

WORLD MARITIME UNIVERSITY

" AN INSTITUTE OF THE SEA FOR THE CENTRAL AMERICAN REGION "

**(A PROPOSAL FOR THE CREATION OF A MARITIME EDUCATION
AND TRAINING FACILITY FOR THE CENTRAL AMERICAN REGION)**

BY

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COSTA RICA

**A dissertation submitted to the World Maritime University in
partial fulfillment of the requirements for the award of the
degree of Master of Science in Maritime Education and
Training Nautical.**

1992

DEDICATION

This dissertation is dedicated to the memory of my father Juan Bautista Rojas Sequeira (RIP). To my dear mother Tomy, my sister and brothers.

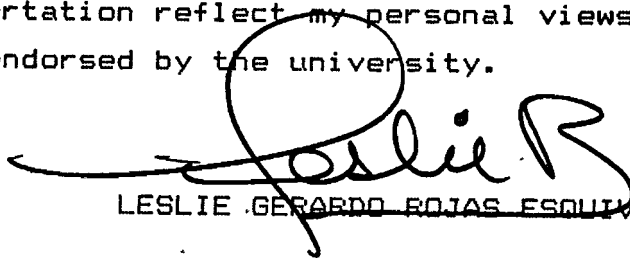
Specially to my wife who supported, helped and guided me during these two years of study at World Maritime University and my dear son.

TO MARLEN AND LESLITO

DECLARATION

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 degree has been previously conferred upon me.

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



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ABSTRACT

The Central American region is composed by seven countries Guatemala, Belize, Honduras, El Salvador, Nicaragua, Costa Rica and Panama with a huge marine riches in both the Caribbean Sea and the Pacific Ocean. All these countries have almost the same background historically, culturally, ethnically and with the same language.

Maritime development has been very slow in the region because almost all the countries have given more importance to agricultural activities. There has been little interest by the regional governments in developing this important sector for the regional's economy. The principal reason is this is probably the lack of maritime training facilities in the region and consequently the lack of well qualified seafarers for the maritime industry to develop. Maritime tradition is an important factor that has to be considered but actually with new ship development and modern navigation systems using satellites and other aids life at sea has become more technological than some years ago.

There are several reasons for the establishment of a maritime training institute in the region. For instance, it is possible to point out that almost all countries in the region are using foreigner merchant fleets to carry regional goods for exports as well for imports. The fishing industry could be modernized and its ancillary industry could grow to provide employment to thousands of regional workers.

Although there are new port terminals in the region there is a lack of knowledge in the carriage of goods which could produce serious casualties and the inconvenience of maritime pollution.

Taking into consideration all these aspects the establishment of a maritime training facility should have paramount importance in the region. It could provide education and training in subjects including marine safety, search and rescue, fire prevention and control, survival at sea, seamanship, navigation, handling of goods, marine engines, fishing, port operations, marine communications.

The institute of the sea for the Central American Region is a need and has to be developed as soon as possible in order to cope not only with the exploitation of that marine wealth that all Central American countries have but also for the safety of their nationals and the sovereignty of their maritime exclusive economic zones.

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CHAPTER ONE

1. GENERAL ASPECTS OF CENTRAL AMERICAN COUNTRIES

1.1 GEOGRAPHICAL FEATURES

1.1.1 LOCATION

The Central America Region extends 1800 Kms. from the southern frontiers of Mexico to Colombia on the northern edge of South America. This narrow isthmus winds in a southeasterly direction, separating the Caribbean Sea and Atlantic Ocean to the north from the Pacific Ocean to the west and south.

1.1.2 CLIMATE AND TOPOGRAPHY

The Region lies predominantly within subtropical and tropical climatic zones and includes a variety of land forms, differing ecologies and diverse climatic patterns.

Central America is predominantly mountainous with a rugged topography dominated by canyons and gorges carved by the twisting course of rivers and streams. A central mountain chain is intersected by several east-west ranges. On either side of the isthmus the land drops toward the hot, humid lowlands that line the Pacific and Atlantic coasts.

The spine of the isthmus is crystalline rock interspersed with volcanoes, many still actives. Closer to the Pacific than to the Atlantic, this volcanic spine stretches for

nearly 1300 Kms. from Guatemala to Panama.

Central America's mountainous interior lacks a coherent form. Some of the highest mountain ranges are capped with rain forests at altitudes around 2,700 meters. There are several highland valleys where populations have been concentrated since pre-Columbian times.

1.1.3 RIVERS, LAKES AND COASTS

The majority of the rivers are short and non-navigable. With the range reaching from 160 to 600 kilometers in length and mainly exiting into the Caribbean Sea. Therefore, Central America contains a number of lakes. The largest enclosed bodies of water are Nicaragua's Lake Managua and Lake Nicaragua.

Although, there are several major Pacific and Caribbean ports there are few indentations. The coast line is very regular along both the Caribbean Sea and the Pacific Ocean.

1.1.4 WEATHER CONDITIONS

Most Caribbean ports have little natural protection from tropical storms and require wharves or lighter loading and unloading facilities because of shallow water.

Despite Central America's location within the lower latitudes, there are widely diverse climatic patterns. Cooler

climates prevail at high elevations.

Terrain affects patterns of precipitation and rainfall which in turn affect the temperature. Generally the Caribbean coasts receive most rainfall. Hurricanes frequently batter the Caribbean side of Central America.

1.1.5 GEOLOGY

The active geology of the area has contributed to high land fertility through centuries of volcanic eruptions. This pattern varies within each country and in the region as a whole.

The marine geology is active too, there are several volcanoes which produces eruptions causing flood and changes in the coasts as well in the sea bottom.

1.2 HISTORICAL BACKGROUND

1.2.1 DISCOVERY AND COLONIALISM

1.2.2 DISCOVERY

Christopher Columbus reached the Caribbean shores of Costa Rica and Honduras on his fourth voyage to the New World in 1502.

The Spanish reached Panama in 1509 and by 1513 Vasco Nunez de Balboa had crossed the isthmus and sighted the Great South Sea in 1519. Panama City was established during that year.

In 1543 the Captaincy General of Guatemala was created to administer the Central American Region. This jurisdiction included provinces from Chiapas in the North to Panama in the South. Santiago de Guatemala, founded in 1526, was declared the capital city in 1548 and became the seat of the audiencia or circuit court.

Spain's ties with the region were weak. In part, this was because only fragile trade and communication links existed, except for those across the isthmus of Panama.

1.2.3 COLONIALISM

The physical isolation of Central America and its limited mineral resources left the region on the outermost fringes of the Spanish colonial empire.

Panama was an exception since it was a major crossing point on the isthmus and one of the handful of routes within the empire along which goods were allowed to flow to and from Peru.

During the sixteenth and seventeenth centuries the Central American economy was quite eclectic with no single avenue (as in Peru) to the achievement of wealth. In Panama and Nicaragua commercial interest grew up around their transisthmian routes linking the region to Spain the mother country and to Peru.

One of the primary characteristics of the early colonial economy was the constantly shifting economic base around which local elites attempted to consolidate their political power.

1.3 INDEPENDENCE AND UNION

1.3.1 INDEPENDENCE

Two years after Central America gained independence from the Spanish Empire in 1821, that provided for a loose confederation of states was established the region's association with Mexico was approved.

The new government faced rising debts, due to the inability to raise tax revenues, and felt threatened by a potential invasion by Spain. Division persisted between the principal parties, the Conservatives and the Liberals, with the latter remaining unwilling to exchange Spanish colonial rule for that of Guatemala as General Captaincy.

1.3.2 UNION

The first attempt at union completely failed, and by 1940 all Central American provinces had declared their independence. Intense rivalries divided the new republics despite continued efforts to promote regional unity. Nicaragua, Honduras and El Salvador joined forces in the Pact of Chinandega in 1842. Two years later regional unity was briefly restored with the establishment of the United Provinces of Central America.

Between 1821 and 1975 twenty-five attempts were made to create some form of confederated government or association of states for that reason has been called sometimes " Central America the country divided ".

1.4 POLITICS AND SOCIO-ECONOMIC DEVELOPMENT

1.4.1 POLITICS

The liberal reforms did aid Central America in breaking out of its historical pattern of relative isolation from the global economy. However, this change required the acquisition of both foreign capital and technology, which were needed in conjunction with the exploitation of the region's agricultural potential and its other resources. However, exports were never sufficient to cover the rising demand for imports which were the beginning of the external debts.

These grew accordingly giving to the foreigners control of Central America's economy regarding many financial and banking resources in the region.

By the late nineteenth century coffee became the leading export crop, except in Honduras and Panama. At the same time bananas began to emerge as a second major source of foreign earnings. Still, today however, unlike coffee and banana production and export is an industry completely managed by foreigners.

1.4.2 ECONOMIC DEVELOPMENT POSTWAR

The years after the Second World War were the cause and result of dramatic changes in economic and social facts taking place within Central America increasing global demand for primary commodities and incipient industrialization.

As market prices for primary products rose, farmers and ranchers saw new opportunities to profit from lands already owned or readily available. Cotton, sugar, tobacco and other crops generated new cash income.

At the same time Central America was supported by multilateral agencies such as the United Nations (U.N.) and the Organization of American States (O.A.S.) both financially and technically.

Therefore, bilateral and multilateral aid was enlisted to revitalize and create administrative and physical infrastructure. Roads were built, port facilities were renovated and modernized, hydroelectric projects were planned, etc.

Central America's postwar economic growth was stimulated by rising global and domestic consumer demands, by government emphasis on national development, and by the initial success of the Central American Common Market.

Imports rose to meet the needs of industrial activity, infrastructure expansion, and social services.

Exports grew and became more diversified, with the cost of imports generally exceeding exports. However, differences between exports and import increases were normally disadvantageous to Central America and the commodity export prices remained more volatile than those for imported manufactured goods. Consequently, national expenditure tended to outpace incomes with external debt financing making up the difference.

Another less visible component of change in Central America since the Second World War has been the strengthening of

local military institutions. this is not the case for 22sta Rica, whose armed forces were dissolved in 1948. National armies emerged as significant contenders for political power as in the case of Guatemala, Honduras, El Salvador, Nicaragua and Panama.

2 CHAPTER TWO

2 AN OVERVIEW OF CENTRAL AMERICA

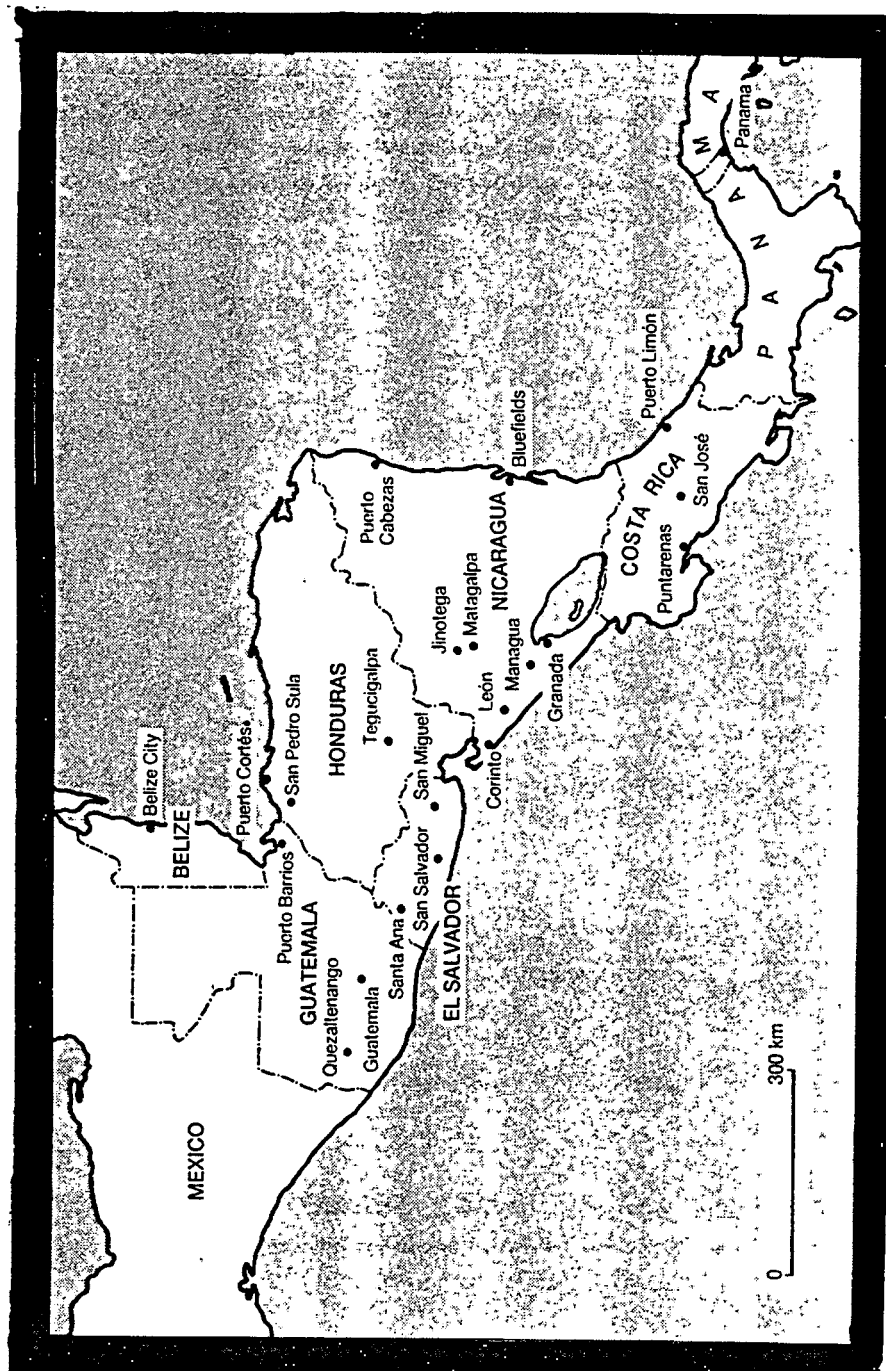


FIG. 1 MAP OF CENTRAL AMERICA

2 AN OVERVIEW OF CENTRAL AMERICA

It is important first to give an overview of these countries in order to get a general picture of their population, area, main products, and other relevant particulars. Therefore some general facts concerning the maritime sector and mainly regarding maritime education and training.

It is necessary to explain some individual factors country by country in order to know what is the present reality in these countries and later on to try to find the best solution to those problems.

For references concerned with I.M.O. conventions see ANNEX I.

2.1 GUATEMALA.

Guatemala has a population of 8.8 million (1990) and a territorial area of 108,886 square kilometers.

It is an agricultural country which produces corn, coffee, cotton, cattle, sugar, bananas, rice and cardamon. The principal industries are food processing, textiles, building materials, rubber, pharmaceuticals, chemicals and metallurgy.

The natural resources are crude oil, nickel, timber, and fish.

Guatemala became a member of I.M.O. on March 16, 1983. However, it has not ratified most of the maritime conventions.

Guatemala has no maritime institution in charge for providing

maritime education and training for commercial purposes.

The main ports of Guatemala on the Pacific Ocean coast are Champerico, San Jose, Puerto Quetzal. And on the Caribbean Sea are Puerto Barrios, Santo Tomas de Castilla.

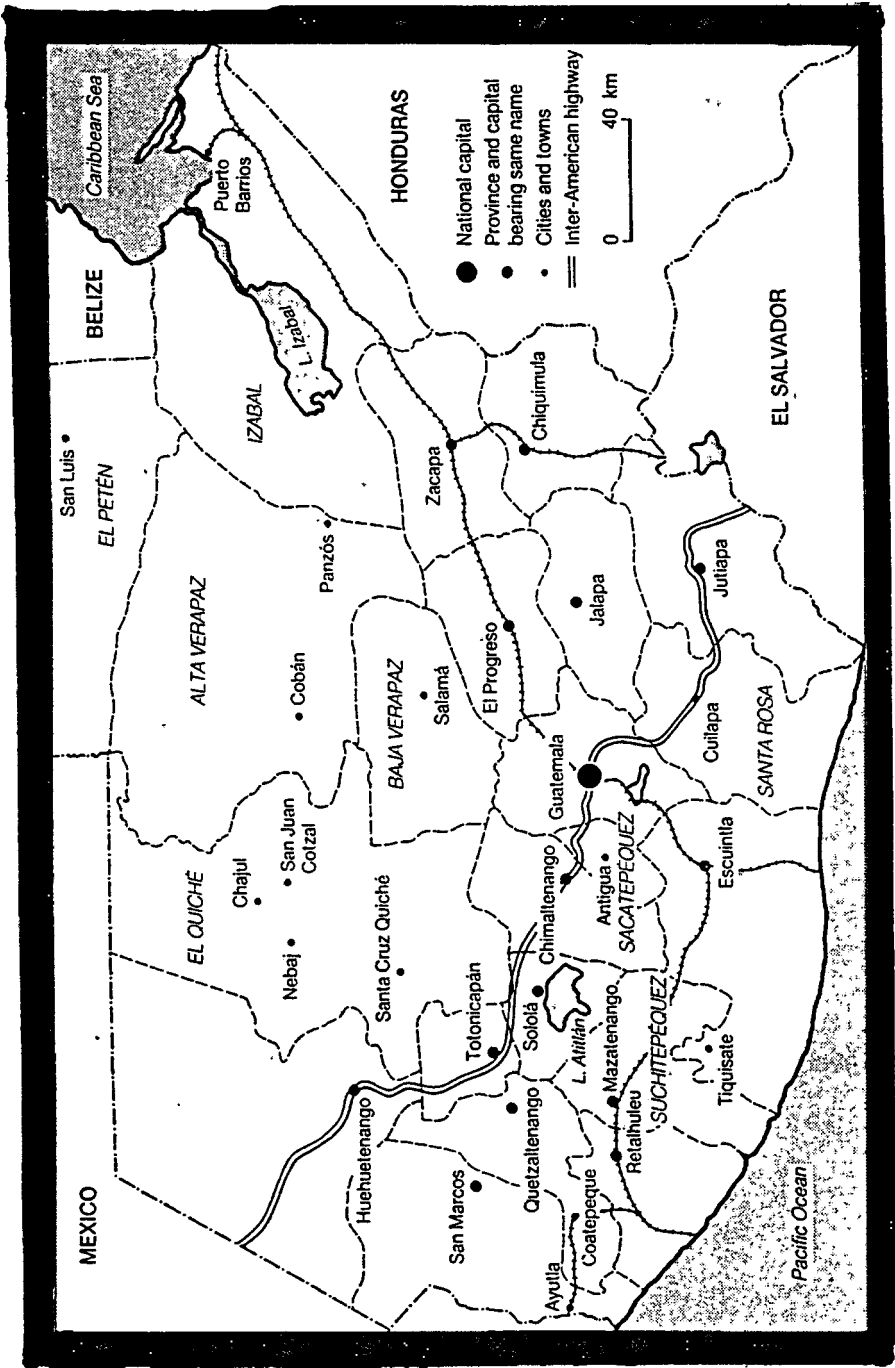


FIG. 2 MAP OF GUATEMALA.

2.2 BELIZE

Belize is the youngest country in the region because only a few years ago it was a British Colony ; the former name was Honduras Britannica. Belize became independant in 1981.

Belize has a population of 172,000 (1990) and the territorial area is 22,962 square kilometers.

Belize became member of I.M.O. recently in late 1989 and perhaps for that reason Belize has not ratified any I.M.O. conventions.

The main agricultural products are sugar, rice, cattle, and vegetables. The major industries are garments, beverages, sugar refining, wood products and mainly tourism. The natural resources are timber and fish..

Until now Belize has not had any maritime institution providing maritime education and training which is very necessary for the development of maritime activities.

Belize has a coast only along the Caribbean Sea. However, it is of tremendous importance for the tourism industry because the Cays are famous world-wide.

The main port is Belize .

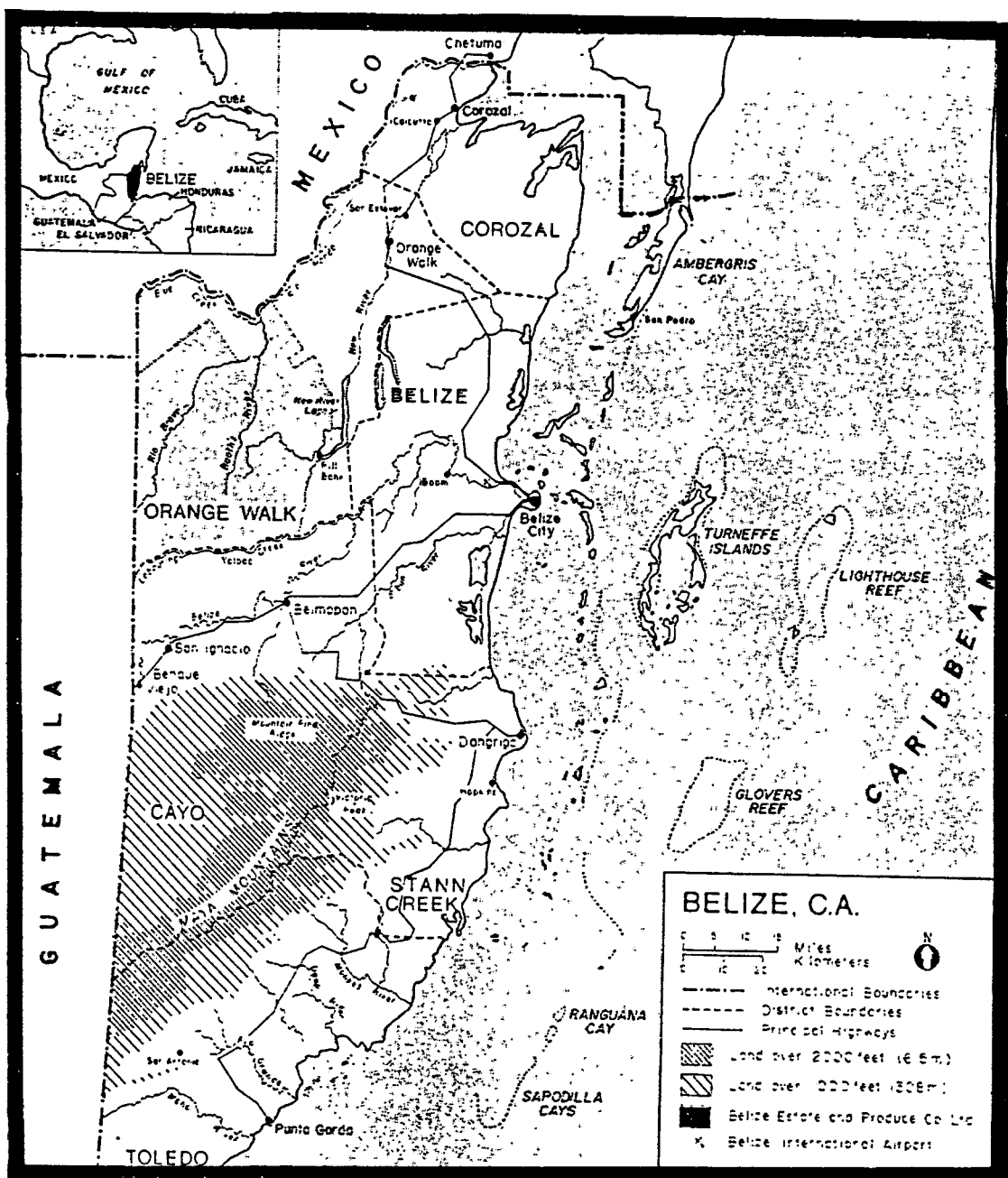


FIG. 3 MAP OF BELIZE

2.3 HONDURAS

The population of Honduras was 5,0 million in 1990. It is one of the biggest countries in the region with a territorial area of 112,084 square kilometers.

