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Maritime safety administration: suggested model for Cote D'Ivoire

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The contents of this paper reflect my own personal views and are not necessary endorsed by the World Maritime University or the International Maritime Organization

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DEDICATION

This paper is dedicated to my entire family , relatives and friends .

Thank you

ABBREVIATIONS/ACRONYMS

IMO	International Maritime Organization
ILO	International Labour Organization
CREAM	Centre Regional d'Enseignement et de l'Apprentissage
ESN	Ecole Superieure de la Navigation
DAMPI	Direction des Affaires maritimes portuaires et industrielles
MSA	Maritime Safety Administration
NAS	National Academic of Science
MODU	Mobile Offshore Drilling Units
SOLAS	Safety of Life at Sea
MARPOL	Marine Pollution
STCW	Standard of Training Certification And Watchkeeping
CIPOMAR	Centre Ivoirien de Pollution Marine
SAMARPOL	Service Autonome Marine pollution
OILPOL	Oil Pollution
SAR	Search and Rescue

IMOSAR	International Maritime Organization Search and Rescue
MERSAR	Merchant ship Search and Rescue
RCC	Rescue Coordinator Centre
SCS	SAR Coordinator
RSCS	Rescue Sub-Centers
SMCS	SAR Mission Coordinators
OSCS	On-Scene Commanders
RUS	Rescue Units
SRUS	SAR Units
MSAR	Maritime Search and Rescue
COLREG	Collision Regulation
IBC	International Code for Chemical carried in Bulk
IGC	International Gas carrier Code
ISCS	International Code for Safety Containers
GMA	General Maritime Administration
MSc	Master of Science

WMU	World Maritime University
MEPC	Maritime Environment Prevention Committee
IOPP	International oil prevention Pollution
CARENA	Chantier de Reparation des Navires
ANCI	Atelier Naval de Cote d'Ivoire
CRN	Chantier de Reparation Navale
CNE	Chantier Naval Ebrie

ABSTRACT

Since some years a number of positive developments have taken place in maritime safety matters thanks to the International Maritime Organization (IMO), which establishes International Maritime Conventions not only to increase the safety of navigation, but also to deal with various other matters such as Prevention Marine Pollution, Search and Rescue and Casualty Investigation.

So, at present, the creation of a Maritime Safety Administration as Department within the National Maritime Administration has become a necessity for the maritime development of most countries on the international level, to achieve harmonization regulations and procedures as set out in the IMO's objectives.

This paper intends to outline the work of typical Maritime Safety Administration and put forward a proposal model set-up of the Maritime Safety Administration of Cote d'Ivoire, developed on the basis of IMO's recommended standards, taking into account the country's local maritime conditions.

Proposals and Recommendations are made to facilitate the Authorities'actions which should be undertaken in these matters.

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PART II

INTRODUCTION

The maritime world remains a way of privileged communication between nations,it also appears above all as a huge reservoir of wealth: biological, energy, and mineral riches. Nevertheless, it has become a theatre of several activities generating risks for human life or to the equilibrium of ecosystems. The dangers that are present in certains exploitations are, in addition to the perils of the seas, other factors such as human errors.

Organisations like International Labour Organization (ILO) and particularly International Maritime Organization (IMO) which are interested in these questions have progressively formulated international conventions to safeguard the above mention potential adventages globally.

On the basis of the international conventions national Maritime Safety Administrations have formulated Regulations to limit potential adverse consequences which may result in the course of exploiting the Ocean riches.

In this connection the International Maritime Organization has created technical assistance programmes to assist national Governments to achieve its objectives, namely safe navigation and cleaner seas.

Cote D'Ivoire as a member of IMO cannot stay indifferent to the situation. Although rapid progess has been made in the development of maritime matters thanks to the Maritime Administration, it is correct to emphasize that it is not yet fully expanded to include a proper Maritime Safety Administration.

This paper is a guideline which hopefully will Help the authorities to establish a Maritime Safety

Administration which is adapted to the reality of maritime and lagoon safety to deal with all matters relating to safety of navigation and the prevention of pollution at sea in the Cote D'Ivoire.

PART I

BACKGROUND; COTE D'IVOIRE

PRESENTATION OF COTE D'IVOIRE

In the world Cote D'Ivoire is located in western Africa between the Equator and the Tropic of Cancer ; bounded to the north by Mali and Burkina Fasso, to the east by Ghana, to the west by Liberia and Guinea, and to the south by the natural border of the Atlantic Ocean where it is called Golf of Guinea.

The area of Cote D'Ivoire is 322.462 square kilometers and the population 11.500.000 inhabitants.

Cote D'Ivoire is mostly a flat country with some mountains in the west and the north. The coastline is 520 kilometers long and mainly sandy ,but there are some cliffs and it is rockiest from Sassandra to the border with Liberia.

