER	250	X		
1	ANEROID BAROMETER	120	X		
1	BAROGRAPH compensated for temperature with charts in millibars, ink and pen	400	X		
1	THERMOMETER SCREEN	250	X		
1	SEA TEMPERATURE BUCKET	400		X	
1	FACSIMILE RECEIVER	15000		X	
1	CHRONOMETER quarz crystal	500	X		
1	CHRONOMETER standard two day	400	X		
1	MARINE CLOCK	150		X	
3	STOPWATCHES	150	X		
21	SHIP'S WEATHER CODE AND DECODE TABLES	70	X		
1	SET METEOROLOGY FAX BROADCASTS (WMO)	10	X		
1	RADIO RECEIVER capable of receiving time signals	1000		X	
1	PROTECTIVE SWITCH with automatic switch off in case of power supply failure or overload	100	X		
1	WALL CHART SHOWING TYPES OF CLOWDS	10	X		
1	ATLAS OF OCEAN CURRENTS	20	X		

Equipment details

Qty	Description	Cost US	Priority 1	2	3
3	CHART TABLES 2.5 m x 0.75 m x 0.92 m plastic laminate working surface		X		
1	BENCH UNIT 0.75 m x 0.92 m with chart shelves, plastic laminate working surface		X		
20	CHART STOOLS wooden, 0.38 m x 0.3 m x 0.65 m		X		
1	LECTURER'S DESK AND CHAIR		X		
1	EQUIPMENT LOCKER		X		
1	FILING CABINET for exercise papers and others		X		
1	BOOKSHELF for storage of manuals and publications		X		
1	RELATIVE MOTION RADAR with reflection plotter, 40 cm display, 3 cm , spares.	25000	X		
1	RELATIVE MOTION RADAR 30 cm display, 10 cm, with spare parts.	15000			X
1	TRUE MOTION RADAR with reflection plotter, 40 cm display	40000		X	
1	AUTOMATIC RADAR PLOTTING AID adaptable to the true motion radar	15000		X	
1	SET RADAR MAINTENANCE EQUIPMENT	2000	X		
1	TRANSIT/GPS SATELLITE RECEIVER	10000	X		
1	DIRECTION FINDER SIMULATOR COMBINED WITH A REAL DIRECTION FINDER	20000		X	
1	DECCA NAVIGATOR with simulated imput signals	20000		X	
1	LORAN C RECEIVER with simulated input signals	20000		X	
1	ECHO SOUNDER	4500		X	
1	GYRO COMPASS with bearing repeater and azimuth mirror	22000		X	
1	GYRO PILOT UNIT	14000			X
1	PELORUS 7" acrylic dial 0-360° with brackets	100	X		

Equipment details (Cont.)

Qty	Description	Cost US	Priority 1	2	3
1	FIXED RADIOTELEPHONE TRANCEIVER for practice in VHF R/T procedures	5000	X		
1	PORTABLE RADIOTELEPHONE TRANCEIVER for practice in VHF R/T procedures, same channels as fixed R/T	500	X		
2	POWERED MEGAPHONES with speech and signal emission	300		X	
1	SET OF SIGNALLING EQUIPMENT with morse key signalling lamp	700	X		
1	SET OF INTERNATIONAL CODE MODEL FLAGS	200	X		
21	INTERNATIONAL CODES OF SIGNALS	400	X		
1	MARINE CLOCK	150		X	
1	PROTECTIVE SWITCH with automatic switch off in case of power supply failure or overload	100	X		