Honduras is an agricultural country and its main products are coffee, bananas, corn, beans, livestock, wood products, and food processing. It is a very rich country regarding natural resources which are timber, gold, silver, copper, lead, zinc, iron ore, antimony, coal. Fish are exploited mainly off the Caribbean coast.

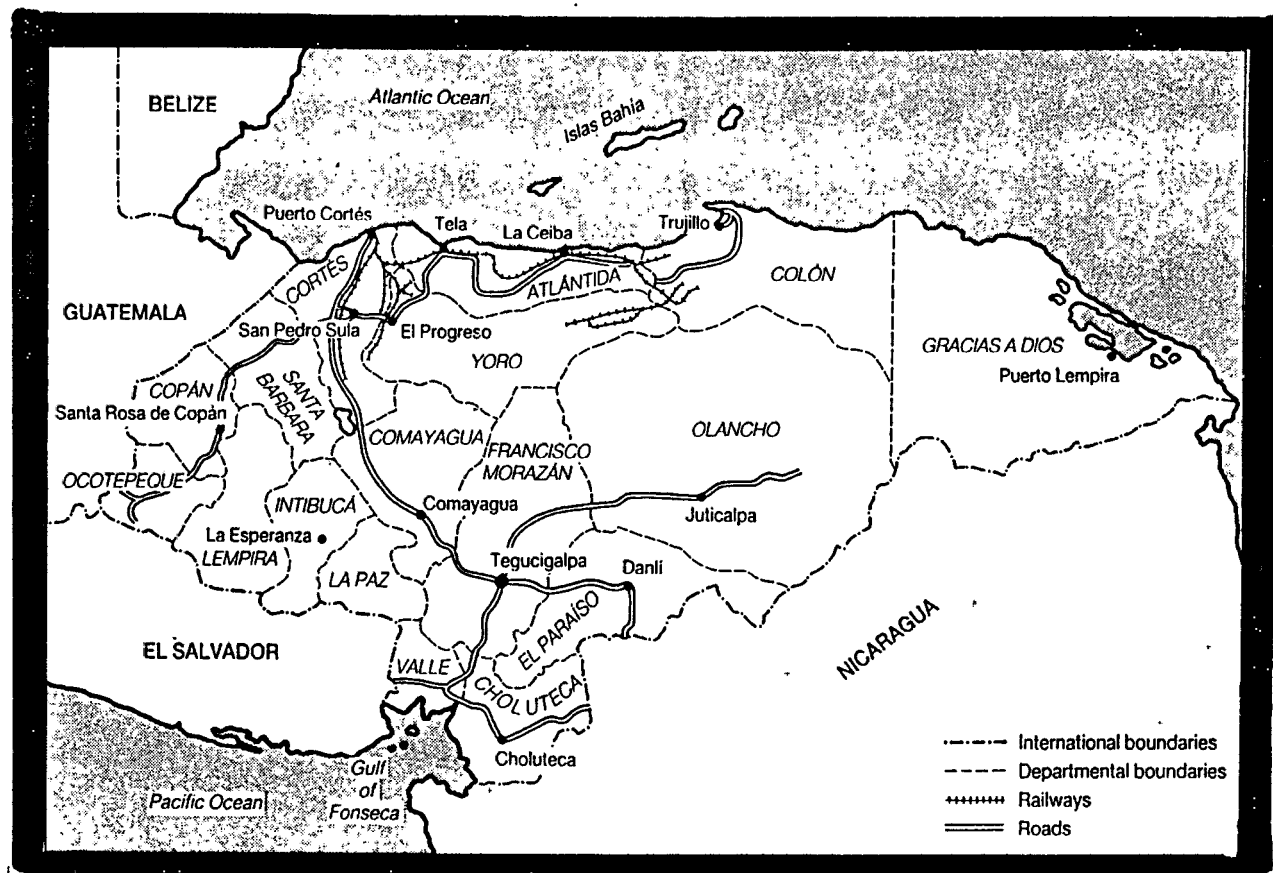
Honduras is a country considered as an " open registry " country with more than 400 vessels registered.

Honduras became member of I.M.O. on August 23, 1954. However, like other countries in the region, Honduras has not ratified most of the maritime conventions and protocols concerned with the maritime sector.

Honduras has one Naval School located in Puerto Cortez which is providing training to the ratings for the Honduras Navy. However, it has no connection with any commercial maritime activity.

The main ports on the Caribbean coast are Puerto Cortez, Tela La Ceiba, Trujillo, Puerto Castilla. And the in the Pacific side are Puerto San Lorenzo which is a new terminal and Amapala.

FIG. 4 MAP OF HONDURAS



2.4 EL SALVADOR

El Salvador has a population of 5.4 million (1990) and a territorial area of 21,040 square kilometers.

It is an agricultural and industrial country producing coffee, cotton, sugar, livestock, corn, poultry and sorghum.

Its major industries are food processing, textiles, footwear, garments, chemicals and oil products. The principal natural resources are crude oil derives , geothermal power and hydroelectric power.

El Salvador became a member of I.M.O. on February 12, 1981. However, it has not ratified most of the maritime conventions and protocols. El Salvador has no institution providing education and training in the maritime field.

This country has a coast only in the Pacific side where the main ports are Acajutla, La Libertad, La Herradura, La Union.

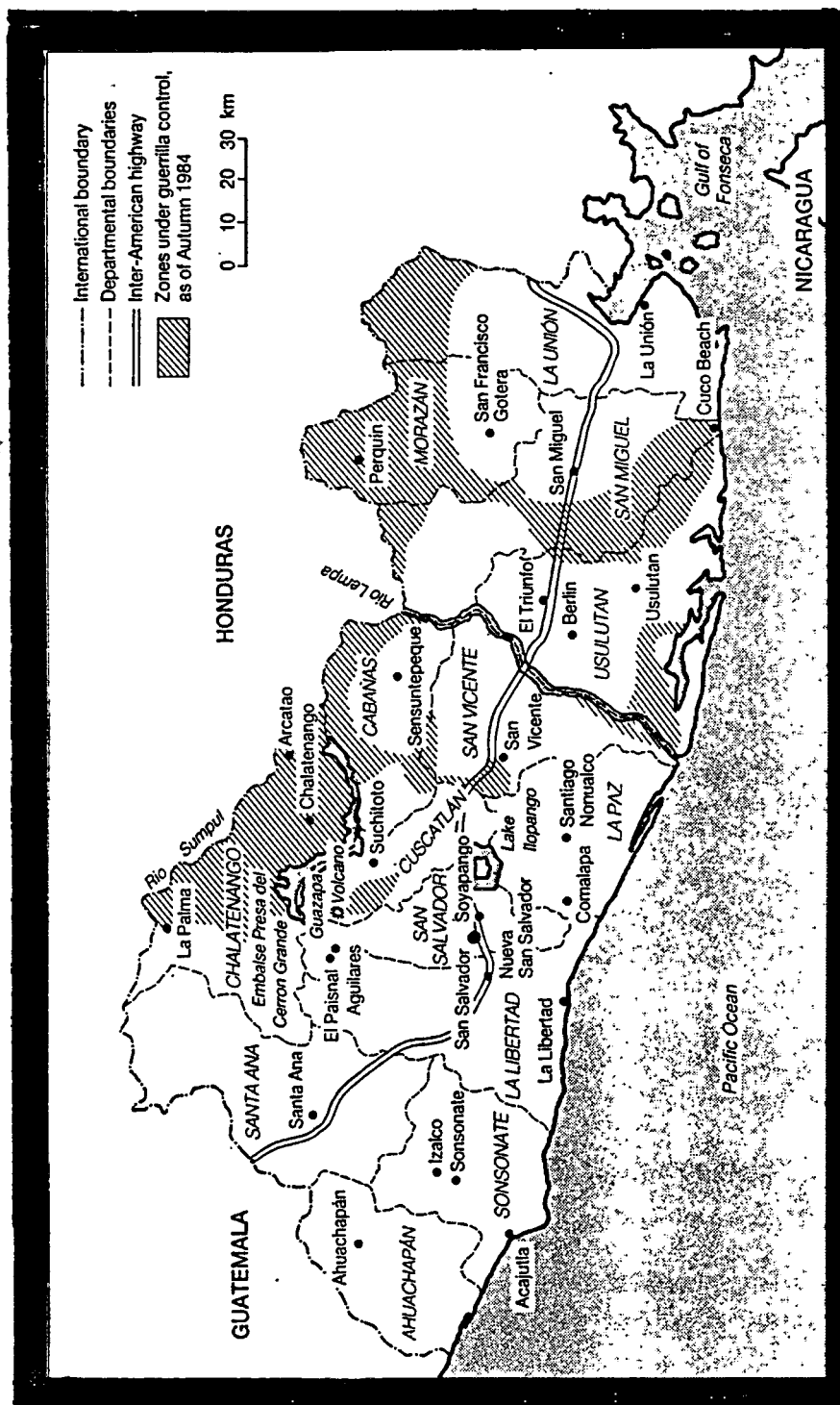


FIG. 5 MAP OF EL SALVADOR

2.5 NICARAGUA

Nicaragua has a population of 3.4 million (1990) and its territory is one of the biggest of the region with 129,996 square kilometers.

Nicaragua is very rich in minerals. Its natural resources are gold, silver, copper, tungsten, lead, zinc and timber.

Another natural resource is the fish especially off the Caribbean coast. As an agricultural country the main products are corn, coffee, sugar and meat. The major industries are food processing, beverages, textiles metallurgy and footwear.

Nicaragua became a member of I.M.O. on March 17, 1982. It has not ratified most of the maritime conventions and protocols.

Until now Nicaragua has no maritime institution for providing education and training.

The main ports along on the Caribbean coast are El Bluff and Puerto Cabezas and along in the Pacific coast Corinto San Juan del Sur and Puerto Sandino.



FIG. 6 MAP OF NICARAGUA

2.6 COSTA RICA

The population of Costa Rica is 2.9 million (1990) and the territorial area is 50,900 square kilometers.

As an agricultural country its main products are bananas, coffee, sugar, beef and grains. The major industries are food processing, textiles, building materials and fertilizers. Hydroelectric power is considered a main natural resource.

Costa Rica became a member of I.M.O. on March 4, 1981. However, it has not ratified most of the maritime conventions and protocols. Costa Rica has no maritime institution providing maritime education and training. However, one does already exist for fishing which provides training for the fishermen.

Costa Rica's main ports along the Pacific coast are Puntarenas, Caldera, Golfito and along the Caribbean side Puerto Limon and Puerto Moin.



FIG. 7 MAP OF COSTA RICA.

2.7 PANAMA

Panama has a population of about 2.3 Million and its territorial area is 78,198 square kilometers. Its agricultural products are bananas, sugar, rice, coffee, vegetables and cattle. Its major industries are food processing, metallurgy, oil products, mining, garments and furniture. The main natural resources are copper, timber and shrimps.

Panama became a member of I.M.O. on December 31, 1958 and it is the most developed country in the maritime field in the region because of their merchant fleet which is one of the biggest in the world this is due to its being flag of convenience country and because of the importance of the Panama Canal as well.

Panama is the only country in the region which has a maritime institution in charge of providing education and training.

This is the Nautical School of Panama which works at two different levels; one for training the crew members and the other in charge of providing education and training to merchant officers.

However, the main function of this institution is to prepare qualified personnel to work in the Panama Canal and in its merchant fleet.

The main ports of Panama in the Pacific coast are Puerto Armuelles, Balboa, Aguadulce, Chiriqui Grande, Pedregal Vacamonte (which is a fishery terminal). And on the Caribbean coast Bocas del Toro, Colon (Cristobal), Bahia Las Minas.

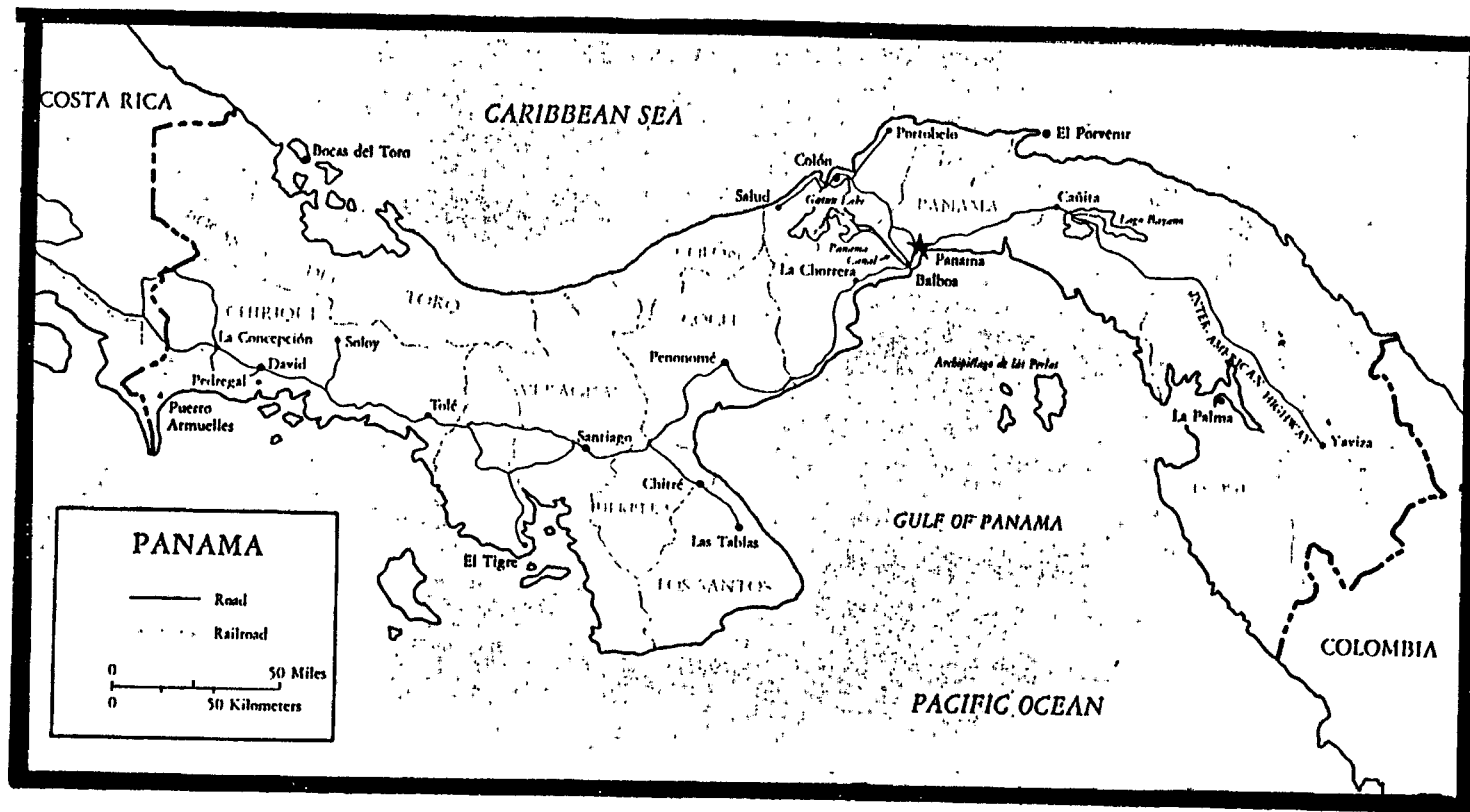


FIG. 8 MAP OF PANAMA.

CHAPTER THREE

EVALUATION OF THE MARITIME ACTIVITIES FOR THE CENTRAL AMERICAN REGION.

1 MARITIME POLICIES IN CENTRAL AMERICA.

Maritime transport and maritime activities are essential and may play an important role in the development of a country or in this case a region. Consequently they have a direct impact on the economy and social welfare of their inhabitants.

It is well known that water covers 71 per cent of the earth's surface. Therefore, it provides a cheap way of communication and, in consequence, between 75 and 80 per cent of the world's trade and commerce is made by sea.

Maritime activities and maritime transport are a vital element for the economic life of the Central American countries because about 90 per cent of exports and imports are transported by sea.

The geographical situation of Central America, which is an isthmus bordered by the Pacific Ocean and Caribbean Sea, is most perfect for the development of its maritime activities. However, these activities have an international character which is subordinated to rules and regulations which are particularly important regarding safety, the protection of maritime environment, maritime education and training, etc.

The development of maritime activities in a region depends

in many factors such as economics and politics and the importance of industry. However, it is fundamental to define and to adopt such maritime policies taking into account to which grade they are going to be involved in the region.

All countries, developed or developing, with or without maritime tradition, consider the establishment of a national merchant fleet as a sign of independence, politically and economically. Therefore, for many nations maritime industries and maritime activities have paramount importance economically and socially. However at the same time it is important to recognize that the pre-requisite for the establishment and development of viable maritime activities of great value here is the development of qualified human resources, port administrative, technological knowledge and capital.

In spite of the importance of maritime activities in Central America in general, there are no clear policies in the adoption of maritime policies. Some efforts have been made to define and implement them without success. This is the case with the establishment of a multinational and regional company called NAMUCAR (Naviera Multinacional del Caribe). Actually, there are some single cases which, without intervention of the governments are still in operation.

In the last 20 years, all the countries in Central America have modernized their port infrastructures, investing huge amounts of money in this field. However, in the shipping industry the development is reverse and the merchant fleets have decreased.

Noneless, an analysis of the development of human resources existing in the region in the maritime field is necessary and indispensable for the implementation of any maritime policy. The chance of this being developed is nil since there exists

a lack of experts.

Technological developments in the maritime field in last years, such as satellite communication, satellite navigation, containerization, automation, and others, have made ships and ports more complex. This concerns operations and management, new cargoes, new operation forms and even chartering all of which have changed a lot and require special training in shipping management, port management, port administration, etc. Unfortunately, Central America has a deficiency of such personnel in order to direct and manage shipping operations. This lack of knowledge or know-how is a factor which shows the slow progress observed in the maritime field in the region.

The maritime business involves huge amounts of money and demands expertise which cannot be developed overnight. For such reasons the countries involved in the shipping business need experts who take advantage of the trade and the international market. Even the owner of the cargo has to be familiarized with the mechanism of negotiation which is important in order to make good profits.

One very sad reality is that the Central American countries have not been supported by the international maritime community. Of course there are some exceptions, mainly that of the WORLD MARITIME UNIVERSITY in Malmoe, Sweden.

As was mentioned previously, maritime activities are highly competitive and in some way congested by the huge number of financial interventions. Some of these are negative and some given by the governments to allow the developing countries to participate in the maritime activities required so that the civil servants may become qualified and capable of analyzing the market and governmental interventions. Central America has not had this personnel and consequently

it has to accept the slow progress made in developments in the maritime field.

In general, all above shows the need for educating and training personnel in order to formulate and analyze different alternatives of development concerned with the maritime policies and mainly with the maritime activities.

Therefore, it is crystal clear that with the absence of qualified personnel it will be very difficult for the region to formulate and attain any developments in the maritime sector.

3.2 EVALUATION OF SHIPPING INDUSTRY IN CENTRAL AMERICA.

The shipping industry has for a long time been a headache for all countries in the region. Below, some of the problems and situations occurring in the region during almost the last twenty years are presented.

In Guatemala there are no maritime policy identifiable, twenty years ago, were promulgated some laws which created a national merchant fleet and at the same time protected the fleet through the reservation of cargo. This legislation reserved all imports for the national merchant fleet and established a penalty of 50 per cent of the total charter for the infraction. The establishment of the fleet was the basis for its operation in which it was assigned a special role to the Government. In this way FLOMERCA

(Flota Mercante Centroamericana) was created. However, in practice, and through the years, this important decision was not successful.

At the moment, the situation concerning the maritime policy

is unknown. Although, the legislation is in force, the gross of the cargo transported to Guatemala is carried by other vessels under other flags.

Regarding the maritime policies in Belize there is not too much that can be said, since it is a very young country. It has a tremendous advantage over the other countries in the region because it was a British Colony known as Honduras Britannica and follows the very long maritime tradition of the United Kingdom. Another point which is valid to mention here is that Belize is currently introducing into its the maritime business an open register. It is clear that Belize can develop its maritime activities quickly and easily because of these reasons and because the mother tongue is English.

The case of Honduras, for many years and especially between 1920 and 1930 when some American shipowners in order to avoid taxes decided to opt for the Honduras Registry which adopted an open register.

Various factors determine after the reduction in the tonnage registry, perhaps the international opposition to the open register was the main reason. However, after the adoption of the United Nations Convention on Register and Conditions of 1986 the situation has been changed and now Honduras has followed the steps of Panama. In order to succeed in such matter it is not only necessary to give advantages in relation to the costs but also is necessary to save the prestige of the ships carrying the national flag, demanding the ships to be registered under the national flag and to comply with the international requirements.

As for EL Salvador the maritime policy in the last decades has given importance only to the development of Acajutla Port and probably this factor was the reason for the

underdevelopment of the merchant fleet, it was never even considered necessary to create an administrative department dedicated to dealing with all functions of a maritime administration.

El Salvador operates one of the more efficient ports in the region and without doubt this could be transformed in maritime and shipping efficiency which primarily could develop the maritime administration.