Four main rivers flow through the country from the north to the Ocean .Lagoons cover a large part of the southern coast with over 350 kilometers from the frontier of Ghana to Sassandra.

The climate is tropical and the temperature seldom varies much during the whole year.

The economy of Cote D'Ivoire is based mainly on agriculture :coffee ,cocoa ,pineapples ,bananas, timber. The forest exploitation and shipping activities contribute widely to the economy of the country.

The network system of roads is one of the best in western Africa . It facilitates the flow of goods towards the ports for foreign trade (export-import) .

Cote D'Ivoire, formerly a French colony, was discovered in 1876 by French navigators. Soon it signed treaties of trade with settlers through the intermediary coastal village chiefs. As a result three wharves were built in Bassam, Port-Bouet and Sassandra.

The African Democratic Gathering was created in 1946 in Bamako (Mali) by the present President of Cote D'Ivoire, His Excellency Felix Houphouet Boigny. It is locally called PDCI-RDA (Parti Democratique de Cote D'Ivoire)and was the generating source of the independence which occurred on August 7,1960 .

CHAPTER I. MARITIME INDUSTRY IN COTE D'IVOIRE

The young independent Republic faced two problems relating to the economic, political developments.

In this context the Authorities stressed the expansion of shipping activities by the creation of ports, training of Marine Personnel and the establishment of the Maritime Administration.

1. MERCHANT MARINE

Cote D'Ivoire has two ports:

1.1.1. ABIDJAN PORT AUTHORITY

Abidjan Port Authority is the first port of Cote D'Ivoire, a land space developed in order to make a link between the sea port and starting the point of land transport and the railway, linking landlocked Burkina Fasso, Niger and Mali. Abidjan Port was the doing of the colonial French navigators. Seeing the growth in maritime trade, the settlers decided to create a harbour with two objectives:

- A proper deep port.
- A starting point for the railway.

The construction works of the canal with 2700 meters was started in 1938 and stopped by some disturbances due by the World War II. Finally the construction of Abidjan port was finished in the first months of 1950, and, on July 23, 1950 the connection

between the Ebrie Lagoon to the sea by the canal called Vridi Canal which has the following measurements.

- Length 2700 meters
- Width 350 meters
- Depth 13.50 meters
- Straight level narrowed to 200 meters at the strait by means of coverage dikes.
- Beds and banks covered with stone-packed fascine work.

The port was officially operational from 1951.

The construction of this colonial legacy was undertook in 1967 and 1985 in order to permit the expansion of the port.

The Abidjan Port has specialized berths for cargo ships, container ships, rollers, grain carriers, tankers and banana boats. It provides 5,000 meters of quays connected by the roads and railway system.

- There are:

- 28 quay berths.

- 3 specialized terminals,containers,timber, fruit.

- 11 specialized berths (hydrocarbon , fruit and vegetables ,oils molasses,etc...)

- 4 container berths.

- 2 Ro-Ro berths.

- 17 mooring berths.
- 18 anchoring berths.
- 12.50 maximum depth at quay level.
- 121,705 sq. m. of sheds and warehouses.
- 234,497 sqm of earth platforms.
- 770 ha industrial area.
- Draught mark 34 to 37.
- 1000 ha is entirely marked out with beacons

Tide

- High 1.80 meter.
- Low 0.60 meter.
- Range 1.20 meter.

The fishing port with 1,050 meters of quay

- A 5-meter deep quay berth of 200 meters.
- A 7-meter deep quay berth of 615 meters.
- A quay berth of between 7m and 11.5 meters depth, and 225 meters in length.
- 6,400 sqm with warehouse process Units and cold

canning stores.

The maintenance and naval repairs are undertaken by the private ship yards :

- CARENA
- ANCI
- CNE
- CRN

The handling and salvage tugging are assured by private companies.

The communications system is assured by radio VHF canal 12 and 16.

The Watch over the Vridi Canal is equipped with differential Omega System.

Pilotage is assured 24 hours a day.

1.1.2 SAN-PEDRO PORT

San-Pedro is the second port of Cote D'Ivoire. Its choice is the expression of the Government's will to develop the country harmoniously and a decision was given to the Ministry of Construction to create it in the south western Part of the country. After a study San-Pedro was selected as the site of the port. The traffic is intended to exclusively carry logs and wood products.

The construction work began in March 1968 and finished in November 1971 .In 1972 the Autonomous Port of San-Pedro was opened to the timber traffic.

The following data describes the San-Pedro port:

- Size :150 meters to the coast -12 meters.
- length 650 meters.
- area of water 31 hectares with circle to swinging.
- 450 meters diameter.
- 1 parking for wood.
- 4 quayberths.
- 6 offshore berths for ship loading floatable wood.
- 1 quay for fishing vessels.