Equipment details

APPENDIX A2

Qty	Description	Cost US	Priority 1	2	3
5	TABLES 2.5 m x 1.0 m x 0.92 m plastic laminate working surface		X		
20	STOOLS wooden, 0.38 m x 0.3 m x 0.65 m		X		
1	LECTURER'S DESK AND CHAIR		X		
1	EQUIPMENT LOCKER		X		
1	FILING CABINET		X		
1	BOOKSHELF		X		
1	PLANS CABINET		X		
1	STABILITY TANK, steel tank 2 m x 2 m x 0.6 m standing on legs about 0.5 m high and fitted with a drain for emtying and a supply of water for filling		X		
1	STABILITY MODEL for use in the above tank. Section of a model ship, length 1.25 m, width o.6 m, depth 0.45 m, fitted with transverse watertight bulkheads at 0.6 m and 1.05 m from one end. The two holds to be fitted with a lattice tank top 0.1 m above the keel, and tween decks 0.35 m above the keel, both capable of supporting substantial weights. The ends of the model to be box-shaped but the model should have radius bilges with detachable bilge keels. Model should have mooring lines at each corner capable of being secured to the corners of the tank. There should be a mast and a swinging derrick over one hatch a mast and a 0.7 m pendulum over the other hatch, draught marks at each end, at each corner and amidships. A clinometer fitted at one end and a drain cock at the deep tank end of the model. The model should be completely undecked and there should be a graduated track across the full width of the deck with 2 x 2.5 kg weights attached and docking devices. There should be a set of rectangular steel weights to simulate loaded conditions: 2 x 10 Kg, 2 x 5 Kg, 4 x 4 Kg, 2 x 3 Kg; 2 x 2 Kg, 4 x 1 Kg.	2500	X		
1	WORKING MODEL OF TRADITIONAL DERRICK GEAR	4000		X	
1	WORKING MODEL OF VELLE DERRICK	4500			X
1	WORKING MODEL OF THOMPSON CRANE	6000			X

Equipment details (Cont.)

Qty	Description	Cost US	Priority 1	2	3
1	WORKING MODEL OF HALLEN DERRICK	10000			X
1	WORKING MODEL OF STULKEN DERRICK	15000			X
1	SET OF CARGO BLOCKS AND BEARINGS	800		X	
1	SET OF VARIOUS TYPES OF TANK WASHING MACHINES AND GAS EJECTORS	2500			X
1	SCHEMATIC MODEL OF CRUDE OIL TANKER, CARGO TANK AND PUMP ROOM	13000			X
1	SCHEMATIC MODEL OF CARGO HOLD AND SHIP'S ENGINE ROOM SHOWING PIPING SYSTEM	13000		X	
1	DETAILED CUT AWAY 3-D MODEL OF FORE END STRUCTURE OF A VESSEL	8000		X	
1	DETAILED CUT AWAY 3-D MODEL OF AFTER END STRUCTURE OF A VESSEL	8000		X	
1	SECTION THROUGH A CARGO HOLD RIGGED TO CARGO GRAIN	3000		X	
1	SET WALL CHARTS OF LOAD LINES AND LOAD LINE ZONES	100	X		
1	SET OF SLIDES showing cargo operations	300	X		
1	SET OF 16 mm MOVIES showing ship stability and ship construction	300	X		
1	DISPLAY RACK with large photographs of construction of various vessels	300	X		
1	SET SHIP DRAWINGS AND SHIP'S PLANS to illustrate the many types of specialist vessels	150	X		
1	SLIDE PROJECTOR		X		
1	16 mm FILM PROJECTOR		X		

Qty	Description	Cost US	Priority 1	2	3
2	WORKBENCHES, 11 m x 1 m x 0.82 m with lockers			X	
10	VICES, for wire splicing, mounted on the workbenches	500		X	
1	DERRICK MODEL	10000			X
1	CRANE MODEL	13000			X
1	WINDLASS MODEL	6000			X
1	HATCHCOVER MODEL	10000			X
1	SET OF DIFFERENT LIFEBUOYS AND MARKERS	600	X		
1	SET OF BOATSWAIN'S CHAIRS AND STAGES	400		X	
1	100 TON SPLICING PRESS	7000		X	
1	PILOT LADDER	100	X		
1	0.500 TON CHAIN BLOCK	250	X		
1	PORTABLE LIFEBOAT RADIO	3000	X		
1	SET OF RULE OF THE ROAD TRAINING EQUIPMENT with ship models, buoyage models, ship's lights, etc.	5000		X	
21	SETS OF PROTECTIVE CLOTHING, LIFEJACKETS AND SEA BOOTS	1000	X		
21	PAIRS OF SAFETY SPECTACLES	200	X		
21	PAIRS OF SAFETY HELMETS	200	X		
1	20 MAN LIFERAFT for dry demonstrations, complete with equipment	4500		X	
1	SET OF LARGE SIZE ILLUSTRATIONS OF LIFE-RAFTS AND EQUIPMENT	300	X		
1	SET OF ROPES, WIRES AND DECK FITTINGS, various sizes and characteristics	500	X		
1	SET OF TOOLS AND PAINTS	500	X		
1	FIBRE GLASS LIFEBOAT, approximately 7.3 m in length, fitted with small diesel engine, mast, sails and full set of oars	25000		X	