In 1981, Nicaragua decided to initiate an intensive program with reference to the national merchant fleet. However, serious economic and political problems have not permitted the fulfillment of this objective. During the Sandinista Government the co-operation with the socialist governments has given the opportunity to operate one ship for various years under NANICA (Naviera Nicaraguense)

When this merchant fleet was created (NANICA) was established ENICAB (Empresa Nicaraguense de Cabotaje). This was an enterprise dedicated exclusively to cabotage mainly in the Managua and Nicaragua Lakes and on the rivers.

In general terms it can be determined that Nicaragua has the maritime objectives well defined even though these may be difficult to achieve. The efforts made by the maritime administration are well harmonized.

Regarding Costa Rica, there are some problems concerned with the development of the national merchant fleet, because this was cancelled and the government used to charter ships from other register.

The maritime administration in Costa Rica is a General Directorate of Maritime Affairs.

After some years having vessels with the Costa Rican flag from American companies such as Panatlantic and CCT ceased to be a success since these companies opted for other registers.

Therefore, the main office of NAMUCAR was situated in San Jose, capital of the country, but for administrative reasons this company was bankrupt.

Also the case of NAVIERA JUNO company can be included which had traded with the United States of America and whose progress had developed very quickly. However, the bad administration and drug smuggling into the U.S.A. halted the rapid success of this company.

There are many companies which have tried to develop but for various reasons, have failed.

As far as maritime activities are concerned Panama is the most developed country in the region. It has a huge maritime infrastructure starting with the Panama Canal Commission, the General Maritime Directorate, several ports, a commercial free zone and other installations such as the oilduct in Chiriqui.

It is the second biggest register of ships in the world, of course, because it is an open register.

Panama has been criticized several times for this but it is still a powerful tool for earning profits.

3.3 EVALUATION OF THE MARITIME ADMINISTRATION IN THE REGION.

In the region there is no clear idea concerning maritime administration. This could be the main factor in the poor development of the establishment of maritime services or, on the other hand, international co-operation or international agreements with the maritime community. Also it is possible to establish that the lack of governmental departments responsible for the coordination and formulation of maritime policies and the harmonization with the general policies of development.

Strengthening or creating these governmental bodies with enough power to develop maritime policies and with qualified personnel could be the change in the implementation and clear definition of maritime activities development.

Bearing in mind the paramount importance of these bodies which will be responsible for the orientation of each country concerned with maritime transport, and other maritime activities is necessary give them all support and assistance.

In the light of the important role which maritime administrations play in defining and advising on maritime transport policy, technical co-operation is needed in order to update or strengthen such administrations in the region where they have to be up, and at the same time to establish them in countries where they are lacking. The highest priority, therefore, should be placed on a project for the development of a maritime administrations in Central America.

3.4 EVALUATION OF THE PORTS IN CENTRAL AMERICA.

Ports are an important factor in the chain of maritime development because they depend in great measure on the promotion of commerce and economic progress of a country. During recent decades, Central American governments have dedicated considerable attention to the development of port infrastructures. However, it was not planned for an integral policy for all the region, in relation with the design, construction and establishment of ports.

One example of this is that several ports in both the Pacific and Caribbean coast are very close to one another, for instance, Champerico, Puerto Quetzal, and San Jose in Guatemala, Acajutla in El Salvador, Puntarenas and Caldera in Costa Rica in the Pacific and Moin and Puerto Limon on the Caribbean side.

However, in terms of installations, the capacity of port infrastructure in Central America overcomes the current requirements.

In some ports of the region the equipment does not comply with the needs and the reality, therefore there is a lack of maintenance or preventive maintenance with the consequent problem of repairs reflected in the low rate of productivity.

Nevertheless, the main ports are acceptable in general terms and comply with modern technology. It is possible to establish that Central American ports are in better condition than most ports in developing countries..

Actually, most of the cargo from and to Central America is carried using modern technology. However, it has to be established that not even such infrastructure is going to be

accompanied by the needs of port administration and port training.

An area of importance in the training of personnel is port safety, mainly in oil terminals as in other terminals in order to prevent accidents when carrying dangerous goods.

Also it is necessary to formulate rules in port safety and implement the regulations of the IMDG code, adding emergency plans and first aid provisions.

3.5 EVALUATION OF MARITIME EDUCATION AND TRAINING IN CENTRAL AMERICA.

Maritime education and training in the region is a topic which is of paramount importance, since it can be established that a huge amount of nationals of the Central American countries have been employed in various maritime activities. With the exception of the Nautical School of Panama there is a lack of training facilities capable of providing the education and training needs of the region.

Actually, it is possible to say that about 50,000 Central Americans are working in the shipping industry and another similar number is working in various maritime activities such as port operations, maritime agencies, fish processing, etc.

These figures show the large amount of people involved in these activities, there is no doubt that it is necessary to develop maritime training facilities in the region or establish one integral institution for all the region.

It is necessary to point out that there are several initiatives in order to develop maritime training facilities.

It is valid at this stage to mention some of them.

It was mentioned previously that Panama has a nautical school which has during recent years been the institution in charge of providing merchant officers for the Panamanian vessels and maritime personnel to the Panama Canal.

In Costa Rica there are some institutions such as the Costa Rica University which is developing a program dealing with the fisheries.

The University College of Puntarenas has been developing some administrative courses for port administrators.

The CNP (Centro Nautico Pesquero) situated in Puntarenas (Pacific side) under the administration of the I.N.A. (Instituto Nacional de Aprendizaje) which deals with the training of fishermen in various activities such as fishing, fish processing, fishing devices and equipment, and others.

This centre has a very good infrastructure and very good support from the INA. However, all these institutions have had difficulties in order to find qualified personnel to deliver the courses to their students.

During the visit made by experts of TCD (Technical Co-operation Division) of IMO to Central America in 1988, the INA showed great interest in the development of a project of technical co-operation based on the provision of a training facility to other Central American countries on the condition of receiving technical assistance. Although, the training would be directed to fishermen the training could include training for merchant marine crew members.

The Honduras Government is seriously considering the establishment of a maritime training centre, on the basis that many nationals are working on Honduras flag vessels and other registers and with the objective of avoiding unemployment in the country.

In the case of such a centre being situated in Puerto Cortez, one of the important ports in the region, this centre could provide training to the other countries in the region.

Nicaragua, is not an exception. The ITN (Instituto Tecnico Nacional) wishes to develop a small nautical school with the objective of providing education and training for seafarers the school would be situated in Granada.

There are unknown plans for the development of maritime training facilities in Belize, Guatemala and El Salvador.

From the previous paragraphs it can be seen that there is a need to coordinate these various initiatives.

The case can be made for establishing one central maritime training institution in the Region.

3.6 CENTRAL AMERICAN APPROACH CONCERNED THE MARITIME ACTIVITIES

Central American countries are agricultural countries. This means that these countries do not have maritime traditions and consequently they do not have the know-how of how to exploit their maritime resources in the proper way. The lack of training facilities in the region could very well be the

reason for this underdevelopment. On the other hand, it is not usually possible at a reasonable cost to measure and quantify the economic, social, and other advantages that can be derived to these countries through the shipping industry and maritime industry development.

Another valuable observation can be made in the light that any investment undertaken by any country or by their nationals means a sacrifice of national or regional resources. That is to say developing countries never consider investment in the maritime field, they never take into consideration measures in order to justify its ignorance in maritime matters. For instance, there are two basic reasons put forward by regional countries for giving high priority to the establishment and expansion of their merchant fleets: the very large drain on their foreign exchange resources in the form of freights paid to foreign shipowners, and a dangerously low capability to provide carriage for their foreign trade.

The United Nations Conference on Trade and Development (UNCTAD), at its first session in 1964, adopted a document entitled "Common Measure of Understanding" in which it was specifically stated that: "the development of the merchant marine in developing countries ... is to be welcomed."

However, at the moment the situation concerned with maritime activities in Central America is uncertain, considering the political, social, and economic situation in each country.

Therefore, the weakness of maritime activities are a result of economic developments and the poor maritime economy in the region. In the last twenty years many of the companies which represent Central American countries have become bankrupt because of lack of economic resources, the oil crisis in the 1980's or bad administration.

These factors affect directly the maritime field in the region and could be the case in most developing countries. However, it can be said that maritime policies for the maritime sector have failed for circumstances such as:

- the governments of the Central American countries do not have enough interest in the importance of the maritime sector.
- there are no plans either short term or long term order to develop the maritime industry according to the actual needs and the future requirements.
- there is no office with enough political, administrative, and financial power to formulate maritime policies and with enough power to regulate, coordinate and to control the different maritime activities.
- the most important conventions and protocols of I.M.O. (International Maritime Organization) are not ratified.
- there is a lack of training facilities in order to cover all the workforce in maritime activities and provide the necessary education.
- currently there is no maritime legislation. If it exists it is out of date i.e. in Costa Rica still valid is the maritime legislation of 1949.
- last but not least there is a shortage of national and regional experts particularly in education

and training.

For these reasons the author has considered it important, in order to support previous and future quotations and remarks, to use the information entitled " CO-OPERATION FOR CENTRAL AMERICA " and was prepared by the Latin American Section of the T.C.D. (Technical Co-operation Division) of I.M.O. in 1988.

In general, the mission recognized that some efforts have been made in order to define and implement maritime policies.

These have not been part of a clearly structured policy which takes into account the principal aspects of the merchant fleet development, which are human resources development, capital, and technological know-how.

At the same time the mission recognized that in the past 20 years, Central America has, however, tried to update its maritime infrastructure, especially with ports as huge financial investment have been made in this area. At the present, as far shipping is concerned, the merchant fleets have not expanded but declined.

In the region there is a shortage of trained human resources in the maritime field capable of:

- analyzing the shipping market.
- formulating and implementing maritime policies.
- conducting shipping operations.

Among other things, this has been, and will continue to be a decisive factor in holding up progress in the promotion of efficient maritime transport, maritime services, the fishing industry, the development of national merchant fleets, port administrations, etc.

The mission observed that with one exception few nationals have been trained in matters concerned with maritime activities. Apart from this the nationals of the countries in the region have not received much assistance to develop expertise in matters concerned with the maritime activities.

Although, the mission and the governments of the region recognize that there is a need to train personnel in order to formulate and implement maritime policies, the mission pointed out that without adequate investment in human resources development it would be very difficult for the region to develop, formulate and implement such policies.

The maritime legislation at present in almost all Central American countries is obsolete and fragmented, being based on the French Commercial Code of 1807 and the Spanish Code of 1829.

Although these codes were good in those times they are now completely unsuitable for their purpose. In particular Book III of the codes contains shipping legislation which needs to be updated as many of the provisions apply to sailing vessels and steam ships and are , therefore, totally inappropriate for modern modes of transportation such as combined multimodal and integrated transportation.

They in no way contributes to the development of maritime trade, shipping, fishing activities certification of

seafarers in the region and other important matters concerned with the maritime field.

Consequently, there is a need to update virtually all maritime legislation in the Central American countries in order to harmonize it with current international instruments.

For instance it is well known that I.M.O. is the depository for more than 30 maritime conventions and protocols (see annex I).

One way to do this is that Central American countries should require the adoption of at least the most important international conventions in order to reinforce global regulations and standards.

The Central American countries have not given too much importance to the maritime safety administration. There does not appear to be a deep knowledge of the significant role played by maritime transport in the social and economic development of a country. This may explain the insufficient efforts made to establish national and regional transport services or commercial maritime transport based on co-operation with the international maritime community.

The absence of maritime awareness in the region may be due to the lack of government departments responsible for implementing, formulating and co-ordinating national and regional policies.

Regarding maritime safety the region does not have a well developed plan in order to cover the essential aspects concerned with safety in which it is possible to include capability for the survey and inspection of ships, capability for controlling and certification of seafarers, capability to render maritime search and rescue operations in order to make

it more effective, and capability to adopt practices for the safe transport, handling, storage, stowage of dangerous goods.

For instance, it is possible to remark that Central American ports are handling increasing quantities of dangerous goods and harmful substances.

Maritime education and training is completely absent in the region with the exception of Panama. There is no maritime institute in charge of providing education and training to those who are going to be in charge of maritime administrations, port operations, shipping companies, maritime dangerous goods handling, marine biology, aquaculture, etc. Therefore, courses concerned with safety such as fire fighting control, search and rescue, survival at sea, etc, are not given.

Regarding pollution prevention and control the region does not have an adequate administration infrastructure, expertise and means to provide protection .

Most Central American countries have coasts both on the Caribbean Sea and Pacific Ocean. Mangrove forests and coral reefs are abundant and contribute to the stability of the coastal resources. This fact and the favorable oceanographic conditions have allowed the development of important fisheries in the region.

Considering the geographical location and climate another sector which has great potential is tourism including the development of coastal resorts. However, these valuable coastal riches have to be protected in case of an accidental oil spill and operational discharges from vessels or oil terminals.

The response in case of oil spills in Central America would be minimal. None of these countries have fully developed a national contingency plan and the availability of trained resources for combating oil spills are totally inadequate.

4 CHAPTER FOUR

4. PROPOSAL FOR THE ESTABLISHMENT OF AN INSTITUTE OF THE SEA FOR THE CENTRAL AMERICAN REGION.

The maritime sector, like others, depends for its efficiency on the knowledge, attitude, skills and motivation of its workforce. Education and training is a prerequisite for the development of these subjects and this applies at all levels of the population from the lowest levels to the levels of policy makers and senior managers.

Because of the large number of people involved in the maritime sector and considering that for developing countries, the maritime activities are a fundamental tool for socio-economic welfare it is clear that this education and training must eventually be provided by the Central American countries themselves.

Of course, this will not be achieved overnight but the necessary education and training facilities could be established in the Central American Region with staff capable not only of delivering education and training programmes to meet today's needs, but also be able to develop new education and training programmes for the future.

The needs have to be seized by the Central American Region providing and establishing the infrastructure. This is fundamental and without a strong commitment there is no hope of achieving this goal. Another thing which is very important is that the international maritime community supports the maritime activities in the region, providing technical and technological assistance for this institution.

Recognizing the crucial importance of maritime transport, maritime safety, fisheries, port activities and other matters concerned with the maritime field and because of its general economic development and the promotion of their foreign trade, it is necessary to build up the regional infrastructure. However, the Central American countries have a shortage of well-trained personnel to develop these matters and activities at different levels and categories.

For those reasons it is necessary for the establishment of a maritime training facility responsible of assisting these countries in their endeavours to develop their own human resources in the maritime sector providing, promoting, developing and designing educational and training programs to enable these countries to train their own nationals in different disciplines according to the international standards in compliance with IMO's conventions and protocols.

Such a wide use of shipping activities requires adequate infrastructure and expertise for the efficient management and operation of their national or regional maritime administrations, merchant and fishing vessels, ports, maritime sciences, and associated shore-based industries.

As a policy for the socio-economic growth of the maritime field the first priority is education and training because these countries need highly qualified personnel in order that their nationals may become the maritime workforce.

Of course, without the support of the governments at the highest levels it is clear that establishment as a regional priority of any maritime institution like this is liable to suffer from underfunding with the possible results of lowered safety standards because of limited financial resources.

There are many reasons for the establishment of one institute like this in the region but also it is necessary to recognize first that its establishment will include:

- adaptation to the new developments in the maritime education and training
- integration of maritime policies in the Region
- agreement among the Central American countries on maritime legislation
- to avoid competition and conflicts among Central American countries.
- to harmonize well conceived projects and their integration into a regional programme in accordance with the objectives.
- to establish appropriate links among the countries involved and the different maritime matters concerned with an adequate coordination at all levels.
- to develop a real and firm regional commitment for sustainable development.
- to compile reliable information including data system or network on which policy choices can be made.
- to use the existing technical and training facilities and staff capabilities and making sure of avoiding duplication and overlapping

activities.

- to give to the existing bodies such as the General Directorate of Maritime Affairs the appropriate support in order that these bodies would be able to perform well.
- to secure adequate staff and budgeting resources.
- to seek adequate financing for different projects and programmes.

As Captain William T. Mc Mullen of the United States Merchant Marine Academy in Kings Point New York stated: " It is indoubtedly true that none of these countries could mount the program individually because of lack of resources but their combined resources are more than enough."

Regional cooperation is important. However, it will only come about if the countries in the Region see too that they allocate a portion of their resources to it - the other way to look at this is that they will take available limited resources away from alternative projects mainly if these countries consider that it is necessary to educate and train their nationals in the maritime field.

In this dissertation it is practically impossible to cover all the sorts of problems raised by the establishment of a maritime institution. However, the objective of this chapter is to identify only some of the main reasons, the results expected, the hopes without which all steps to any enterprise may vanish.

Some recommendations can contribute to the welfare of all the countries in the region to improve the quality and amount of benefits that can be derived from the sea and their ancillary industries as a way of making the region more independent from the developed maritime nations.

4.1 REASONS FOR THE ESTABLISHMENT OF AN INSTITUTE OF THE SEA FOR THE CENTRAL AMERICAN REGION.

REASON 1

- To develop human resources in the maritime sector who would be responsible of maritime activities development in Central America.**

The aim is to educate and train enough maritime personnel in order to cover positions on fishing and merchant vessels, maritime administrations, shipping companies, maritime research activities, aquaculture, etc.

In the Region there is a lack of human resources sufficiently well qualified in order to develop the required maritime infrastructure concerned with maritime safety.

REASON 2

- To promote the employment of Central Americans seafarers, women and men, in all maritime activities in the region.**

The aim is to provide employment for men and women in maritime activities and to provide to Central American seafarers the necessary knowledge and experience on board vessels registered in Central American countries.

REASON 3

- To facilitate establishment of the regional policies regarding maritime safety administrations in Central American countries, including search and rescue facilities.

The aim is to adopt and ratify at least the most important and relevant IMO conventions and protocols by improving and updating the maritime legislations in order to reduce maritime casualties and prevent and combat pollution by oil and other harmful substances.

REASON 4

- To improve port operations and developments of other maritime projects concerned with the development of the shipbuilding industry, and maritime research.

This reason envisages the establishment of other ports in the region and thus the studies for a shipbuilding infrastructure in the region.

REASON 5

- To improve strategies for the regional port infrastructures and catering for the domestic trade.

This concerns the regional integration of domestic traffic and trade via feeders and the improvement of production in the region thereby reinforcing the maritime industry and encouraging the progress of the region.

REASON 6.

- To promote and strengthen the ancillary industries concerned with fisheries, shipping, port operations, tourism, containerization and other subjects.

The aim is to put special emphasis on those activities which have not been developed and which have a greater and faster growth potential, such as fish processing; to exploit the beauties of both the Pacific and the Caribbean and in particular its beaches and its natural features for tourism; and to modernize the fishing fleet and the establishment of a Central American merchant fleet that can compete on the international market.

REASON 7

- To protect the exclusive economic zone.

This reason refers specifically to the exclusive economic

zone because it is a matter of particular importance to Central American countries.

The sum of the areas of the exclusive economic zone of Central America are nearly ten times bigger than the terrestrial territory of the region. However, it is not exploited and protected in a good manner.

With reference to this, it is necessary to take some measures in order to make more reliable that exploitation and that protection. For instance, it is necessary to have a better control on those waters concerning the fishing industry and the protection and preservation of the marine environment.

Elaborating plans for marine scientific research in its territorial waters and its exploitation is necessary.

REASON 8.

- To cover the shortage of well trained seafarers in the world.

A recent study carried out by BIMCO, IACS, and IFS there is an urgent need for a massive increase in officers and crewmembers recruitment and training.

According to this study the demand for the year 2000 could be around 750,000 seafarers. This figure suggests that a very substantial training and recruitment effort is required if the trading fleet is to be properly manned in the 90's. Thus a contribution to the international maritime community would be made, at the same time gathering a particular benefit to the Central American countries.

4.2 ESTABLISHMENT AND MANAGEMENT OF THE INSTITUTE.

The establishment of the institute must be a decision of all Central American countries. The results following the visit made by the IMO experts in 1988 determined the need to establish of a regional maritime training facility with the objective of providing education and training to nationals of the countries in the region offering courses for deck, engine, port activities, fishing, and matters concerned with maritime safety. Therefore, it should also guide and coordinate courses offered by other organizations, institutions, etc, servicing regional requirements.

This institutions has to be an autonomous institute, governed by its own Council, and as a regional institute responsible of providing exclusive maritime education and training and related matters.

4.3 AIMS AND OBJECTIVES OF THE INSTITUTE.

4.3.1 AIMS AND OBJECTIVES:

The institute will work in close connection with the plans and goals of the maritime development of the Region.

Therefore, in close relation with the lack of human resources in trying to get lecturers abroad and according to the modern maritime education and training. It is important that the institute has a well developed strategy which will have to be applied according to the economic growth of the

Central American countries requesting regional participation.

The general aims and objectives of the institute will be as follows:

- a) to provide the facilities and instruction for fundamental theoretical studies and practical training in maritime matters and related subjects, consistent with the present and future needs of the shipping, fishing and ancillary industries, taking into account the needs and aspirations of the individual and obligations to regional society in general;
- b) to provide trainee student entrants with systematic training combining theoretical knowledge with applied technology and practical experience, incorporating:
 - fundamental knowledge requirements.
 - commercial and managerial training.
 - practical experience in modern equipment.
 - the opportunity for professional development;
- c) to provide intensive vocational training courses of a refresher, upgrading or specialist nature for experienced officers in seagoing and shore-based positions in the shipping, fishing and ancillary industries, and to organize conferences and seminars

and carry out research projects in specific areas of specialization and expertise developed by the institute;

- d) to provide courses of a preparatory or bridging nature in order to ensure that experienced seafarers with the necessary aptitude are not prevented from enrolling on a course leading to an accredited educational qualifications for the course;
- e) to ensure that the standards of education and training both in the course materials and in their delivery can be maintained at a high level and in accordance with the requirements of the International Maritime Organization;
- f) to acquire the expertise and technology on technical and legal matters in shipping and other disciplines with particular emphasis on implementation of internationally agreed standards for maritime safety and the prevention of marine pollution in the region;
- g) to foster close relationships and liaison with professional and industry associations, other tertiary bodies, and governmental instruments, educational and training programs;

- h) to participate in co-ordination of maritime related education and training courses offered by technical colleges servicing local requirements throughout the region;
- i) to offer extension services where necessary, including refresher courses for seafarers wishing to prepare for update the knowledge according with the new developments;
- j) in consultation with industry, to attract and select the students most suited to the programs offered and to the positions for which they are being prepared;
- k) to give the opportunity to staff and students to participate in the decision-making processes of the Institute;
- l) to provide professional and career opportunities for staff within an atmosphere of trust and co-operation;
- m) to inform the community about the range of courses and services available within the Institute, and to encourage community involvement, wherever possible, in these activities and facilities;

- n) to manage and maintain the Institute's facilities and operations with due regard to the high quality of educations aimed at, to opportunities available, and to the optimizing of human performance;

5 CHAPTER FIVE

5 ORGANIZATION OF A MARITIME EDUCATION AND TRAINING INSTITUTION FOR CENTRAL AMERICA.

A maritime education and training institution is an important element on the basis of the maritime development of any country.

There are so many maritime nations which follow traditional systems developing their maritime education and training facilities using models from other countries for historical or cultural reasons such is the case of former British colonies or French colonies defining clearly their proper style.

Around the world there are many different maritime institutions, as well as maritime education and training systems.

Looking through the different systems such as the American, Australian, British, Danish, Dutch, Egyptian, French, German, Japanese, Portuguese, Swedish and former USSR systems, it is possible to realize that in order to find a balance in all these systems it is necessary to take into consideration the aspects that make the differences among the countries, i.e. history, culture, geographical aspects, etc.

Central America it is not an exception and would be possible to design an appropriate system which should fit well into the region.

Other aspects can be considered in order to formulate and

implement an appropriate system for the region are as follows:

- To consider international conventions, regulations, protocols such as SCTW 78, Torremolinos Convention and others in order to comply with them.
- To consider national requirements such as national maritime legislation, national maritime policies, etc.
- To consider what is needed by the shipping industry, and shipowner taking into account new developments, high technology on new vessels and other factors.

There are more aspects that have to be considered such as the students age, curriculum and syllabus, but perhaps the most important and corner stone of any maritime education and training system is the budget because it is not possible to have a wonderful and appropriate system without economical resources.

As a first step it is necessary to define the functions of a maritime education and training institution.

5.1 FUNCTIONS OF THE INSTITUTE.

The main functions of the institute would be:

- a) to provide education and training for the future specialist in maritime activities in order to support the progress in the region and to develop research programs for the promotion of the maritime field.
- b) to conduct maritime education and training according to the international requirements of nationals of the Central American countries who wish to become, or are otherwise engaged, in shipping, ports and fishing activities.
- c) to use the facilities and resources of the institute to advance and develop knowledge and skills in matters with which the institute is concerned.
- d) to develop a system in order to certify officially the knowledge and skills of students or otherwise in relation to the education and training provided by the institute.

- e) to establish and maintain liaisons with other institutions and with regional authorities that are concerned with maritime activities.
- f) to provide technical assistance to institutions or companies which are dealing with maritime matters.
- g) to do anything incidental or conducive to the performance of any of the preceding functions.

5.2 PURPOSES OF THE INSTITUTE.

The institute would be oriented to do the following:

- a) to constitute the maritime education and training as an important skill of the regional educative effort with reference to the welfare of the student;
- b) to make the maritime education and training a powerful tool in order to achieve the goals desired;
- c) to make the maritime education and training an effective tool for the development of economic, cultural and social goals for the region;
- d) to establish programs in a proportional way and according to the economic growth of maritime activities;
- e) to encourage the participation of all institutions, organizations, companies and workers of the maritime community in order to achieve operative agreements;

5.3. DEPARTMENTS AND SECTIONS

5.3.1 DEPARTMENTS

The basic academic unit of the institute will be the department. This will be three departments:

- a) NAUTICAL AND ENGINEERING.
- b) FISHERIES.
- c) SHIP OPERATIONS.

Students can make their own choice after passing the induction course and the basic course as explained in detail later.

The department may also be divided into sections, and staff will be assigned according to their specializations.

Sections are units of specialist staff who might provide services to other sections and departments. Therefore it is clear that sections may have a delegated responsibility for particular courses.

The sections in which the institute will be divided into are as follows for each department:

5.3.1.1 NAUTICAL AND ENGINEERING DEPARTMENT.

- a) Nautical Sciences Section.
- b) Operational Safety and Executive Training Section.
- c) Maritime Communication Section.
- d) Marine Engines Section.
- e) Electrical and Electronic Section.

5.3.1.2 FISHERIES DEPARTMENT.

- a) Fisheries Sciences Section.
- b) Fisheries Operations Section.

4.3.1.3 SHIP OPERATIONS DEPARTMENT.

- a) Port Operations Section.
- b) Cargo Operations Section.
- c) Maritime Administration Section.

5.3.2 SECTIONS

Each section will implement its own responsibilities. Each section will include its curriculum and syllabus independently.

5.3.2.1 NAUTICAL SCIENCES SECTION

Nautical Sciences, involving navigation, use of navigation equipment such as radar, loran, global positioning system, decca, meteorology, oceanography, etc.

5.3.2.2 OPERATIONAL SAFETY AND EXECUTIVE TRAINING SECTION

Operational Safety and Executive Training Section, dealing with all safety procedures, for instance, International Maritime Dangerous Goods Code, oil pollution prevention and combating, maritime law, etc.

5.3.2.3 MARITIME COMMUNICATIONS SECTION

The Maritime Communications Section will be involved in all matters concerned with communications; for example, satellite communications, radiotelephony, fax, telex, communication procedures, etc.

5.3.2.4 MARINE ENGINES SECTION

The Marine Engines Section will be a huge section because it deals with all maritime engines from outboard motors to engines with thousands of kilowatts in potency.

5.3.2.5 ELECTRICAL AND ELECTRONIC SECTION

The Electrical and Electronic Section, will be responsible for training in matters concerned with generators, alternators, electrical and electronics systems, electronic devices such as radar, loran, gps, etc.

5.3.2.6 FISHERIES SCIENCES SECTION

The Fisheries Sciences Section will be in charge of providing knowledge in skills such as, types of commercial fish, fish processing, aquaculture, marine biology, etc.

5.3.2.7 FISHERIES OPERATION SECTION

The Fisheries Operation Section will be responsible for the education and training of fishing techniques, fishing areas, fishing equipment, fishing maneuvering, etc.

5.3.2.8 PORT OPERATION SECTION

The Port Operation Section will be in charge of provide knowledge in skills such as, the port operation itself, shipping schedules, port maneuvering, harbour master control, etc.

5.3.2.9 CARGO OPERATION

The Cargo Operation Section will deal with matters such as the stowage of cargo, cargo handling, dangerous cargoes, storage places, warehouses, cargo handling machinery, etc.

5.3.2.10 MARITIME ADMINISTRATION SECTION

The Maritime Administration Section will be responsible for the education and training in matters concerned with the maritime administration, facilitation of transport, maritime regulations, maritime business, etc.

DEPARTMENTS AND SECTIONS TABLE

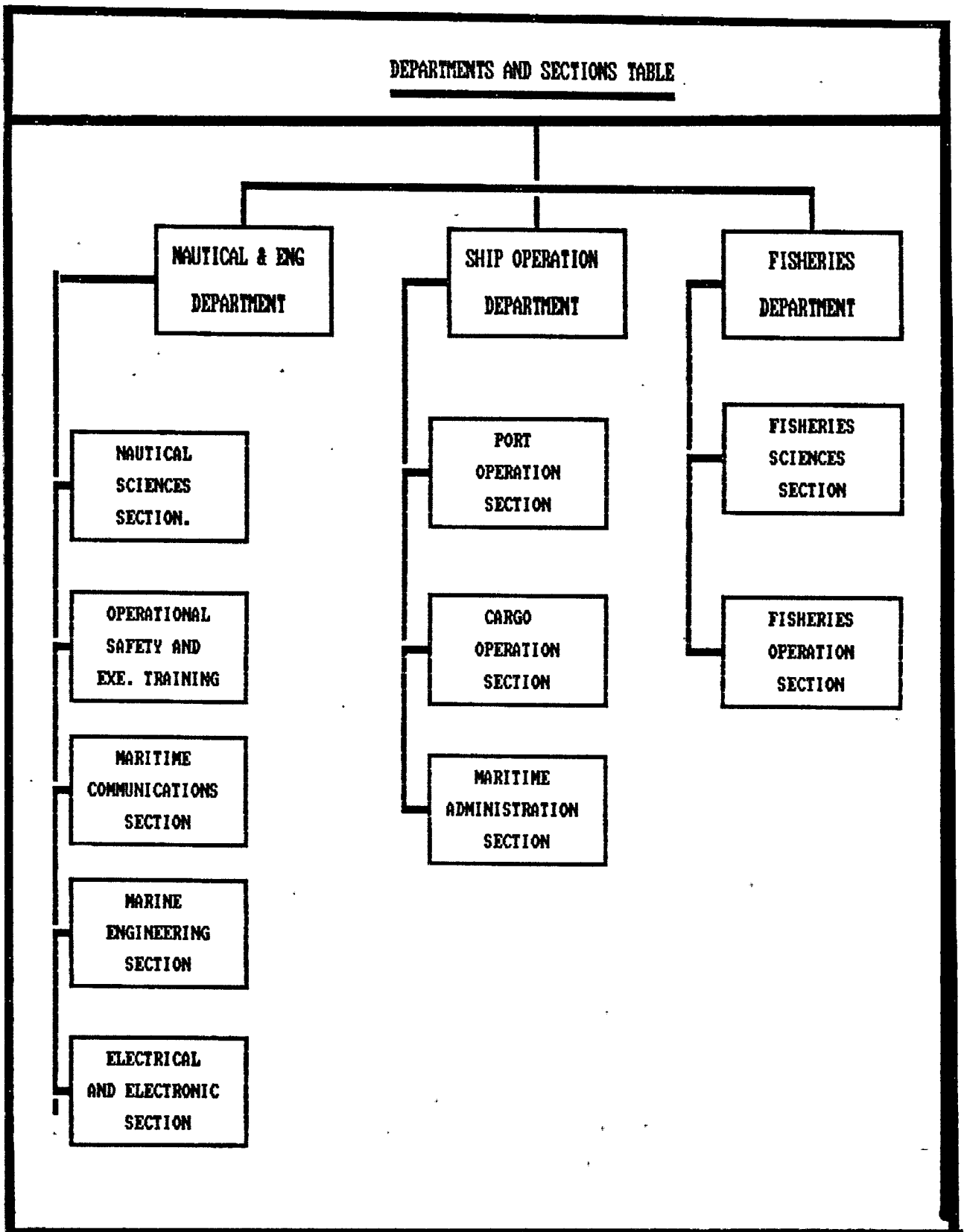


TABLE 1. DEPARTMENTS AND SECTIONS.

5.4 COURSES

All courses to be delivered at the Institute should have as a general objective:

- to provide maritime education and training in maritime matters according to the international requirements.

5.4.1 INDUCTION COURSE

It is necessary in the first stage of this career that the aspirant has a clear idea of the seaman's life.

This course is the base of the career and it is important that this base be strong enough in order to support the future behaviour of the new entrant for a life at sea.

It seeks to ensure that all new entrants receive practical training in matters affecting their personal safety and the safety of the ship and the crew as a whole.

This is a course which is designed in order to give the student a clear insight into the life of a seafarer and to prepare him or her by providing the necessary knowledge in matters such as general outline of the shipping industry, types of ships, parts of ships, accident prevention, ship hygiene, maintenance, swimming, etc.

This course of induction will have a duration of about three months, and the entrance requirements are good medical

fitness mainly concerned with the sight and ears and completion of third grade of secondary school (9 grade)

Some subjects concerned with this first stage are:

- Types of ships, main classification, organization of ship company, shipboard familiarization.
- Personal hygiene and maintenance, safety practice.
- Maritime law and the merchant seaman.
- First aid, survival at sea, fire fighting, life saving appliances.
- Basic seamanship.

5.4.2 SEAMANSHIP COURSE

This course is designed to provide a foundation in basic seamanship training to enable the nautical student to fully utilise his period at sea and gain experience in the basic arts of a seaman. At this stage the student has to fall in love with life at sea. Also, this course is designed to introduce the student to the fundamentals of the responsibilities of a qualified seaman (rating).

The duration of this course would be 10 months of which the student does 7 months at the institution and 3 months at sea.

Some subjects concerned with this course are:

- Practical seamanship and ship maintenance.

- Deck equipment and cargo work.
- Bridge equipment, equipment, steering and watchkeeping.
- Engine-room familiarization and marine engines.
- Lifesaving appliances, shipboard emergencies, and survival techniques, rules of the road, etc.
- Elements of navigation, ship construction and stability, elementary oceanography and meteorology.
- Mathematics, Physics, English, Chemistry, Social Sciences.

All these subjects to be applied to maritime activities.

At the end of this course the student could be certified as a Qualified Seaman.

5.4.3 NAVIGATION AND ENGINEERING COURSE

This course will provide the prospective bivalent officer on small vessels with a broad course of education and training and the appropriate fundamental knowledge required in deck and engine departments, including technological, commercial and managerial knowledge.

The duration of this course, after having passed the induction and seamanship course, would be approximately 30 months.

The requirements are completion of third grade of secondary school (9 grade) and medical fitness.

5.4.4 COURSE IN OPERATIONAL SAFETY AND EXECUTIVE TRAINING

This course deals exclusively with the operational safety on ports and coastal waters. It is a type of coast guard course combined with search and rescue and other matters concerning with prevention of pollution at sea. The duration of this course could be 18 months after having passed the induction and seamanship course.

Requirements are equal as for the Nautical and Engineering Course.

4.4.5 MARITIME COMMUNICATIONS COURSE

Maritime Communications would deal with the elementary principles of radiotelephony with the detailed knowledge of the practical operation and adjustment of radiotelephony as applicable to those concerned with the safety of life at sea.

Thus the operation of telex, fax, and developments in satellite communications and computer communications would be studied.

The requirements for entrance are completion of the induction course and seamanship course. The duration of this course could be about 24 months.

5.4.6 FISHERIES COURSE

This course will be developed for those persons involved in the fishing industry and its ancillary industries provide sufficient knowledge on fishing activities, processing of marine resources, aquaculture, marine biology, fish catching, fishing equipment, etc.

The requirements are, completion of the induction and seamanship courses. The duration could be 24 months.

5.4.7 PORT OPERATIONS COURSE

This course is directed at those people involved in port activities such as cargo handling, containerization and roll-on / roll-off, the carrying of dangerous cargo, cargo stowage, etc.

The duration could be 18 months or more depending on the programs. Requirements are completion of induction course and seamanship course.

5.4.8 MARITIME ADMINISTRATION COURSE

This course is prepared for persons involved in port administration. The contents include maritime trade, maritime transport, charter, facilitation in maritime transport. This course will deal specifically with the management of maritime administrations.

The duration could be 24 months after having concluded the induction and seamanship courses.

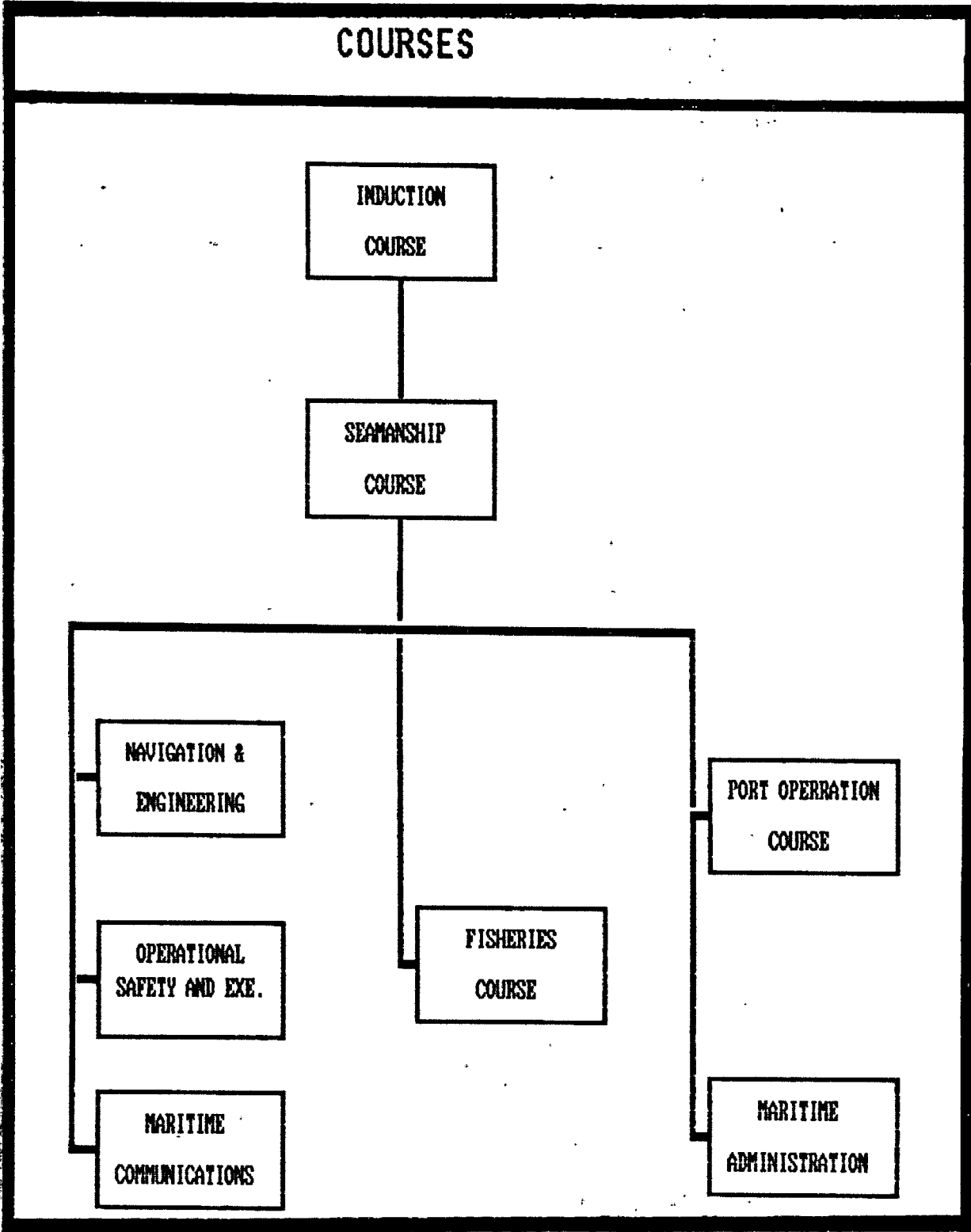


TABLE 2. COURSES

6 CHAPTER SIX

6 GENERAL ADMINISTRATIVE STRUCTURE.

The Administrative Structure of the Institute would be integrated in the following way:

6.1 THE COUNCIL AND ITS COMMITTEES

Would be the governing body of the institution. It would govern on behalf of the Institute.

The Chairman of the Council and the Director of the Institute would be members of all committees of the Council.

The Council would be supported by six committees being advisory to the Council and dealing with matters relating to the functioning of the academic and administrative staff.

The committees are:

- a) Board of Studies
- b) Staffing Committee
- c) Services Committee

- e) Buildings Committee
- d) Financial Committee
- f) Student Affairs Committee

The functions of the committees should be developed in the following way:

6.1.1 BOARD OF STUDIES COMMITTEE:

The Board of Studies would be the main committee would be responsible for reviewing educational programs, formulating objectives and establishing communications with the Advisory Committee from the maritime industry.

6.1.2 FINANCE COMMITTEE

The Finance Committee would advise the Council on all relating matters to do with financial planning, appropriation of funds, monthly accounts and produce regular budgetary records and statements.

6.1.3 STAFFING COMMITTEE:

The Staffing Committee would be responsible for all matters

concerned with the staff such as salaries, study leave, promotions, staff development and welfare.

6.1.4 SERVICE COMMITTEE:

The Services Committee would be responsible for all matters relating to the services provided to students of the institute such as recreational and sporting facilities, itinerary, books, library, cafeteria, etc.

6.1.5 BUILDING COMMITTEE:

The Building Committee would be responsible for the maintenance of the buildings of the institute.

6.1.6 STUDENT AFFAIRS COMMITTEE:

The Student Affairs Committee would be responsible for the welfare of the students, recommendations on all matters affecting students, immigration services, etc.

THE COUNCIL
AND ITS COMMITTEES

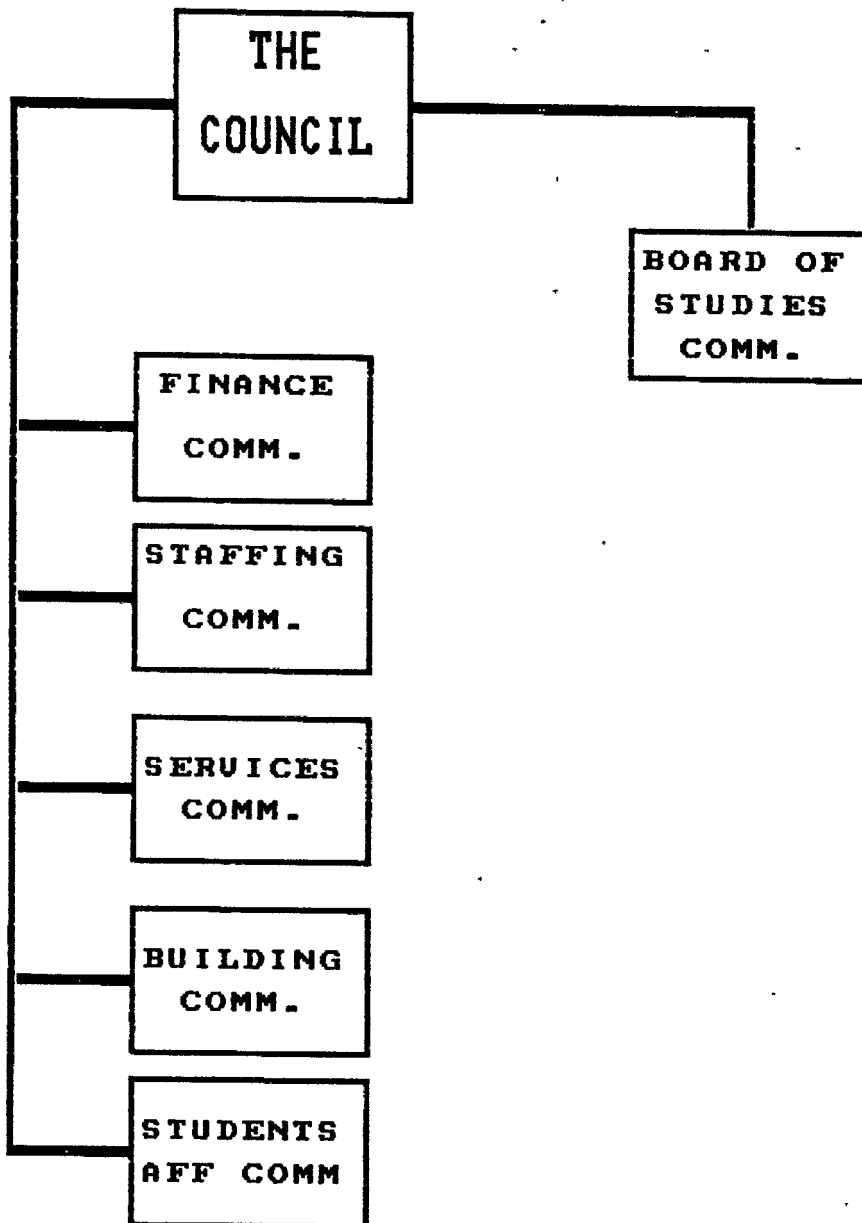


TABLE 3. THE COUNCIL AND ITS COMMITTEES.