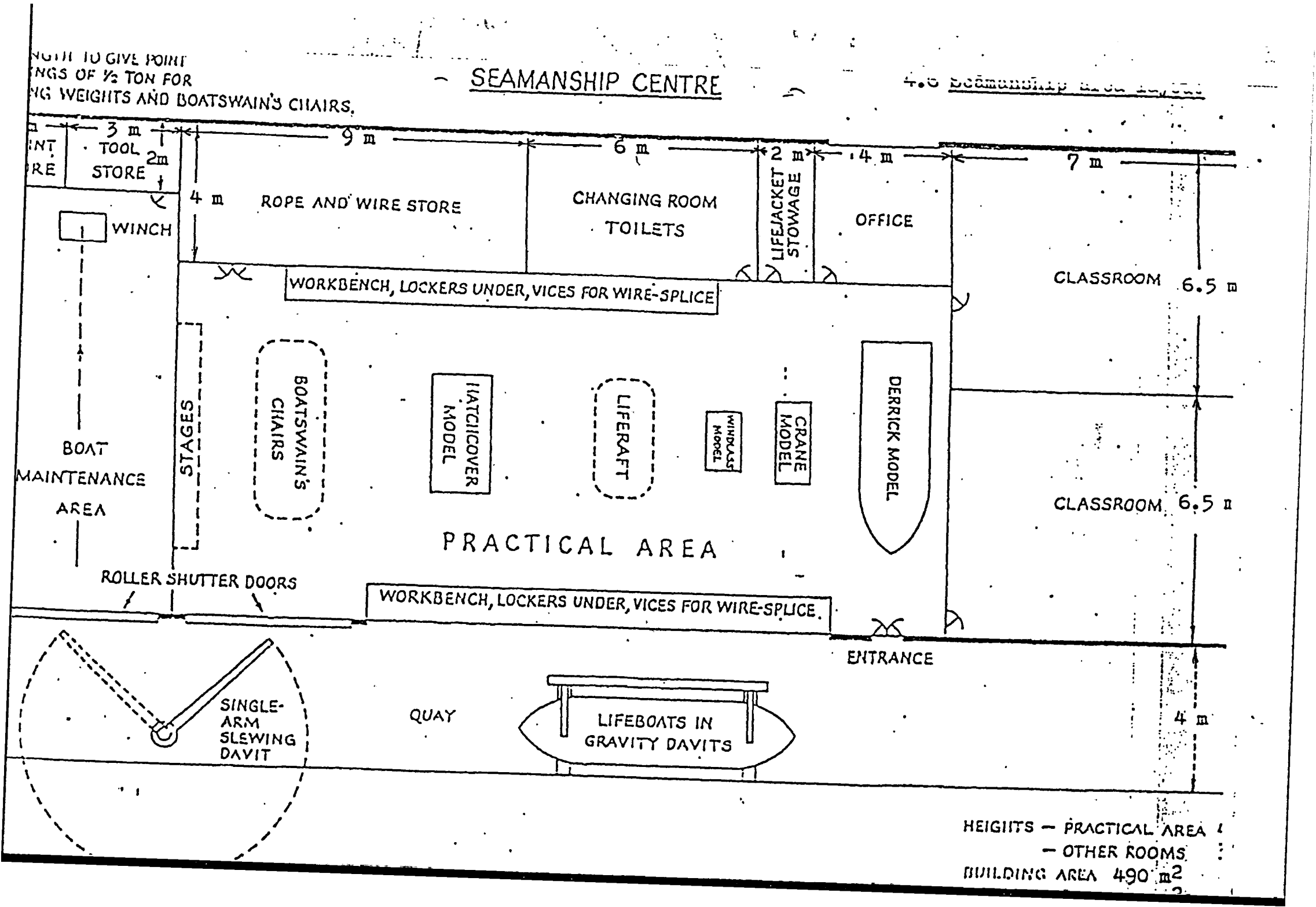
Equipment details (Cont.)