6.2 ACADEMIC STRUCTURE

The academic structure would govern the administration and direction which would be set by the Council.

The Council would be responsible for the overall governance and policies of the institute, thereby being responsible for policy making. Policy matters would be coordinated by the Board of Studies which would be a Standing Committee of The Council.

The rest of the organization of the institute would be divided into departments and sections.

The Council, in addition to the governing and policy duties of the institute would be responsible for the operation, implementation and development of the academic program.

The Board of Studies would be responsible for the development and maintenance of the standards concerned with the educational philosophy of the institute advising coordinating and assisting the Council on all academic matters.

The members of the Board of Studies would include:

- a) The Director.
- b) The Deputy Director.
- c) The Secretary.
- d) Heads of the Departments.
- e) Heads of the Sections.

6.2.1 The Director

The Director is the chief academic and executive officer of the institute and would be responsible for implementing the Board of Advisors governing and policy requirements.

The Director would be in charge in overall direction, control and coordination of the management and development of the institution.

The Director will be supported and assisted by the Sub-Director, Secretary, Finance Controller, and Chiefs of the different Academic Departments.

6.2.2 The Deputy Director.

The Deputy Director would act as the authority of the Director in the co-ordination of teaching activities, curricula, syllabus and in the determination of priorities in relation to resources and research matters concerned with the Academic Department.

In addition the Deputy Director has line responsibility for certain functions including library services, staff development and student welfare.

The chiefs of the different Academic Departments are required to consult with the Deputy Director in general planning matters and accept decisions, but retain line responsibility to the Director for the efficiency of their departments.

6.2.3 The Secretary.

The Secretary is responsible to the Director for the general management and operation of all services and support systems of the institute programs.

The major sub-areas are:

- student administration section; which

involves all concerning with the student,

admission, records, examinations, timetables,

statistics, reports, brochures,

handbooks, information services, etc.
- personnel section which deal with the staff

administration, recruitment induction,

professional development and experience

programs, industrial relations, public

relations, etc.

6.2.4 The Finance Controller

The Finance Controller would be in charge of the financial control involving finance administration and including accounting and the budget system, reports and the monitoring of expenditure. Thus, the Finance Controller will be involved in planning, construction, maintenance, safety and security, energy utilization control, purchasing, receiving, storing, transports, etc.

6.2.5 The Librarian

The Librarian would be in charge of the control of books, magazines, theses, newspaper, and all the various publications.

The Librarian would be responsible in line with the Sub Director for maintaining of the library, keeping a register of all the publications and the users.

6.2.6 Industry Advisory Committee

The institute should have an Industry Advisory Committee the main objective of which would be to advise the authorities of the Institute on the provisions and programs offered by the institute. The functions of the Industry Advisory Committee would be the following:

- a) developing and reviewing the courses offered.
- b) - co-ordinating and recommending learning and teaching methods.
- c) establishing and reviewing course objectives.
- d) recommending in matters relating to admissions, student assessment, staffing, resources, and student services.

All Departments would have equal status with respect to the Board of Studies and other committees in order to ensure proper access to the decision making processes of the institute.

ADMINISTRATIVE
ORGANIZATION

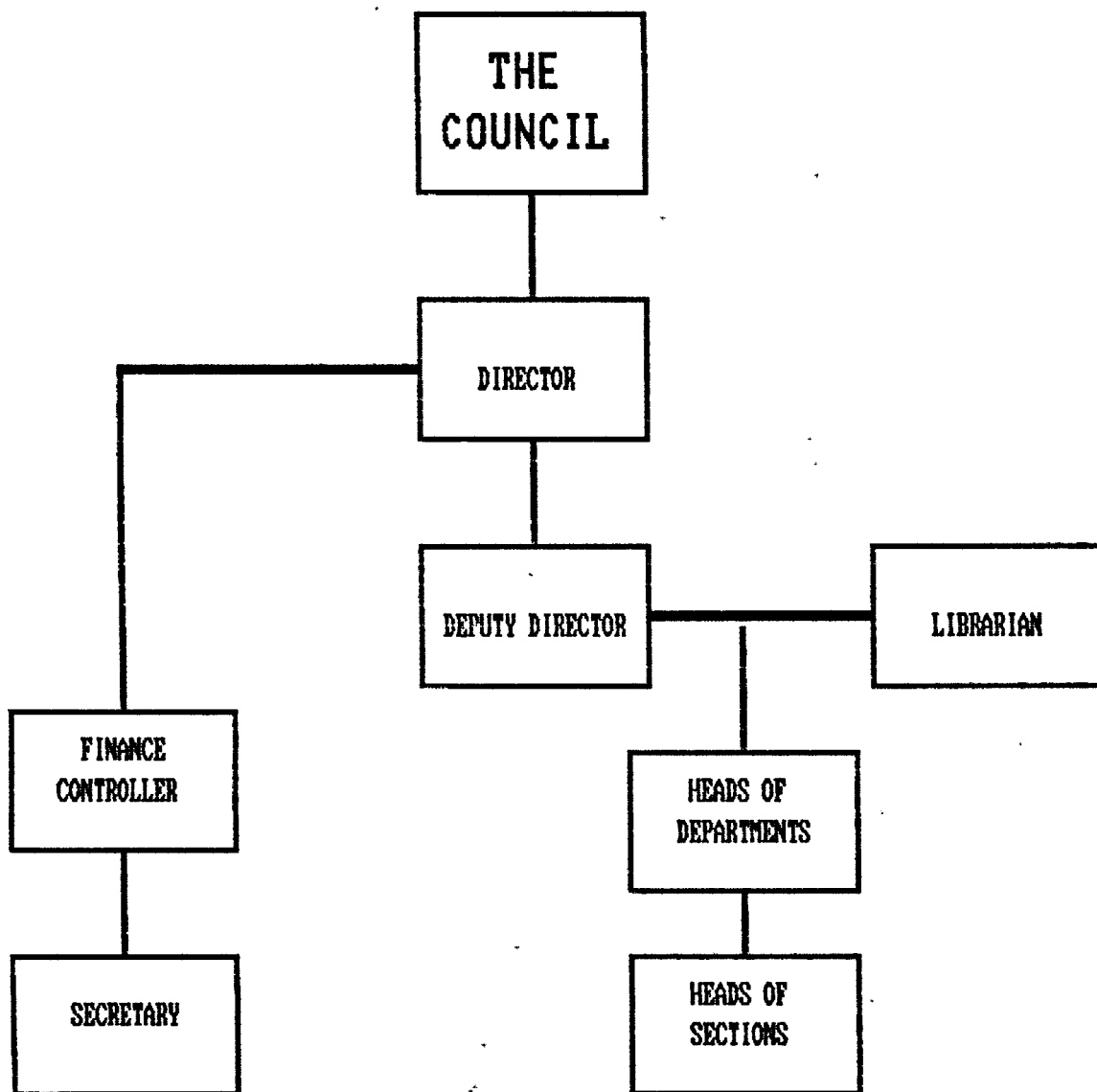


TABLE 4. ADMINISTRATIVE ORGANIZATION.

7 CHAPTER SEVEN

7 CONCLUSIONS AND RECOMMENDATIONS.

7.1 CONCLUSIONS

The first chapter gave a general overview of the Central American Region from of point of view of geographical, climatological, topographical aspects adding a brief history, politics in the region since the colonial times to postwar age, the commercial development its main products its agricultural activities.

This chapter gave the background of the Central American Region which is identical from of point of view of history, culture, and language which in certain circumstances would be an advantage for the establishment of an institute of the sea for the region.

It is necessary highlight the strategic geographical situation which is of utmost importance for the development and exploiting of maritime activities.

The present situation of Central America concerned with maritime activities and an evaluation of maritime policies, maritime safety policies, maritime education and training policies in the region gave the reality and is a show of the underdevelopment in which the region is.

The reasons for the establishment of such institute in the region explaining and given important remarks which has to be considered among Central American countries in their thoughts concerned with the education and training of their nationals.

Also is necessary to consider the aims and objectives which are of paramount importance for the development of this project, without them is almost impossible to achieve the goals.

Organization and management is the key of the success in whatever project which has to be developed, for that reason clear functions and purposes of the institute are given with the objective to make future maritime activities more reliable.

Therefore the different departments, sections and courses which would be delivered in the institute providing a broad idea of its main characteristics and contents.

The administrative and academic structures are very important for the management of the institute and its gave a good performance of the activities of each member of the hierarchy.

It can be summarized that in Central America the institutional growth in the land sector has progressed faster than in the maritime sector so for that reason it is possible to conclude that this unbalanced growth has meant that:

- development of maritime projects has been executed not only without appropriate coordination among the parties involved;
- inadequate effort made to integrate projects in the region;
- fragmentation of efforts and resources, duplication of investments;

- overlapping of activities among the governments or in the case of countries among the ministries and sector involved;
- in most of the Central American countries the responsibility for maritime activities has been located at a low level in the bureaucratic hierarchy with limited staff and budgeting resources;
- the policy making and planning activities are carried out based on lack of economical resources. know-how and lack of coordination and their impacts is not yet studied.

7.2 RECOMMENDATIONS

For the establishment of an institute for maritime education and training in the region the recommendations could be as follows:

- to harmonize the Central American countries in the maritime activities
- to enforce the maritime legislation in the region
- to ratify and to implement the I.M.O. conventions

and protocols

- to give more attention to maritime administrations in the region
- to combine experiences concerned with maritime activities
- to give special attention to areas concerned with the protection and safety of the marine environment

All these and much more could be achieved if a maritime education and training facility were established in such way that it will work as a center for the development of maritime activities in Central America.

Maritime education and training of nationals of the seven countries of the region is and would be the key in which the development of the maritime sector could be achieved in

" AN INSTITUTE OF THE SEA FOR THE CENTRAL AMERICAN REGION "

BIBLIOGRAPHY

Australian Maritime College, Draft Educational Specification.
Launceston: 1978

Hedley Beare et al., Creating an excellent school. Some new
management techniques, London-New York: Routledge Education,
1990.

O. Nigel Bonde, Belize a new nation in Central America
London: 1986.

L.A. Holder, Training on board. London: Witherby, 1991.

International Labor Organization, Maritime Training aids and
teaching materials for instruction of seafarers. Geneva:
International Labour Office, 1970.

International Maritime Organization, Informe de la mision a
Centro America. London: International Maritime Organization,
1988.

International Maritime Organization, Strategy for marine
training. London: International Maritime Organization, 1988.

International Maritime Organization, I.M.O. Resolutions.
London: International Maritime Organization. 1987.

International Maritime Organization, Resolutions and other
decisions. London: International Maritime Organization, 1988.

Steve C. Ropp, James A. Morris, Central America crisis and

adaptation. New York: 1984.

Fred Parcival, Henry Ellington, An handbook of education technology. London: 1984, 1988.

D.M.Waters, Maritime education and training - Policy objectives and practical considerations. World Maritime University, Malmoe: 1988.

-----, Nautical Education and training in Europe. 1977.

-----, Maritime training forum, Europe. 1989.

William Mc.Mullen, United States Merchant Marine Academy, Personal interview in Malmoe, discussion regarding the framework of an institute for the region and integration of the countries of the region. April, 23, 1992.

Erik Kasper, Manager Research & Development. Danish Maritime Institute, paid a visit and personal interview, visit to the installations of the institute and its activities. 17, February, 1992.

Donald Ferguson, United States Merchant Marine Academy, discussion concerned with the administration of maritime institute. 31, July, 1992.

Tejada, Ivette, World Maritime University, Panama 2000 A strategy for national maritime development - GMA 85 -country: Panama * subject: maritime administration.

Fernandez, Isabel, World Maritime University, Guidelines for maritime development in Guatemala - GMA 86 -country: Guatemala * subject: maritime policy.

Anselmo, Jose, World Maritime University, An extended maritime education and training concept as a necessary response to changes in the shipping industry and social environment - MET N 89 - country: Portugal * subject: maritime education.

ANNEX I

This annex contains the most relevant conventions and other important aspects of I.M.O. (International Maritime Organization) until January 1992.

International Conventions

The industrial revolution of the eighteenth and nineteenth centuries and the upsurge in international commerce which resulted led to the adoption of a number of international treaties related to shipping, including safety. The subjects covered included tonnage measurement, the prevention of collisions, signalling and others.

By the end of the nineteenth century suggestions had even been made for the creation of a permanent international maritime body to deal with these and future measures. The plan was not put into effect, but international co-operation continued in the twentieth century, with the adoption of still more internationally developed treaties.

By the time IMO came into existence in 1958, several important international conventions* had already been developed, including the International Convention for the Safety of Life at Sea of 1948, the International Convention for the Prevention of Pollution of the Sea by Oil of 1954 and treaties dealing with load lines and the prevention of collisions at sea.

IMO was made responsible for ensuring that the majority of these conventions were kept up to date. It was also given the task of developing new conventions as and when the need arose.

The creation of IMO coincided with a period of tremendous change in world shipping and the Organization was kept busy from the start developing new conventions and ensuring that existing instruments kept pace with changes in shipping technology. It is now responsible for 35 international conventions and agreements and has adopted numerous protocols and amendments.

Adopting a convention

This is the part of the process with which IMO as an organization is most closely involved. IMO has six main bodies concerned with the adoption or implementation of conventions. The Assembly and Council are the main organs, and the committees involved are the Maritime Safety Committee, Marine Environment Protection Committee, Legal Committee and the Facilitation Committee. Developments in shipping and other related industries are discussed by Member States in these bodies, and the need for a new convention or amendments to existing conventions can be raised in any of them.

Normally the suggestion is first made in one of the committees, since these meet more frequently than the main

organs. If agreement is reached in the committee, the proposal goes to the Council and, as necessary, to the Assembly.

If the Assembly or the Council, as the case may be, gives the authorization to proceed with the work, the committee concerned considers the matter in greater detail and ultimately draws up a draft instrument. In some cases the subject may be referred to a specialized sub-committee for detailed consideration.

Work in the committees and sub-committees is undertaken by the representatives of Member States of the Organization. The views and advice of intergovernmental and international non-governmental organizations which have a working relationship with IMO are also welcomed in these bodies. Many of these organizations have direct experience in the various matters under consideration, and are therefore able to assist the work of IMO in practical ways.

The draft convention which is agreed upon is reported to the Council and Assembly with a recommendation that a conference be convened to consider the draft for formal adoption.

Invitations to attend such a conference are sent to all Member States of IMO and also to all States which are members of the United Nations or any of its specialized agencies. These conferences are therefore truly global conferences open to all Governments who would normally participate in a United Nations conference.

All Governments participate on an equal footing. In addition, organizations of the United Nations system and organizations in official relationship with IMO are invited to send observers to the conference to give the benefit of their expert advice to the representatives of Governments.

Before the conference opens, the draft convention is circulated to the invited Governments and organizations for their comments. The draft convention, together with the comments thereon from Governments and interested organizations is then closely examined by the conference and necessary changes are made in order to produce a draft acceptable to all or the majority of the Governments present. The convention thus agreed upon is then adopted by the conference and deposited with the Secretary-General who sends copies to Governments. The convention is opened for signature by States, usually for a period of 12 months. Signatories may ratify or accept the convention while non-signatories may accede.

The drafting and adoption of a convention in IMO can take several years to complete although in some cases, where a quick response is required to deal with an emergency situation, Governments have been willing to accelerate this process considerably.

Entry into force

The adoption of a convention marks the conclusion of only

*The vast majority of the treaty instruments adopted under the auspices of IMO are called 'conventions'. A few are called 'Protocols' or 'Agreements'. The term 'convention' is used in this publication to refer to all such treaty instruments.

the first stage of a long process. Before the convention comes into force - that is, before it becomes binding upon Governments which have ratified it - it has to be accepted formally by individual Governments.

Each convention includes appropriate provisions stipulating conditions which have to be met before it enters into force. These conditions vary but, generally speaking, the more important and more complex the document, the more stringent are the conditions for its entry into force. For example, the International Convention for the Safety of Life at Sea, 1974, provided that entry into force requires acceptance by 25 States whose merchant fleets comprise not less than 50 per cent of the world's gross tonnage; for the International Convention on Tonnage Measurement of Ships, 1969, the requirement was acceptance by 25 States whose combined merchant fleets represent not less than 65 per cent of world tonnage.

When the appropriate conditions have been fulfilled, the convention enters into force for the States which have accepted - generally after a period of grace intended to enable all the States to take the necessary measures for implementation.

In the case of some conventions which affect a few States or deal with less complex matters, the entry into force requirements may not be so stringent. For example, the Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, 1971, came into force 90 days after being accepted by five States; the Special Trade Passenger Ships Agreement, 1971, came into force six months after three States (including two with ships or nationals involved in special trades) had accepted it.

For the important technical conventions, it is necessary that they be accepted and applied by a large section of the shipping community. It is therefore essential that these should, upon entry into force, be applicable to as many of the maritime states as possible. Otherwise they would tend to confuse, rather than clarify, shipping practice since their provisions would not apply to a significant proportion of the ship they were intended to deal with.

Accepting a convention does not merely involve the deposit of a formal instrument. A Government's acceptance of a convention necessarily places on it the obligation to take the measures required by the convention. Often national law has to be enacted or changed to enforce the provisions of the convention; in some case, special facilities may have to be provided; an inspectorate may have to be appointed or trained to carry out functions under the convention; and adequate notice must be given to shipowners, shipbuilders and other interested parties so they make take account of the provisions of the convention in their future acts and plans.

At present IMO conventions enter into force within an average of five years after adoption. The majority of these instruments are now in force or are on the verge of fulfilling requirements for entry into force.

Amendment

Technology and techniques in the shipping industry change very rapidly these days. As a result, not only are new conventions required but existing ones need to be kept up to

date. For example, the International Convention for the Safety of Life at Sea (SOLAS), 1960 was amended six times after it entered into force in 1965 - in 1966, 1967, 1968, 1969, 1971 and 1973. In 1974 a completely new convention was adopted incorporating all these amendments (and other minor changes) and was itself modified (in 1978, 1981, 1983, 1988, 1990 and 1991).

In early conventions, amendments came into force only after a percentage of Contracting States, usually two thirds, had accepted them. This normally meant that more acceptances were required to amend a convention than were originally required to bring it into force in the first place, especially where the number of States which are Parties to a convention is very large.

This percentage requirement in practice led to long delays in bringing amendments into force. To remedy the situation a new amendment procedure was devised in IMO. This procedure has been used in the case of conventions such as the Convention on the International Regulations for Preventing Collisions at Sea, 1972, the International Convention for the Prevention of Pollution from Ships, 1973 and SOLAS 1974, all of which incorporate a procedure involving the 'tacit acceptance' of amendments by States.

Instead of requiring that an amendment shall enter into force after being accepted by, for example, two thirds of the Parties, the new procedure provides that an amendment shall enter into force at a particular time unless, before that date, objections to the amendment are received from a specified number of Parties.

In the case of the 1974 SOLAS Convention, an amendment to most of the Annexes (which constitute the technical parts of the Convention) is 'deemed to have been accepted at the end of two years from the date on which it is communicated to Contracting Governments...' unless the amendment is objected to by more than one third of Contracting Governments, or Contracting Governments owning not less than 50 per cent of the world's gross merchant tonnage. This period may be varied by the Maritime Safety Committee with a minimum limit of one year.

As was expected the 'tacit acceptance' procedure has greatly speeded up the amendment process. The 1981 amendments to SOLAS 1974, for example, entered into force on 1 September 1984. Compared to this, none of the amendments adopted to the 1960 SOLAS Convention between 1966 and 1973 received sufficient acceptances to satisfy the requirements for entry into force.

Enforcement

The enforcement of IMO conventions depends upon the Governments of Member Parties. The Organization has no powers in this respect.

Contracting Governments enforce the provisions of IMO conventions as far as their own ships are concerned and also set the penalties for infringements, where these are applicable. They may also have certain limited powers in respect of the ships of other Governments.

In some conventions, certificates are required to be carried on board ship to show that they have been inspected and have met the required standards. These certificates are normally

accepted as proof by authorities from other States that the vessel concerned has reached the required standard, but in some cases further action can be taken.

The 1974 SOLAS Convention, for example, states that 'the officer carrying out the control shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without danger to the passengers or the crew.'

This can be done if 'there are clear grounds for believing that the condition of the ship and its equipment does not correspond substantially with the particulars of that certificate'.

An inspection of this nature would, of course, take place within the jurisdiction of the port State. But when an offence occurs in international waters the responsibility for imposing a penalty rests with the flag State.

Should an offence occur within the jurisdiction of another

State, however, that State can either cause proceedings to be taken in accordance with its own law or give details of the offence to the flag State so that the latter can take appropriate action. Under the terms of the 1969 Convention Relating to Intervention on the High Seas, Contracting States are empowered to act against ships of other countries which have been involved in an accident or have been damaged on the high seas if there is a grave risk of oil pollution occurring as a result.

The way in which these powers may be used are very carefully defined, and in most conventions the flag State is primarily responsible for enforcing conventions as far as its own ships and their personnel are concerned.

The majority of conventions adopted under the auspices of IMO or for which the Organization is otherwise responsible fall into three main categories.

Maritime safety

The first group is concerned with maritime safety; the second with the prevention of marine pollution; and the third with liability and compensation, especially in relation to damage caused by pollution. Outside these major groupings are a number of other conventions dealing with facilitation, tonnage measurement, unlawful acts against shipping and salvage.

International Convention for the Safety of Life at Sea, 1960 and 1974

1960 Convention

Adoption: 17 June 1960

Entry into force: 26 May 1965

1974 version

Adoption: 1 November 1974

Entry into force: 25 May 1980

The SOLAS Convention in its successive forms is generally regarded as the most important of all international treaties concerning the safety of merchant ships. The first version was adopted in 1914, the second in 1929 and the third in 1948.

The 1960 Convention was the first major task for IMO after its creation and it represented a considerable step forward in modernizing regulations and in keeping pace with technical developments in the shipping industry.

The intention was to keep the Convention up to date by periodic amendments but in practice the amendments procedure incorporated proved to be very slow. It became clear that it would be impossible to secure the entry into force of amendments within a reasonable period of time.

The 1974 Convention

As a result, a completely new convention was adopted in 1974 which included not only the amendments agreed up until that date but a new amendment procedure designed to ensure that changes could be made within a specified (and acceptably short) period of time.

The main objective of the SOLAS Convention is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. Flag States are responsible for ensuring that ships under their flag comply with its requirements, and a number of certificates are prescribed in the Convention as proof that this has been done.

Control provisions also allow Contracting Governments to inspect ships of other Contracting States if there are clear grounds for believing that the ship and its equipment do not

substantially comply with the requirements of the Convention.

General provisions are contained in chapter I, the most important of them concerning the survey of the various types of ships and the issuing of documents signifying that the ship meets the requirements of the Convention. The chapter also includes provisions for the control of ships in ports of other Contracting Governments.

Subdivision and stability are dealt with in chapter II-1. The subdivision of passenger ships into watertight compartments must be such that after assumed damage to the ship's hull the vessel will remain afloat and stable. Requirements for watertight integrity and bilge pumping arrangements for passenger ships are also laid down as well as stability requirements for both passenger and cargo ships.

The degree of subdivision - measured by the maximum permissible distance between two adjacent bulkheads - varies with ship's length and the service in which it is engaged. The highest degree of subdivision applies to passenger ships.

Machinery and electrical installations: these requirements, contained in chapter II-1, are designed to ensure that services which are essential for the safety of the ship, passengers and crew are maintained under various emergency conditions. The steering gear requirements of this chapter are particularly important.

Fire protection, fire detection and fire extinction: casualties to passenger ships through fire emphasized the need to improve the fire protection provisions of the 1960 Convention, and in 1966 and 1967 amendments were adopted by the IMO Assembly. These and other amendments, particularly detailed fire safety provisions for tankers and combination carriers, such as inert gas, were incorporated in chapter II-2 of the 1974 Convention.

These provisions are based on the following principles:

1. Division of the ship into main and vertical zones by thermal and structural boundaries.
2. Separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries.
3. Restricted use of combustible materials.
4. Detection of any fire in the zone of origin.
5. Containment and extinction of any fire in the space of origin.
6. Protection of the means of escape or of access for fire-fighting purposes.
7. Ready availability of fire-extinguishing appliances.
8. Minimization of the possibility of ignition of flammable cargo vapour.

Life-saving appliances and arrangements are dealt with in chapter III, which was completely revised by the 1983 amendments which entered into force on 1 July 1986. The revised chapter is divided into three parts.

Part A contains general provisions on application of the requirements, exemptions, definitions, evaluation, testing

and approval of appliances and arrangements and production tests.

Part B contains the ship requirements and is subdivided into section I dealing with common requirements applicable to both passenger ships and cargo ships, section II containing additional requirements for passenger ships and section III containing additional requirements for cargo ships.

Part C deals with the life-saving appliance requirements and is divided into eight sections. Section I contains general requirements, section II requirements for personal life-saving appliances, section III visual signal requirements, section IV requirements for survival craft, section V rescue boat provisions, section VI requirements for launching and embarkation appliances, section VII other life-saving appliances, and section VIII miscellaneous matters.

Radiotelegraphy and radiotelephony form the subject matter of chapter IV: Part A describes the type of facility to be carried. Operational requirements for watchkeeping and listening are given in part B, while technical provisions are detailed in part C. This part also includes technical provisions for direction-finders and for motor lifeboat radiotelegraph installations, together with portable radio apparatus for survival craft. The radio officer's obligations regarding mandatory log-book entries are listed in part D.

The chapter is closely linked to the Radio Regulations of the International Telecommunication Union and was completely revised in October 1988 (see 1988 (GMDSS) amendments).

Safety of navigation is dealt with in chapter V which identifies certain navigation safety services which should be provided by Contracting Governments and sets forth provisions of an operational nature applicable in general to all ships on all voyages. This is in contrast to the Convention as a whole, which only applies to certain classes of ship engaged on international voyages.

The subjects covered include the maintenance of meteorological services for ships; the ice patrol service; routing of ships; and the maintenance of search and rescue services.

This chapter also includes a general obligation for masters to proceed to the assistance of those in distress and for Contracting Governments to ensure that all ships shall be sufficiently and efficiently manned from a safety point of view.

Carriage of grain forms the subject matter of chapter VI. Shifting is an inherent characteristic of grain, and its effect on a ship's stability can be disastrous. Consequently, the SOLAS Convention contains provisions concerning stowing, trimming and securing grain cargoes.

Provision is made for ships constructed specially for the transport of grain, and a method for calculating the adverse heeling moment due to a shift of cargo surface in ships carrying bulk grain is specified. It also provides for documents of authorization, grain loading stability data and associated plans of loading. Copies of all relevant documents must be available on board to enable the master to meet the chapter's requirements.

This chapter was revised in 1991, to make it applicable to all types of cargo (except liquids and gases in bulk). (See 1991 amendments). Carriage of dangerous goods is dealt with in chapter VII, which contains provisions for the classi-

fication, packing, marking, labelling and placarding, documentation and stowage of dangerous goods in packaged form, in solid form in bulk, and liquid chemicals and liquefied gases in bulk.

The classification follows the system used by the UN for all modes of transport. The UN system has been adapted for marine transport and the provisions are in some cases more stringent.

Contracting Governments are required to issue instructions at the national level. To help them do this, the Organization developed the International Maritime Dangerous Goods (IMDG) Code. The IMDG Code is constantly updated to accommodate new dangerous goods and to supplement or revise existing provisions. Regulations concerning substances carried in bulk in purpose-built ships were introduced in the 1983 amendments dealt with below.

Nuclear ships are covered in chapter VIII. Only basic requirements are given and are particularly concerned with radiation hazards. However, a detailed and comprehensive Code of Safety for Nuclear Merchant Ships was adopted by the IMO Assembly in 1981 as an indispensable companion document.

The Protocol of 1978

Adoption: 17 February 1978

Entry into force: 1 May 1981

This was adopted at the International Conference on Tanker Safety and Pollution Prevention and made a number of important changes to chapter I, including the introduction of unscheduled inspections and/or mandatory annual surveys and the strengthening of port State control requirements.

Chapter II-1, chapter II-2 and chapter V were also improved.

The main points are as follows:

1. New crude oil carriers and product carriers of 20,000 dwt and above are required to be fitted with an inert gas system.
2. An inert gas system became mandatory for existing crude oil carriers of 70,000 dwt and above by 1 May 1983, and by 1 May 1985 for ships of 20,000-70,000 dwt.
3. In the case of crude oil carriers of 20-40,000 dwt there is provision for exemption by flag States where it is considered unreasonable or impracticable to fit an inert gas system and high-capacity fixed washing machines are not used. But an inert gas system is always required when crude oil washing is operated.
4. An inert gas system was required on existing product carriers from 1 May 1983 and by 1 May 1985 for ships of 40-70,000 dwt and down to 20,000 dwt which are fitted with high capacity washing machines.
5. In addition to requiring that all ships of 1,600 grt and above shall be fitted with radar, the Protocol requires that all ships of 10,000 grt and above have two radars, each capable of being operated independently.
6. All tankers of 10,000 grt and above shall have two remote steering gear control systems, each operable separately from the navigating bridge.
7. The main steering gear of new tankers of 10,000 grt and above shall comprise two or more identical power units, and

shall be capable of operating the rudder with one or more power units.

The 1981 amendments

Adoption: 20 November 1981

Entry into force: 1 September 1984

Perhaps the most important amendments concern chapter II-1 and chapter II-2, both of which were virtually re-written and updated.

The changes to chapter II-1 include updated provisions of resolution A.325(IX) on machinery and electrical requirements. Further amendments to regulations 29 and 30 were agreed following the *Amoco Cadiz* disaster and taking into account the 1978 SOLAS Protocol on steering gear. The requirements introduce the concept of duplication of steering gear control systems in tankers.

Amendments to chapter II-2 include the requirements of resolution A.327(XI), provisions for halogenated hydrocarbon extinguishing systems, special requirements for ships carrying dangerous goods, and a new regulation 62 on inert gas systems. The amendments to chapter II-2 strengthen the requirements for cargo ships and passenger ships to such an extent that a complete rearrangement of that chapter became necessary.

A few minor changes were made to chapter III but seven regulations in chapter IV were replaced, amended or added. Some important changes were also made to chapter V, including the addition of new requirements concerning the carriage of shipborne navigational equipment.

The revised requirements cover such matters as gyro and magnetic compasses; the mandatory carriage of two radars and of automatic radar plotting aids in ships of 10,000 grt and above; echo-sounders; devices to indicate speed and distance; rudder angle indicators; propeller revolution indicators; rate of turn indicators; radio-direction finding apparatus; and equipment for homing on the radiotelephone distress frequency.

In addition a number of small changes were made to chapter VII.

The 1983 amendments

Adoption: 17 June 1983

Entry into force: 1 July 1986

These amendments include a few minor changes to chapter II-1 and some further changes to chapter II-2 (including improvements to the 1981 amendments) designed particularly to increase the safety of bulk carriers and passenger ships.

The most extensive changes involve chapter III, which has been completely rewritten. The chapter in the 1974 Convention differs little from the texts which appeared in the 1960 and 1948 SOLAS Conventions and the amendments are designed not only to take into account the many technical advances which have taken place since then but also to expedite the evaluation and introduction of further improvements.

Some small changes were made to chapter IV. The amendments to chapter VII extended its application to chemical tankers and liquefied gas carriers by making reference to two new Codes, the International Bulk Chemical Code and the

International Gas Carrier Code. Both relate to ships built on or after 1 July 1986.

The 1988 (April) amendments

Adoption: 21 April 1988

Entry into force: 22 October 1989

In March 1987 the car ferry *Herald of Free Enterprise* capsized and sank with the loss of 193 lives. The United Kingdom proposed a series of measures designed to prevent a recurrence, the first package of which was adopted in April.

They affect regulations 23 and 42 of Chapter II-1 and are intended to improve monitoring of doors and cargo areas and to improve emergency lighting.

Because of the urgency, the 'tacit acceptance' procedure was used to bring the amendments into force only 18 months after their adoption.

The 1988 (October) amendments

Adoption: 28 October 1988

Entry into force: 29 April 1990

Some of these amendments also resulted from the *Herald of Free Enterprise* disaster.

They affect the intact stability of all passenger ships; require all cargo loading doors to be locked before a ship leaves the berth; and make it compulsory for passenger ships to have a lightweight survey at least every five years to ensure their stability has not been adversely affected by the accumulation of extra weight or any alterations to the superstructure.

Other amendments were being prepared before the disaster, but their adoption was brought forward as a result. They concern the stability of passenger ships in the damaged condition, and apply to ships built after 29 April 1990.

The 1988 Protocol

Adoption: 11 November 1988

Entry into force: 12 months after being accepted by at least 15 States whose combined merchant fleets represented at least 50% of world tonnage (but not before 1 February 1992)

Status: 6 acceptances have been received.

The Protocol introduces a new system of surveys and certification which will harmonize with two other conventions, Load Line (page 23) and MARPOL 73/78 (page 40). At present, requirements in the three instruments vary and, as a result, ships may be obliged to go into drydock for a survey required by one convention shortly after being surveyed in connection with another.

By enabling the required surveys to be carried out at the same time the system will reduce costs for shipowners and administrations alike.

The 1988 (GMDSS) amendments

Adoption: 11 November 1988

Entry into force: 1 February 1992

IMO began work on the Global Maritime Distress and Safety System in the 1970s and its introduction will mark the

System in the 1970s and its introduction will mark the biggest change to maritime communications since the invention of radio.

It will be introduced in stages between 1993 and 1999. The basic concept of the system is that search and rescue authorities ashore, as well as ships in the vicinity, will be rapidly alerted in the event of an emergency.

The GMDSS will make great use of the satellite communications provided by INMARSAT (see page 29) but will also use terrestrial radio.

The equipment required by ships will vary accordingly to the area in which they operate. In addition to distress communications, the GMDSS will also provide for the dissemination of general maritime safety information (such as navigational and meteorological warnings and urgent information to ships).

The 1989 amendments

Adoption: 11 April 1989

Entry into force: 1 February 1992

The main changes concern Chapter II-1 and II-2 of the convention, which are respectively concerned with ships' construction and with fire protection, detection and extinction. Chapter II-1 covers subdivision and stability and machinery and electrical installations. One of the most important amendments is designed to reduce the number and size of openings in watertight bulkheads in passenger ships and to ensure that they are closed in the event of an emergency.

Chapter II-2 deals with fire protection, detection and extinction. Improvements have been introduced to fixed gas fire-extinguishing systems, smoke detection systems, arrangements for fuel and other oils, the location and separation of spaces and several other regulations.

The International Gas Carrier Code - which is mandatory under SOLAS - was also amended.

The 1990 amendments

Adoption: May 1990

Entry into force: 1 February 1992

Important changes have been made to the way in which the subdivision and stability of dry cargo ships is calculated. They apply to ships of 100 metres or more in length built after 1 February 1992.

The amendments are contained in a new part B-1 of Chapter II-1 and are based upon the so-called "probabilistic" concept of survival, which was originally developed through study of data relating to collisions collected by IMO. This showed a pattern in accidents which could be used in improving the design of ships: most damage, for example, is sustained in the forward part of ships and it seemed logical, therefore, to improve the standard of subdivision there rather than towards the stern. Because it is based on statistical evidence as to what actually happens when ships collide, the probabilistic concept provides a far more realistic scenario than the earlier "deterministic" method, whose principles regarding the subdivision of passenger ships are theoretical rather than practical in concept.

At the same meeting amendments were adopted to the International Code for the Construction and Equipment of

Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk.

The 1991 amendments

Adoption: 24 May 1991

Entry into force: 1 January 1994 (expected date under tacit acceptance)

The most important feature of these amendments is the complete revision of Chapter VI (carriage of grain). This has been extended to include other cargoes. The text is shorter, but the chapter is backed up by two new Codes. The International Grain Code will be a mandatory instrument while the Code of Safe Practice for Cargo Stowage and Securing is recommended. The new chapter also refers to the Code of Safe Practice for Ships Carrying Timber Deck Cargoes and the Code of Safe Practice for Solid Bulk Cargoes.

Fire safety requirements for passenger ships have been improved by means of amendments to Chapter II-1 and other changes have been made to Chapter III and Chapter VI (safety of navigation).

International Convention on Load Lines, 1966

Adoption: 5 April 1966

Entry into force: 21 July 1968

It has long been recognized that limitations on the draft to which a ship may be loaded make a significant contribution to her safety. These limits are given in the form of freeboards, which constitute, besides external weathertight and watertight integrity, the main objective of the Convention.

The first International Convention on Load Lines, adopted in 1930, was based on the principle of reserve buoyancy, although it was recognized then that the freeboard should also ensure adequate stability and avoid excessive stress on the ship's hull as a result of overloading.

Provisions are made determining the freeboard of tankers by subdivision and damage stability calculations.

The regulations take into account the potential hazards present in different zones and different seasons. The technical annex contains several additional safety measures concerning doors, freeing ports, hatchways and other items. The main purpose of these measures is to ensure the watertight integrity of ships' hulls below the freeboard deck.

All assigned load lines must be marked amidships on each side of the ship, together with the deck line. Ships intended for the carriage of timber deck cargo are assigned a small freeboard as the deck cargo provides protection against the impact of waves.

Amendments

Amendments were adopted to the Convention in 1971 (to make certain improvements to the text and to the chart of zones and seasonal areas); in 1975 (to introduce the principle of 'tacit acceptance' into the Convention); in 1979 (to make some alterations to zone boundaries off the coast of Australia), and in 1983 (to extend the summer and tropical zones southward off the coast of Chile).

None of these amendments has yet entered into force. In each case 78 acceptances are required and, to date, the 1971 amendments have received 47 acceptances, 1975 - 42; 1979 - 40; and 1983 - 22.

The 1988 Protocol

Adoption: 11 November 1988

Entry into force: 12 months after being accepted by not less than 15 States whose combined merchant fleets constitute not less than 50 per cent of world tonnage

Status: 9 acceptances have been received

The Protocol was adopted in order to harmonize the Convention's survey and certification requirement with those contained in SOLAS (see above) and MARPOL 73/78 (see below).

Special Trade Passenger Ships Agreement, 1971

Adoption: 6 October 1971

Entry into force: 2 January 1974

The carriage of large numbers of unberthed passengers in special trades such as the pilgrim trade - in a restricted sea area around the Indian Ocean - is of particular interest to countries in that area. It was regulated by the Simla Rules of 1931, which had become outdated following the adoption of the 1948 and 1960 SOLAS Conventions.

Recognizing this fact, IMO convened an International Conference in 1971 to consider safety requirements for special trade passenger ships in relation to the 1960 SOLAS Convention.

Annexed to this Agreement are Special Trade Passenger Ships Rules, 1971, which provide modifications to the regulations of chapters II and III of the 1960 SOLAS Convention.

Protocol on Space Requirements for Special Trade Passenger Ships, 1973

Adoption: 13 July 1973

Entry into force: 2 June 1977

Following a resolution of the International Conference on Special Trade Passenger Ships, 1971, IMO, in co-operation with other Organizations, particularly the World Health Organisation (WHO), drew up technical rules covering the safety aspects of the disposition of passengers on board such ships.

As a result of this work, in 1973 IMO convened a Conference which adopted a Protocol on Space Requirements for Special Trade Passenger Ships. Annexed to this Protocol are the technical rules covering the safety aspect of the disposition of passengers in special trade passenger ships.

The space requirements for special trade passenger ships have a direct bearing on the safe carriage of special trade passengers and are complementary to the Special Trade Passenger Ships Agreement of 1971.

Convention on the International Regulations for Preventing Collisions at Sea, 1972

Adoption: 20 October 1972

Entry into force: 15 July 1977

This Convention was designed to update and replace the Collision Regulations of 1960 which were annexed to the SOLAS Convention adopted in that year.

One of the most important innovations in the 1972 Regulations was the recognition given to traffic separation schemes.

Rule 10 states that vessels using these schemes will be required to proceed in the appropriate traffic lane in the general direction of traffic flow for that lane, keeping clear of a traffic separation line or zone. In so far as is practicable, vessels must avoid crossing traffic lanes. When crossing a lane is necessary, it must be accomplished as nearly as practicable at right angles to the general direction of the traffic flow.

The Convention groups provisions into sections dealing with steering and sailing; lights and shapes and sound and light signals. There are also four Annexes containing technical requirements concerning lights and shapes and their positioning; sound signalling appliances; additional signals for fishing vessels when operating in close proximity, and international distress signals.

Guidance is provided in determining safe speed, the risk of collision and the conduct of vessels operating in or near traffic separation schemes. Other rules concern the operation of vessels in narrow channels, the conduct of vessels in restricted visibility, vessels restricted in their ability to manoeuvre, and provisions concerning vessels constrained by their draught.

The rules also include requirements for special lights for air-cushion vessels operating in the non-displacement mode, a yellow light to be exhibited above the white sternlight by vessels engaged in towing, special lights and day signals for vessels engaged in dredging or under-water operations, and sound signals to be given in restricted visibility.

The technical details of construction and positioning of lights and shapes have been placed in a separate Annex.

The 1981 amendments

Adoption: 19 November 1981

Entry into force: 1 June 1983

These were adopted by the IMO Assembly and entered into force under the tacit acceptance procedure on 1 June 1983. A number of rules are affected but perhaps the most important change concerns rule 10, which has been amended to enable vessels carrying out various safety operations, such as dredging or surveying, to carry out these functions in traffic separation schemes.

The 1987 amendments

Adoption: 19 November 1987

Entry into force: 19 November 1989

The amendments affect several rules, such as rule 1(e) - vessels of special construction: the amendment classifies the application of the Convention to such ships; Rule 3(h), which defines a vessel constrained by her draught; Rule 10(c) - crossing traffic lanes, etc.

The 1989 amendments

Adoption: 19 October 1989

Entry into force: 19 April 1989

The amendment concerns Rule 10 and is designed to stop unnecessary use of the inshore traffic zone.

International Convention for Safe Containers, 1972

Adoption: 2 December 1972

Entry into force: 6 September 1977

In view of the rapid increase in the use of freight containers for the consignment of goods by sea and the development of specialized container ships, in 1967 IMO undertook to study the safety of containerization in marine transport. The container itself emerged as the most important aspect to be considered.

In 1972 a conference was held to consider a draft convention prepared by IMO in co-operation with the Economic Commission for Europe. The conference was jointly convened by the United Nations and IMO.

The 1972 Convention for Safe Containers has two goals. One is to maintain a high level of safety of human life in the transport and handling of containers by providing generally acceptable test procedures and related strength requirements which have proven adequate over the years.

The other is to facilitate the international transport of containers by providing uniform international safety regulations, equally applicable to all modes of surface transport. In this way, proliferation of divergent national safety regulations can be avoided.

The requirements of the Convention apply to the great majority of freight containers used internationally, except those designed specially for carriage by air. As it was not intended that all containers, van or reusable packing boxes should be affected, the scope of the Convention is limited to containers of a prescribed minimum size having corner fittings - devices which permit handling, securing or stacking.

The Convention sets out procedures whereby containers used in international transport will be safety-approved by an Administration of a Contracting State or by an organization acting on its behalf.

The Administration or its authorized representative will authorize the manufacturer to affix to approved containers a safety approval plate containing the relevant technical data.

The approval, evidenced by the safety approval plate granted by one Contracting State, should be recognized by

other Contracting States. This principle of reciprocal acceptance of safety-approved containers is the cornerstone of the Convention; and once approved and plated it is expected that containers will move in international transport with the minimum of safety control formalities.

The subsequent maintenance of a safety-approved container is the responsibility of the owner, who is required to have the container periodically examined.

The technical Annex to the Convention specifically requires that the container be subjected to various tests which represent a combination of safety requirements of both the inland and maritime modes of transport.