Qty	Description	Cost US	Priority 1	2	3
1	SET OF GRAVITY DAVITS to house lifeboat and allow for boat-drill instruction	19000		X	
2	G.R.P. BOATS , approximately 6 metres in length, accommodating a crew of 11, with sails, oars and a small diesel engine or outboard motor.	40000	X		
1	G.R.P. DINGHY, 3 metres in length, to use as workboat	3500		X	
1	SET OF MOORING BUOYS		X		
1	20 MAN INFLATABLE LIFERAFT for wet drills	3000		X	
1	COMPLETE LIFEBOAT OUTFIT for instruction	500	X		
1	COMPLETE LIFERAFT OUTFIT for instruction	300	X		
1	SET OF 16 mm MOVIES for Safety of Life at Sea instruction	300	X		
1	4 H.P. ELECTRIC PORTABLE HOIST UNIT	3000		X	
1	SINGLE ARM SLEWING DAVIT	27000		X	
2	5 m SAILING DINGHY	10000			X

NGTH TO GIVE POINT
INGS OF ½ TON FOR
NG WEIGHTS AND BOATSWAIN'S CHAIRS.

SEAMANSHIP CENTRE

4.6 Seamanship [illegible]



HEIGHTS — PRACTICAL AREA
— OTHER ROOMS
BUILDING AREA 490 m²

Equipment details

Qty	Description	Cost US	Priority 1	2	3
1	FIRE WATER PUMP AND FIRE HYDRANT OUTLET to supply all water for fire fighting purposes	5000		X	
5	SETS OF BREATHING APPARATUS complete with spare cylinders, spare parts and maintenance tools	1500		X	
1	AIR COMPRESSOR UNIT	4500		X	
10	FIRE HOSES 45mm diameter	350		X	
10	FIRE HOSES 65mm diameter	400		X	
6	FIRE BRANCHES, 2 standard, 2 diffuser and 2 jet/spray	500		X	
2	MECHANICAL FOAM BRANCHES	1200		X	
1	HIGH EXPANSION FOAM GENERATOR	4000		X	
1	FOAM COMPOUND	1500		X	
2	STANDPIPES, with keys and bars to operate hydrant suply	400		X	
6	9 LITRE WATER EXTINGUISHERS	100	X		
6	10 LITRE FOAM EXTINGUISHERS with recharges	200	X		
6	6 Kg CARBON DIOXIDE EXTINGUISHERS	200	X		
6	9 Kg DRY POWDER EXTINGUISHERS with recharges	250	X		
4	36 m SAFETY LINES AND SNAPHOOKS	120		X	
1	SMOKE HELMET AND BELLOWS	500		X	
2	STRETCHERS	250		X	
2	FIRST AID KITS	100		X	
1	RESUSCITATION SET	1500		X	
10	SETS OF PROTECTIVE CLOTHING including tunics, fire boots, gloves, overalls, helmets.	300		X	
1	ASSORTMENT OF HAND FIRE EXTINGUISHERS AND FIRE HOSES, cut away for demonstration plus an international ship to shore fire hose connection and respiration and resuscitation demonstration aids	600	X		
1	SET OF 16 mm FILMS for training in fire prevention and fire fighting procedures	500	X		

ire fighting building layout