Flexibility is incorporated in the Convention by the provision of simplified amendment procedures which make it possible to speedily adapt the test procedures to the requirements of international container traffic.

The 1981 amendments

Adoption: April 1981

Entry into force: 1 December 1981

The amendments provide transitional arrangements for plating of containers (which had to be completed by 1 January 1985), and for the marking of the date of the container's next examination by 1 January 1987.

The 1983 amendments

Adoption: June 1983

Entry into force: 1 January 1984

The amendments extend the interval between re-examination to 30 months and permit a choice of container re-examination procedures between the original periodic examination scheme or a new continuous examination programme.

The 1991 amendments

Adoption: 17 May 1991

Entry into force: 1 January 1993

The amendments concern Annexes I and II of the Convention. They include the addition of a new Chapter V to Annex I concerning regulations for the approval of modified containers.

Convention on the International Maritime Satellite Organization, 1976

Adoption: 3 September 1976

Entry into force: 16 July 1979

For some years maritime radiocommunications frequency bands have become increasingly congested. With the continuous expansion of maritime mobile communications, the situation will continue to deteriorate. This could have serious consequences for maritime communications and safety at sea.

The use of space technology, however, could help overcome the problem and many others which have arisen in recent years. IMO has been involved in this subject since

1966, and in 1973 decided to convene a conference with the object of establishing a new maritime communications system based on satellite technology.

The Conference first met in 1975 and held three sessions, at the third of which the Convention was adopted, together with an Operating Agreement.

The Convention defines the purposes of INMARSAT as being to improve maritime communications, thereby assisting in improving distress and safety of life at sea communications, the efficiency and management of ships, maritime public correspondence services, and radiodetermination capabilities.

The Organization consists of an Assembly, Council and a Directorate headed by a Director-General, and the functions of each are defined. An Annex to the Convention outlines procedures for the settlement of disputes.

The Operating Agreement set an initial capital ceiling for the Organization of \$US 200 million. Investment shares are determined on the basis of utilization of the INMARSAT space segment.

INMARSAT began operations in 1981 and has its headquarters in London.

The 1985 amendments

Adoption: 16 October 1985

Entry into force: 13 October 1989

The amendments enable INMARSAT to provide services to aircraft as well as ships.

The 1989 amendments

Adoption: 19 January 1989

Entry into force: One year after being accepted by two-thirds of Parties representing two thirds of the total investment share.

Status: The amendments have been ratified by 18 countries

The amendments will enable INMARSAT to provide services to land-based vehicles as well as ships and aircraft.

The Torremolinos International Convention for the Safety of Fishing Vessels, 1977

Adoption: 2 April 1977

Entry into force: One year after 15 States with 50 per cent of the world's fishing fleet of vessels of 24 metres in length have ratified the Convention.

Status: The Convention has been ratified by 15 States, (other requirements not yet met)

The Convention is the first-ever international convention on the safety of fishing vessels, and was adopted at a conference held in Torremolinos, Spain.

The safety of fishing vessels has been a matter of concern to IMO since it came into existence, but the great differences

in design and operation between fishing vessels and other types of ships had always proved a major obstacle to their inclusion in the Conventions on Safety of Life at Sea and Load Lines.

The Convention contains safety requirements for the construction and equipment of new, decked, seagoing fishing vessels of 24 metres in length and over, including those vessels also processing their catch. Existing vessels are covered only in respect of radio requirements.

One of the most important features of the Convention is that it contains stability requirements for the first time in an international convention.

Other chapters deal with such matters as construction, watertight integrity and equipment; machinery and electrical installations and unattended machinery spaces; fire protection, detection, extinction, and fire fighting; protection of the crew; life-saving appliances; emergency procedures, musters and drills; radiotelegraphy and radiotelephony; and shipborne navigational equipment.

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978

Adoption: 7 July 1978

Entry into force: 28 April 1984

The Convention is the first to establish basic requirements on training, certification and watchkeeping for seafarers on an international level.

The technical provisions of the Convention are contained in an Annex, which is divided into six chapters. The first contains general provisions and the contents of the others are outlined below.

1.Master-deck department: This chapter outlines basic principles to be observed in keeping a navigational watch.

It then lays down mandatory minimum requirements for the certification of masters, chief mates and officers in charge of navigational watches on ships of 200 grt or more. Other regulations deal with mandatory minimum requirements for officers in charge of navigational watches and masters of ships of less than 200 grt and for ratings forming part of a navigational watch.

The chapter also includes regulations designed to ensure the continued proficiency and updating of knowledge for masters and deck officers. Further requirements are contained in a number of Annexes.

2.Engine Department: This chapter outlines basic principles to be observed in keeping an engineering watch. It includes mandatory minimum requirements for certification of chief and second engineer officers of ships with main propulsion machinery of 3000 kW or more and for ships of between 750 kW and 3000 kW.

Mandatory minimum requirements are also laid down for the certification of engineer officers in charge of a watch in

a traditionally manned engine room, or the designated engineer in a periodically unmanned engine room, and the chapter also establishes mandatory minimum requirements for ratings forming part of an engine room watch.

3. Radio Department: The first regulation in this chapter deals with radio watchkeeping and maintenance. The chapter goes on to establish mandatory minimum requirements for certification of radio officers and radio operators, and requirements to ensure their continued proficiency and updating of knowledge. Another regulation establishes mandatory minimum requirements for certification of radiotelephone operators.

4. Special requirements for tankers: This chapter deals with additional mandatory minimum requirements for the training and qualification of masters, officers and ratings of oil tankers, chemical tankers and liquefied gas tankers.

5. Proficiency in survival craft: This chapter is concerned with mandatory minimum requirements for the issue of certificates of proficiency in survival craft.

The requirements of the Convention are augmented by 23 resolutions adopted by the Conference, many of which contain more detailed provisions on the subjects covered by the Convention itself.

The 1991 amendments

Adoption: 22 May 1991

Entry into force: 1 December 1992

The amendments are mostly concerned with the additional requirements made necessary by the implementation of the Global Maritime Distress and Safety System (GMDSS) which will be phased in from 1 February 1992 to 1 February 1999.

International Convention on Maritime Search and Rescue, 1979

Adoption: 27 April 1979

Entry into force: 22 June 1985

The main purpose of the Convention is to facilitate co-operation between Governments and between those participating in search and rescue (SAR) operations at sea by establishing an international SAR plan. Co-operation of this type is encouraged by SOLAS 1974, Parties to which undertake 'to ensure that any necessary arrangements are made for coast watching and for the rescue of persons in distress round its coasts. These arrangements should include the establishment, operation and maintenance of such maritime safety facilities as are deemed practicable and necessary'.

The technical requirements of the SAR Convention are contained in an Annex. Parties to the Convention are required to ensure that arrangements are made for the provision of adequate SAR services in their coastal waters.

Parties are encouraged to enter into SAR agreements with neighbouring States involving the establishment of SAR regions, the pooling of facilities, establishment of common

procedures, training and liaison visits. The Convention states that Parties should take measures to expedite entry into its territorial waters of rescue units from other Parties.

The Convention then goes on to establish preparatory measures which should be taken, including the establishment of rescue co-ordination centres and subcentres. It outlines operating procedures to be followed in the event of emergencies or alerts and during SAR operations. This includes the designation of an on-scene commander and his duties.

Parties to the Convention are required to establish ship reporting systems, under which ships report their position to a coast radio station. This enables the interval between the loss of contact with a vessel and the initiation of search operations to be reduced. It also helps to permit the rapid determination of vessels which may be called upon to provide assistance including medical help when required.

Marine pollution

International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962, 1969 and 1971

Adoption: 12 May 1954

Entry into force: 26 July 1958

1962 amendments adopted: April 1962

Entry into force: 18 May /28 June 1967

1969 amendments adopted: 21 October 1969

Entry into force: 20 January 1978

1971 (Great Barrier Reef) amendments adopted: 12 October 1971

Entry into force:*

1971 (Tanks) amendments adopted: 15 October 1971

Entry into force:*

One of the earliest indications of marine pollution as a problem requiring international control was pollution of the sea by oil.

In 1954, the International Convention for the Prevention of Pollution of the Sea by Oil was adopted. It has now been superseded by MARPOL 73/78 (see below) but is described here because of its historical importance.

Depositary responsibilities for this Convention were passed to IMO when it was established in 1959. As one of its first tasks, the Organization carried out a worldwide enquiry into the general extent of oil pollution, the availability of shore reception facilities and the progress of research on methods of combating the increasing menace. The results of this survey led IMO to convene a conference in 1962 which extended the application of the 1954 Convention to ships of lesser gross tonnage, and enlarged the prohibited zones.

The Convention prohibits the deliberate discharge of oil or oily mixtures from all seagoing vessels, except tankers of under 150 tons gross and other ships of under 500 tons gross, in specific areas called 'prohibited zones'. In general these extend at least 50 miles from all land areas, although zones of 100 miles and more were established in areas which included the Mediterranean and Adriatic Seas, the Gulf and

Red Sea, the coasts of Australia, Madagascar and some others.

The Contracting Parties undertake to promote the provision of facilities for the reception of oil residues and oily mixtures without causing undue delay to ships. The Convention prescribes that every ship which uses oil fuel and every tanker shall be provided with a book in which all the oil transfers and ballasting operations shall be recorded.

The oil record book may be inspected by authorities of any Contracting Party.

Contracting Parties have the right to inform another Contracting Party when one of the latter's ships contravenes the provisions of the Convention. The Government so informed shall investigate the matter and, if satisfied that sufficient evidence is available, cause proceedings to be taken. The reporting Government and IMO shall be given the result of such proceedings.

Any contravention of the provisions of the Convention shall be an offence punishable under the law of the 'flag' State. Penalties for unlawful discharge outside that State's territorial sea shall not be less than penalties which may be imposed for the same infringements within its territorial sea. The Contracting Governments agreed to report to the Organization the penalties actually imposed for each infringement.

Although the restrictions imposed by the 1954 Convention were very effective, the enormous growth in oil movements during the 1960s made it necessary to introduce more stringent regulations.

1969 amendments

In October 1969, further extensive amendments to the Oil Pollution Convention and its Annex were approved which are generally based upon the principle of total prohibition of oil discharge and give international recognition to the "load on top" system.

The restrictions include:

(a) Limitation of the total quantity of oil which a tanker may discharge in a ballast voyage to 1/15,000 of the ship's total cargo-carrying capacity:

(b) Limitation of the rate at which oil may be discharged to a maximum of 60 litres per mile travelled by the ship;

(c) Prohibition of discharge of any oil whatsoever from the cargo spaces of a tanker within 50 miles of the nearest land.

A new form of oil record book was also formulated to facilitate the task of the officials concerned with controlling the observance of the Convention.

1971 amendments

In 1971, two further amendments were approved by the IMO Assembly. One recognized the need to protect the Great Barrier Reef as an area of unique scientific importance and

*Although they never entered into force the substance of these amendments has been incorporated into the International Convention for the Prevention of Pollution from Ships, 1973

set out the precise limits of a protective zone which is considerably in excess of that prescribed in the Convention.

The other introduced a limitation on the size of individual cargo tanks in VLCCs and was designed to limit the outflow of oil in the case of collision or grounding.

The implication of this oil outflow limitation varies according to various factors, such as the arrangement of tanks, the fitting of double bottoms, the interposing of clean water ballast tanks, etc.; but in the case of normal single hull tankers of up to 422,000 tons dwt, with two longitudinal bulkheads, the capacity of a single centre tank and a wing tank is limited to 30,000 m³ and 15,000 m³, respectively, and thereafter gradually increases to 40,000 m³ and 20,000 m³, respectively, for a tanker of one million tons dwt.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972

Adoption: 13 November 1972

Entry into force: 30 August 1975

The Inter-Governmental Conference on the Convention on the Dumping of Wastes at Sea, which met in London in November 1972 at the invitation of the United Kingdom, adopted this instrument, generally known as the London Dumping Convention.

The Convention came into force on 30 August 1975 and IMO was made responsible for the Secretariat duties related to it.

The Convention has a global character, and represents a further step towards the international control and prevention of marine pollution. It prohibits the dumping of certain hazardous materials, requires a prior special permit for the dumping of a number of other identified materials and a prior general permit for other wastes or matter.

'Dumping' has been defined as the deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures, as well as the deliberate disposal of these vessels or platforms themselves.

Wastes derived from the exploration and exploitation of sea-bed mineral resources are, however, excluded from the definition. The provision of the Convention shall also not apply when it is necessary to secure the safety of human life or of vessels in cases of force majeure.

Among other requirements, Contracting Parties undertake to designate an authority to deal with permits, keep records, and monitor the condition of the sea.

Other articles are designed to promote regional co-operation, particularly in the fields of monitoring and scientific research.

Annexes list wastes which cannot be dumped and others for which a special dumping permit is required. The criteria governing the issuing of these permits are laid down in a third Annex which deals with the nature of the waste material, the characteristics of the dumping site and method of disposal.

The 1978 amendments (incineration)

Adoption: 12 October 1978

Entry into force: 11 March 1979

The amendments affect Annex I of the Convention and are concerned with the incineration of wastes and other matter at sea.

The 1978 amendments (disputes)

Adoption: 12 October 1978

Entry into force: 60 days after being accepted by two thirds of Contracting Parties.

Status: The amendments have been accepted by 14 States

As these amendments affect the articles of the Convention they are not subject to the tacit acceptance procedure and will enter into force one year after being positively accepted by two thirds of Contracting Parties. They introduce new procedures for the settlement of disputes.

The 1980 amendments (list of substances)

Adoption: 24 September 1980

Entry into force: 11 March 1981

These amendments are related to those concerned with incineration and list substances which require special care when being incinerated.

The 1989 amendments

Adoption: 3 November 1989

Entry into force: 19 May 1990

The amendments qualify the procedures to be followed when issuing permits under Annex III. Before this is done, consideration has to be given to whether there is sufficient scientific information available to assess the impact of dumping.

The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)

This instrument is a combination of two other treaties adopted in 1973 and 1978 respectively. Although it is now one instrument it is described under two headings to show how it evolved.

International Convention for the Prevention of Pollution from Ships, 1973

Adoption: 2 November 1973

Entry into force: 2 October 1983

Despite the action already taken by IMO to deal with oil pollution, far-reaching developments in modern industrial practices soon made it clear that further action, was required.

Accordingly the IMO Assembly decided in 1969 to convene an international conference to prepare a suitable international agreement for placing restraints on the contamination of the sea, land and air by ships. That Convention was adopted in November 1973.

It covers all the technical aspects of pollution from ships, except the disposal of waste into the sea by dumping, and applies to ships of all types, although it does not apply to pollution arising out of the exploration and exploitation of sea-bed mineral resources.

The Convention has two Protocols dealing respectively with Reports on Incidents involving Harmful Substances and Arbitration; and five Annexes which contain regulations for the prevention of various forms of pollution:

- (a) pollution by oil;
- (b) pollution by noxious liquid substances carried in bulk;
- (c) pollution by harmful substances carried in packages, portable tanks, freight containers, or road or rail tank wagons, etc.;
- (d) pollution by sewage from ships; and
- (e) pollution by garbage from ships.

The main provisions of the 1973 Convention, supplemented as appropriate by the related decisions of the Conference, are summarized in the following paragraphs.

Annex I: Prevention of pollution by oil

Entry into force: 2 October 1983

The Convention maintains the oil discharge criteria prescribed in the 1969 amendments to the 1954 Oil Pollution Convention (see above), without substantial changes, except that the maximum quantity of oil which is permitted to be discharged on a ballast voyage of new oil tankers has been reduced from 1/15,000 of the cargo capacity of 1/30,000 of the amount of cargo carried. These criteria apply equally both to persistent (black) and non-persistent (white) oils.

A new and important feature of the 1973 Convention is the concept of "special areas" which are considered to be so vulnerable to pollution by oil that oil discharges within them have been completely prohibited, with minor and well-defined exceptions. The main special areas are the Mediterranean Sea, the Black Sea, the Baltic Sea, the Red Sea and the Gulfs area.

All oil-carrying ships are required to be capable of operating the method of retaining oily wastes on board through the "load on top" system or for discharge to shore reception facilities.

This involves the fitting of appropriate equipment, including an oil-discharge monitoring and control system, oily-

water separating equipment and a filtering system, slop tanks, sludge tanks, piping and pumping arrangements.

New oil tankers (i.e. those for which the building contract was placed after 31 December 1975) of 70,000 tons dead-weight and above, must be fitted with segregated ballast tanks large enough to provide adequate operating draught without the need to carry ballast water in cargo oil tanks.

Secondly, new oil tankers are required to meet certain subdivision and damage stability requirements so that, in any loading conditions, they can survive after damage by collision or stranding.

Annex II: Control of pollution by noxious liquid substances

Entry into force: 6 April 1967

Annex II details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk.

Some 250 substances were evaluated and included in the list appended to the Convention. The discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with. In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land. More stringent restrictions apply to the Baltic and Black Sea areas.

Annex III: Prevention of pollution by harmful substances carried in packaged form, or in freight containers or portable tanks or road and rail tank wagons

Entry into force: 1 July 1992

This is the first of the convention's optional annexes. States ratifying the Convention must accept Annexes I and II but can choose not to accept the other three. Consequently, the latter have all taken much longer to meet the requirements for entry into force.

Annex III contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances.

To help implement the Annex, the International Maritime Dangerous Goods (IMDG) Code has been amended to include marine pollutants. The amendments to the Code entered into force on 1 January 1991.

Annex IV: Prevention of pollution by sewage

Entry into force: 12 months after being ratified by 15 States whose combined fleets of merchant shipping constitute at least 50% of the world fleet.
Status: The Annex has been accepted by 34 States whose fleets represent 37% of world tonnage. The second of the three optional Annexes, these contain requirements to control pollution of the sea by sewage.

Annex V: (garbage)

Entry into force: 31 December 1988

This deals with different types of garbage and specifies the

distances from land and the manner in which they may be disposed of. The requirements are much stricter in a number of "special areas" but perhaps the most important feature of the Annex is the complete ban imposed on the dumping into the sea of all forms of plastic.

Enforcement

Any violation of the Convention within the jurisdiction of any Party to the Convention is punishable either under the law of that Party or under the law of the flag State. In this respect, the term 'jurisdiction' in the Convention should be construed in the light of international law in force at the time the Convention is applied or interpreted.

With the exception of very small vessels, ships engaged on international voyages must carry on board valid international certificates which may be accepted at foreign ports as *prima facie* evidence that the ship complies with the requirements of the Convention.

If, however, there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate, or if the ship does not carry a valid certificate, the authority carrying out the inspection may detain the ship until it is satisfied that the ship can proceed to sea without presenting unreasonable threat of harm to the marine environment.

Under article 17, the Parties to the Convention accept the obligation to promote, in consultation with other international bodies and with the assistance of UNEP, support for those Parties which request technical assistance for various purposes, such as training, the supply of equipment, research, and combating pollution.

The Protocol of 1978

Adoption: 17 February 1978

Entry into force: 2 October 1983

The International Conference on Tanker Safety and Pollution Prevention held from 6 to 17 February 1978, resulted in the adoption of a number of important measures, including Protocols to SOLAS 1974 and MARPOL 1973. The Conference decided that the SOLAS Protocol should be a separate instrument, and should enter into force after the parent convention.

In the case of MARPOL, however, the Conference adopted a different approach. At that time the principal problems preventing early ratification of the MARPOL Convention were those associated with Annex II. The changes envisaged by the Conference involved mainly Annex I and it was therefore decided to adopt the agreed changes - and at the same time to allow Contracting States to defer implementation of Annex II for three years after the date of entry into force of the Protocol (i.e. on 2 October 1986). By then it was expected that the technical problems would have been solved.

The Protocol makes a number of changes to Annex I of the parent convention. Segregated ballast tanks (SBT) are required on all new tankers of 20,000 dwt and above (in the parent convention SBTs were only required on new tankers of 70,000 dwt and above). The Protocol also requires that

SBTs be protectively located - that is, they must be positioned in such a way that they will help protect the cargo tanks in the event of a collision or grounding.

Another important innovation concerned crude oil washing (COW), which had recently been developed by the oil industry and offered major benefits. Under COW, tanks are washed not with water but with crude oil - the cargo itself. COW is accepted as an alternative to SBTs on existing tankers and is an additional requirement on new tankers.

For existing crude oil tankers a third alternative was permissible for a period of two to four years after entry into force of MARPOL 73/78. This is called dedicated clean ballast tanks (CBT) and is a system whereby certain tanks are dedicated solely to the carriage of ballast water. This is cheaper than a full SBT system since it utilizes existing pumping and piping, but when the period of grace has expired other systems must be used.

Drainage and discharge arrangements were also altered in the Protocol, regulations for improved stripping systems were introduced.

Some oil tankers operate solely in specific trades between ports which are provided with adequate reception facilities. Some others do not use water as ballast. The TSPP Conference recognized that such ships should not be subject to all MARPOL requirements and they are consequently exempted from the SBT, COW and CBT requirements.

It is generally recognized that the effectiveness of international conventions depends upon the degree to which they are obeyed and this in turn depends largely upon the extent to which they are enforced. The 1978 Protocol to MARPOL therefore introduced stricter regulations for the survey and certification of ships.

This procedure in effect meant that the Protocol had absorbed the parent convention. States which ratify the Protocol must also give effect to the provisions of the 1973 Convention: there is no need for a separate instrument of ratification for the latter. The 1973 MARPOL Convention and the 1978 MARPOL Protocol should therefore be read as one instrument, which is usually referred to as MARPOL 73/78.

The 1984 amendments

Adoption: 7 September 1984

Entry into force: 7 January 1986

The amendments are concerned with Annex I of the Convention and are designed to make implementation easier and more effective. New requirements are designed to prevent oily water being discharged in special areas, and other requirements are strengthened. But in some cases they have been eased, provided that various conditions are met: some discharges may now be permitted below the waterline, for example, which helps to cut costs by reducing the need for extra piping.

The 1985 (Annex II) amendments

Adoption: 5 December 1985

Entry into force: 6 April 1987

The amendments are concerned with Annex II, which deals with liquid noxious substances (such as chemicals). They

take into account technological developments since the Annex was drafted in 1973 and are also intended to simplify its implementation. In particular they are intended to reduce the need for reception facilities for chemical wastes and to improve cargo tank stripping efficiencies.

The amendments also make the International Bulk Chemical Code mandatory. This is important because the Annex itself is concerned only with discharge procedures: the Code contains carriage requirements. The Code itself was revised to take into account anti-pollution requirements and the result will be to make the amended Annex more effective in reducing accidental pollution.

The 1985 (Protocol I) amendments

Adoption: 5 December 1985

Entry into force: 6 April 1987

The amendments make it an explicit requirement to report incidents involving discharge into the sea of harmful substances in packaged form.

The 1987 amendments

Adoption: December 1978

Entry into force: 1 April 1989

The amendments extended Annex I Special Area status to the Gulf of Aden.

1989 (March) amendments

Adoption: March 1989

Entry into force: 13 October 1990

One group of amendments affect the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code). This is mandatory under both MARPOL 73/78 and SOLAS and applies to ships built on or after 1 July 1986.

A second group concerns the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH). In both cases, the amendments include revised list of chemicals. The BCH Code is mandatory under MARPOL 73/78 but is voluntary under SOLAS 1974.

The third group of amendments affect Annex II of MARPOL. The lists of chemicals in appendices II and III are replaced by new ones.

The October 1989 amendments

Adoption: 17 October 1989

Entry into force: 18 February 1991

The amendments make the North Sea a "special area" under Annex V of the convention. This greatly increases the protection of the sea against the dumping of garbage from ships.

The 1990 (HSSC) amendments

Adoption: March 1990

Entry into force: Six months after the entry into force of the 1988 SOLAS and Load Line Protocols
The amendments are designed to introduce the harmonized system of survey and certificates (HSSC) into MARPOL 73/78. This can be done through the tacit acceptance proce-

dures, which is not possible in the case of SOLAS and the Load Line Convention.

The 1990 (IBC Code) amendments

Adoption: March 1990

Entry into force: On the same date as the March 1990 HSSC amendments. The amendments introduce the HSSC into the IBC Code.

The amendments introduce the HSSC into the IBC Code.

The 1990 (BCH) amendments

Adoption: March 1990

Entry into force: On the same date as the March 1990 HSSC amendments.

The amendments introduce the HSSC into the BCH Code.

The 1990 (Annexes I and V) amendments

Adoption: November 1990

Entry into force: 17 March 1992

The amendments extend Special Area Status under Annexes I and V to the Antarctic.

The 1991 amendments

Adoption: 4th July 1991

Entry into force: 4 April 1993 (under tacit acceptance, unless rejected).

The amendments will make the Wider Caribbean a Special Area under Annex V.

International Convention

Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969

Adoption: 29 November 1969

Entry into force: 6 May 1975

The *Torrey Canyon* disaster of 1967 revealed certain doubts with regard to the powers of States, under public international law, in respect of incidents on the high seas. In particular, questions were raised as to the extent to which a coastal State could take measures to protect its territory from pollution where a casualty threatened that State with oil pollution, especially if the measures necessary were likely to affect the interests of foreign shipowners, cargo owners and even flag States.

The general consensus was that there was need for a new regime which, while recognizing the need for some State intervention on the high seas in cases of grave emergency, clearly restricted that right to protect other legitimate interests. A conference to consider such a regime was held in Brussels in 1969.

The Convention which resulted affirms the right of a coastal State to take such measures on the high seas as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests from pollution by oil or the

threat thereof, following upon a maritime casualty. The coastal State is, however, empowered to take only such action as is necessary, and after due consultations with appropriate interests including, in particular, the flag State or States of the ship or ships involved, the owners of the ships or cargoes in question and, where circumstances permit, independent experts appointed for this purpose. A coastal State which takes measures beyond those permitted under the Convention is liable to pay compensation for any damage caused by such measures. Provision is made for the settlement of disputes arising in connection with the application of the Convention.

The Convention applies to all seagoing vessels except warships or other vessels owned or operated by a State and used on Government non-commercial service.

The Protocol of 1973

Adoption: 2 November 1973

Entry into force: 30 March 1983

The 1969 Intervention Convention applied to casualties involving pollution by oil. In view of the increasing quantity of other substances, mainly chemical, carried by ships, some of which would, if released, cause serious hazard to the marine environment, the 1969 Brussels Conference recognized the need to extend the Convention to cover substances other than oil.

Following considerable work on this subject within the Legal Committee, draft articles for an instrument to extend the application of the 1969 Convention to substances other than oil were prepared and submitted to the 1973 London Conference on Marine Pollution.

The Conference adopted the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil. This extends the regime of the 1969 Intervention Convention to substances which are either listed in the Annex to the Protocol or which have characteristics substantially similar to those substances.

other countries. Ships are required to carry a shipboard oil pollution emergency plan, the contents of which are to be developed by IMO.

Ships are required to report incidents of pollution to coastal authorities and the convention details the actions that are then to be taken. The convention calls for the establishment of stockpiles of oil spill combating equipment, the holding of oil spill combating exercise and the development of detailed plans for dealing with pollution incidents. Parties to the convention are required to provide assistance to others in the event of a pollution emergency and provision is made for the reimbursement of any assistance provided.

The convention provides for IMO to play an important co-ordinating role.

International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

Adoption: 30 November 1990

Entry into Force: 12 months after being accepted by 15 States

Status: No acceptances have been received

In June 1989, a conference of leading industrial nations in Paris called upon IMO to develop further measures to prevent pollution from ships. This call was endorsed by the IMO Assembly in November of the same year and work began on a draft convention.

The purpose of the convention is to provide a global framework for international co-operation in combating major incidents or threats of marine pollution. Parties to the convention will be required to establish measures for dealing with pollution incidents, either nationally or in co-operation with

Liability and compensation

International Convention on Civil Liability for Oil Pollution Damage, 1969

Adoption: 29 November 1969

Entry into force: 19 June 1975

Another major legal issue raised by the *Torrey Canyon* incident related to the basis and extent of the ship or cargo owners' liability for damage suffered by States or other persons as a result of a marine casualty involving oil pollution.

The aim of the Civil Liability Convention is to ensure that adequate compensation is available to persons who suffer oil pollution damage resulting from maritime casualties involving oil-carrying ships.

The Convention places the liability for such damage on the owner of the ship from which the polluting oil escaped or was discharged.

Subject to a number of specific exceptions, this liability is strict; it is the duty of the owner to prove in each case that any of the exceptions should in fact operate. However, except where the owner has been guilty of actual fault, he may limit his liability in respect of any one incident to slightly over \$US125 for each ton of the ship's gross tonnage, with a maximum liability of \$US14 million* for each incident.

The Convention requires ships covered by it to maintain insurance or other financial security in sums equivalent to the owner's total liability for one incident.

The Convention applies to all seagoing vessels actually carrying oil in bulk as cargo, but only ships carrying more than 2,000 tons of oil are required to maintain insurance in respect of oil pollution damage.

This does not apply to warships or other vessels owned or operated by a State and used for the time being for Government non-commercial service. The Convention, however, applies in respect of the liability and jurisdiction provisions, to ships owned by a State and used for commercial purposes. The only exception as regards such ships is that they are not required to carry insurance. Instead they must carry a certificate issued by the appropriate authority of the State of their registry stating that the ship's liability under the Convention is covered.

The Protocol of 1976

Adoption: 9 November 1976

Entry into force: 8 April 1981

The 1969 Civil Liability Convention used the 'Poincaré franc', based on the 'official' value of gold, as the applicable unit of account. Experience has shown, however, that the

conversion of this gold-franc into national currencies was becoming increasingly difficult. In view of this a Protocol to the Convention was adopted in 1976 which provides for a new unit of account, based on the Special Drawing Rights (SDRs) as used by the International Monetary Fund (IMF). However, in order to cater for those countries which are not members of the IMF and whose laws do not permit the use of the SDRs, the Protocol provides for an alternate monetary unit - based, as before, on gold

The Protocol of 1984

Adoption: 25 May 1984

Entry into force: 12 months after being accepted by 10 States, including six with tanker fleets of at least 1 million gross tons.

Status: 7 acceptances have been received.

While the compensation system established by the 1969 CLC and 1971 Fund Convention had proved very useful, by the mid-1980s it was generally agreed that the limits of liability were too low to provide adequate compensation in the event of a major pollution incident.

Under the CLC Protocol, a ship up to 5,000 gt will be able to limit its liability to \$US3.12 million while for ships above that figure the limit will increase in proportion to their tonnage, up to a maximum of \$US62 million for ships of 140,000 gt and above.

The 1984 Protocol provides for a new and simplified procedure for amending the liability limits in the Protocol.

International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971

Adoption: 18 December 1971

Entry into force: 16 October 1978

Although the 1969 Civil Liability Convention provided a useful mechanism for ensuring the payment of compensation for oil pollution damage, it did not deal satisfactorily with all

*The unit of account in the 1969 and 1971 Conventions is the Poincaré or 'gold' franc. In the 1984 Protocols the Special Drawing Rights (SDRs) as defined by the International Monetary Fund are used. For the sake of convenience, the approximate dollar equivalents currently prevailing have been used in this Briefing. These will of course vary according to fluctuations in the exchange rate.

the legal, financial and other questions raised during the Conference.

Some States objected to the regime established, since it was based on the strict liability of the shipowner for damage which he could not foresee and, therefore, represented a dramatic departure from traditional maritime law which based liability on fault. On the other hand, some States felt that the limitation figures adopted were likely to be inadequate in cases of oil pollution damage involving large tankers. They therefore wanted an unlimited level of compensation or a very high limitation figure.

In the light of these reservations, the 1969 Brussels Conference considered a compromise proposal to establish an international fund, to be subscribed to by the cargo interests, which would be available for the dual purpose of, on the one hand, relieving the shipowner of the burden imposed on him by the requirements of the new convention and, on the other hand, providing additional compensation to the victims of pollution damage in cases where compensation under the 1969 Civil Liability Convention was either inadequate or unobtainable.

The Conference recommended that IMO should prepare such a scheme. The Legal Committee accordingly prepared draft articles and the Convention was adopted at a Conference held in Brussels. It is supplementary to the 1969 Civil Liability Convention.

The purposes of the Fund Convention are:

1. To provide compensation for pollution damage to the extent that the protection afforded by the 1969 Civil Liability Convention is inadequate.
2. To give relief to shipowners in respect of the additional financial burden imposed on them by the 1969 Civil Liability Convention, such relief being subject to conditions designed to ensure compliance with safety at sea and other conventions.
3. To give effect to the related purposes set out in the Convention.

Under the first of its purposes, the Fund is under an obligation to pay compensation to States and persons who suffer pollution damage, if such persons are unable to obtain compensation from the owner of the ship from which the oil escaped or if the compensation due from such owner is not sufficient to cover the damage suffered.

Under the Fund Convention, victims of oil pollution damage may be compensated beyond the level of the shipowner's liability. However, the Fund's obligations are limited so that the total payable to victims by the shipowner and the Fund shall not exceed \$US30 million for any one incident. In effect, therefore, the Fund's maximum liability for each incident is limited to \$US16 million.

Where, however, there is no shipowner liable or the shipowner liable is unable to meet his liability, the Fund will be required to pay the whole amount of compensation due. Under certain circumstances, the Fund's maximum liability may increase to not more than \$US60 million for each incident.

With the exception of a few cases, the Fund will be obliged to pay compensation to the victims of oil pollution damage who are unable to obtain adequate or any compensation from the shipowner or his guarantor under the 1969 Convention.

The Fund's obligations to pay compensation is confined to pollution damage suffered in the territories including the territorial sea of Contracting States. The Fund is also obliged to pay compensation in respect of measures taken by a Contracting State outside its territory.

The Fund can also provide assistance to Contracting States which are threatened or affected by pollution and wish to take measures against it. This may take the form of personnel, material, credit facilities or other aid.

In connection with its second main function, the Fund is obliged to indemnify the shipowner or his insurer for a portion of the shipowner's liability under the Liability Convention. This portion is equivalent to \$US 100 per ton or \$US 8.3 million, whichever is the lesser.

The Fund is not obliged to indemnify the owner if damage is caused by his wilful misconduct or if the accident was caused even partially because the ship did not comply with certain conventions.

The Convention contains provisions on the procedure for claims, rights and obligations, and jurisdiction.

Contributions to the Fund should be made by all persons who receive oil by sea in Contracting States. The Fund's Organization consists of an Assembly of States, a Secretariat headed by a director appointed by the Assembly; and an Executive Committee.

The Protocol of 1976

Adoption: 19 November 1976

Entry into force: 90 days after being accepted by 8 which have received a total of 750 million tons of contributing oil during the previous calendar year.

Status: 19 acceptances have been received (representing about 75 per cent of the total contributing oil required)

The 1971 Fund Convention applied the same unit of account as the 1969 Civil Liability Convention, i.e. the 'Poincaré franc'. For similar reasons the Protocol provides for a unit of account, based on the Special Drawing Right (SDR) as used by the International Monetary Fund (IMF).

The Protocol of 1984

Adoption: 25 May 1984

Entry into force: 12 months after being accepted by at least 8 States whose combined total of contributing oil amounted to at least 600 million tons during the previous calendar year

Status: 2 acceptances have been received

The Protocol is primarily intended to raise the limits of liability contained in the convention and thereby enable greater compensation to be paid to victims of oil pollution incidents.

The basic coverage (including that under the CLC) will be limited to a maximum of \$US140 million. But when the total quantities of contributing oil received in three Contracting States equals 600 million tons or more, the limit of compensation will be increased to a maximum of \$US208 million.

A new and simplified procedure for raising the liability limits is also included.

Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Materials, 1971

Adoption: 17 December 1971

Entry into force: 15 July 1975

In 1971 IMO, in association with the International Atomic Energy Agency (IAEA) and the European Nuclear Energy Agency of the Organization for Economic Co-operation and Development (OECD), convened a Conference which adopted a Convention to regulate liability in respect of damage arising from the maritime carriage of nuclear substances.

The purpose of this Convention is to resolve difficulties and conflicts which arise from the simultaneous application to nuclear damage of certain maritime conventions dealing with shipowners' liability, as well as other conventions which placed liability arising from nuclear incidents on the operators of the nuclear installations from which or to which the material in question was being transported.

The 1971 Convention provides that a person otherwise liable for damage caused in a nuclear incident shall be exonerated for liability if the operator of the nuclear installation is also liable for such damage by virtue of the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy; or the Vienna Convention of 21 May 1963 on Civil Liability for Nuclear Damage; or national law which is similar in the scope of protection given to the persons who suffer damage.

Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974

Adoption: 13 December 1974

Entry into force: 28 April 1987

A Conference, convened in Athens in 1974, adopted the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974.

The Convention is designed to consolidate and harmonize two earlier Brussels conventions dealing with passengers and luggage and adopted in 1961 and 1967 respectively.

The Convention establishes a regime of liability for damage suffered by passengers carried on a seagoing vessel. It declares a carrier liable for damage or loss suffered by a passenger if the incident causing the damage occurred in the course of the carriage and was due to the fault or neglect of the carrier.

However, unless the carrier acted with intent to cause such

damage, or recklessly and with knowledge that such damage would probably result, he can limit his liability. For the death of, or personal injury to, a passenger, this limit of liability is set at \$US55,000 per carriage.

As far as loss of or damage to luggage is concerned, the carrier's limit of liability varies, depending on whether the loss or damage occurred in respect of cabin luggage, of a vehicle and/or luggage carried in or on it, or in respect of other luggage.

Protocol to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974

Adoption: 19 November 1976

Entry into force: 30 April 1989

The Athens Convention also used the 'Poincaré franc', based on the 'official' value of gold, as the applicable unit of account.

A Protocol to the Convention, with the same provisions as in the Protocols to the 1971 Fund Convention and the 1969 Liability Convention, was accordingly adopted in November 1976.

The 1990 Protocol

Adoption: 30 March 1990

Entry into force: 90 days after being accepted by 10 States

Status: No acceptances have been received.

The main aim of the Protocol is to raise the amount of compensation available in the event of deaths or injury at around US\$225,000. Other limits are US\$2,322 for loss of or damage to cabin luggage and US\$12,900 for loss of or damage to vehicles.

The Protocol also makes provision for the "tacit acceptance" procedure to be used to amend the limitation amounts in the future.

Convention on Limitation of Liability for Maritime Claims, 1976

Adoption: 19 November 1976

Entry into force: 1 December 1986

The Convention replaces the International Convention Relating to the Limitation of the Liability of Owners of Seagoing Ships, which was signed in Brussels in 1957, and came into force in 1968.

Under the 1976 Convention, the limit of liability for claims covered is raised considerably, in some cases up to 250-300 per cent. Limits are specified for two types of claims - claims for loss of life or personal injury, and property claims (such as damage to other ships, property or harbour works).

With regard to personal claims, liability for ships not exceeding 500 tons is limited to 330,000 units of account (equivalent to \$US400,000). For larger vessels the follow-

ing additional amounts (given here in dollar equivalents) will be used in calculating claims:

- For each ton from 501 to 3,000 tons, \$US600 (approx.)
- For each ton from 3,001 to 30,000 tons, \$US400
- For each ton from 30,001 to 70,000 tons, \$US300
- For each ton in excess of 70,000 tons, \$US200

For other claims, the limit of liability is fixed at \$US 200,000 for ships not exceeding 500 tons. For larger ships the additional amounts will be:

- For each ton from 501 to 30,000 tons, \$US200
- For each ton from 30,001 to 70,000 tons, \$US150
- For each ton in excess of 70,000 tons, \$US100

In the Convention, the limitation amounts are expressed in terms of units of account. These are equivalent in value to the Special Drawing Rights (SDRs) as defined by the International Monetary Fund (IMF), although States which are not members of the IMF and whose law does not allow the use of SDRs may continue to use the old gold franc (now referred to as 'monetary unit' in the Convention).

The Convention provides for a virtually unbreakable system of limiting liability. It declares that a person will not be able to limit liability only if 'it is proved that the loss resulted from his personal act or omission, committed with the intent to cause such a loss, or recklessly and with knowledge that such loss would probably result'.

Other subjects

Convention on Facilitation of International Maritime Traffic, 1965

Adoption: 9 April 1965

Entry into force: 5 March 1967

Since the turn of the century the requirements of statisticians and the ever-increasing sophistication of the shipping industry itself have led to an increase in the number of national authorities taking an interest in the call of ships and personnel at ports.

In the last few decades, the lack of internationally standardized documentation procedures has imposed a heavy and increasing burden upon the industry's personnel, both shipborne and ashore and caused considerable delays. To deal with these problems, IMO began work on these problems soon after its inception and in 1965 the Convention on Facilitation of International Maritime Traffic was adopted.

The Convention's main objectives are to prevent unnecessary delays in maritime traffic, to aid co-operation between Governments, and to secure the highest practicable degree of uniformity in formalities and other procedures.

The Annex to the Convention contains provisions relating to the arrival, stay and departure of ships and persons, health and quarantine, and sanitary measures for plants and animals.

These provisions are divided into Standards and Recommended Practices, and the documents which should be required by Governments are listed.

The 1973 amendments

Adoption: November 1973

Entry into force: 2 June 1984

Amendments to the Annex were adopted in 1969 and 1977 and entered into force in 1977 and 1984 respectively. However, major improvements to the Convention were rendered virtually impossible by the cumbersome amendment procedure which required the positive acceptance of more than 50 per cent of Contracting Parties. The 1973 amendments introduced the 'tacit acceptance' procedure included in many other IMO conventions.

The 1986 amendments

Adoption: 7 March 1986

Entry into force: 1 October 1986

The new 'tacit acceptance' procedure made it possible to update the Convention speedily and the 1986 amendments were designed primarily to reduce 'red tape' and in particular to enable automatic data processing techniques to be used in shipping documentation.

The 1987 amendments

Adoption: September 1987

Entry into force: 1 January 1989

The amendments simplify the documentation required by ships including crew lists, and also facilitate the movement of ships engaged in disaster relief work and similar activities.

The May 1990 amendments

Adoption: May 1990

Entry into force: 1 September 1991

The amendments revise several recommended practices and add others dealing with drug trafficking and the problems of the disabled and elderly. They encourage the establishment of national facilitation Committees and also cover stowaways and traffic flow arrangements.

International Convention on Tonnage Measurement of Ships, 1969

Adoption: 23 June 1969

Entry into force: 18 July 1982

The Convention, which was adopted by IMO in 1969, is the first successful attempt to introduce a universal tonnage measurement system.

Previously, various systems were used to calculate the tonnage of merchant ships. Although all went back to the method devised by George Moorsom of the British Board of Trade in 1854, there were considerable differences between them and it was recognized that there was a great need for one single international system.

The 1969 Tonnage Measurement Convention provides for gross and net tonnages, both of which are calculated independently. The gross tonnage is a function of the moulded volume of all enclosed spaces of the ship. The net tonnage is produced by a formula which is a function of the moulded volume of all cargo spaces of the ship. The net tonnage shall not be taken as less than 30 per cent of the gross tonnage.

The entry into force of the Convention was expected to result in the eventual elimination of the shelter-deck type vessel. There is only one net tonnage and its change is allowed only once a year. It applies to new ships in general from the date of entry into force of the Convention. New ships are defined as those whose keels have been laid or which are at a similar stage of construction on or after the date of entry into force.

Existing ships, if not converted, were enabled to retain their existing tonnage for 12 years after entry into force. This is intended to ensure that ships are given reasonable safeguards in the interests of the economic welfare of the shipping

industry. On the other hand a ship may be assigned the new tonnage if the owner so wishes.

As far as possible, the Convention was drafted to ensure that gross and net tonnages calculated under the new system did not differ too greatly from those calculated under existing methods.

Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, 1988

Adoption: 10 March 1988

Entry into force: 1 March 1992

The main purpose of the convention is to ensure that appropriate action is taken against persons committing unlawful acts against ships. These include the seizure of ships by force; acts of violence against persons on board ships; and the placing of devices on board a ship which are likely to destroy or damage it.

The convention obliges Contracting Governments either to extradite or prosecute alleged offenders.

Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf, 1988

Adoption: 10 March 1988

Entry into force: 1 March 1992

The Protocol extends the requirements of the Convention to fixed platforms such as those engaged in the exploitation of offshore oil and gas.

International Convention on Salvage, 1989

Adoption: 28 April 1989

Entry into force: 1 year after being accepted by 15 States

Status: 2 acceptances have been received

The convention is intended to replace an instrument adopted in Brussels in 1910. This Convention incorporates the "no cure, no pay" principle which has been in existence for many years and is the basis of most salvage operations today.

However, it does not take compensation into account. The new convention seeks to remedy this by making provisions for "special compensation" to be paid to salvors when there is a threat to the environment.

This will consist of the salvor's expenses plus 30% if environmental damage is minimized or prevented, but this can be increased to 100% in certain circumstances.