The handling is assured by private companies.

These companies also assure likewise the mooring and port operations (import-export).

The San-Pedro port is represented in Abidjan by a service "Delegation of Autonomous San-Pedro Port" which has two functions:

- trade,
- public relations.

1.1.3 EVOLUTION OF MERCHANT SHIPPING

The general traffic of the Ivorian Merchant Marine varies from one year to the next. It contributes 98% to imports and 60% to exports. The Merchant Marine appears as a powerful tool of the economy and of cooperation; two

major shipping lines, SITRAM and SIVOMAR make up the national flag, carrying a large part of the traffic. The traffic is also made up of ships from foreign fleets from about fifty countries mainly from Africa, Europe and America.

The cargo traffic had recorded a significant revival in activities, between 1984 to 1987 and has declined since 1988. This situation is due, first of all, to the worldwide economic crisis which affected all ports and, secondly, for the case of Cote D'Ivoire, to the loss of the main products sale on which the Ivorian economy is based.

1.1.4. THE COMPONENTS OF CARGO TRAFFIC

A . IMPORTS

Since the opening of the port to specialized traffic, the import and export of hydrocarbon traffic has widely dominated other traffics. Clinker is in second position and wheat remains inconsistent but decreasing.

Rice, siveng fertilizer, maize, other cereals and cement have decreased.

B. EXPORTS

Exports are dominated by the traditional products such as cocoa, coffee, timber, pineapple, cotton.These products except coffee and hydrocarbons.

The national fleet, SITRAM with 5 cargo ships and 1 tanker and the private fleet SIVOMAR, which practices chartering now , participate actively in the exports and

imports of various products.

The Passenger traffic has remained always insignificant to the benefit of the African Airways (Air Afrique).

Fishing activities, particularly tuna fishing,have remained one of the most important on the west African coast with :

- 18 Sardine boats
- 21 Trawlers
- 6 Shrimpers

The Sahelian countries, namely Mali, Burkina Fasso and Niger, carry their traffic through the Abidjan Port to the extent of more than 500,000 tons of goods.

Exports and imports of goods from or to these countries are mainly food items such as wheat, flour, rice,sugar, salt, dairy products, fertilizers and building materials for import, cotton fiber and shea for export.

The present statistics represent products imported and exported from 1960 to 1988 (see C.I Traffic statistics).

1.1.5 TRAINING OF PERSONNEL/SEAFARERS

Cote D'Ivoire Maritime training was created in 1957 to carry out a formation of seafarers intended to the maritime and lagoon fishing. In 1970, by convention No 12/70 signed between the Governments of Cote D'Ivoire, Togo and Benin ,the maritime center became CREAM (Centre Regional de l'Enseignement et de l'Apprentssage). Later in 1974 the ESN (Ecole de l'Enseignement Superieur) was created to give higher training to officers. Some officers attended their courses in foreign Academies such as in

PRINCIPAUX PRODUITS IMPORTES (en Tonnes) : Evolution de 1960 à 1988
Major Import Products (in tonnes) Evolution from 1960 to 1988

Produits/*Products*	1960	1970	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Clinker/*Clinker*		370.690	843.919	887.430	1.026.290	1.016.426	942.847	766.072	601.570	480.266	534.863	702.486	735.751	719.721
Ciment/*Cement*	172.416	61.788	95.347	220.066	276.411	66.649	51.418	52.332	51.133	7.750	8.449	3.244	17.378	25.629
Pétrole brut SIR/ *Crude oil for SIR*	198.933	757.061	1.433.827	1.616.293	1.567.055	1.732.596	1.343.031	1.427.208	1.313.961	1.279.246	1.456.064	1.464.982	1.765.121	1.626.398
Farine/*Flour*	30.412	38.211	28.611	48.622	22.507	64.942	32.491	41.579	25.190	34.854	51.106	21.845	22.698	26.429
Riz/*Rice*	36.283	97.214	171.364	180.867	257.426	289.650	378.762	454.988	506.121	505.941	290.778	398.922	375.125	252.237
Sucre glucose/*Glucose*	26.035	72.175	23.952	47.748	21.246		37.800	29.640	39.959	56.625	72.799	48.078	25.209	20.507
Sel/*Sal*	26.119	37.080	38.290	37.922	59.099	41.476	48.110	52.323	54.285	54.453	49.464	50.374	54.932	60.315
Blé/*Wheat*	87	78.037	153.513	164.184	226.131	142.296	242.469	177.439	212.155	265.712	266.774	243.411	289.766	247.165
Maïs/*Maize*			17.971	26.990	17.138		67.[illegible]	41.882	18.132	49.134	61.517	31.226	16.585	52.965
Vin en vrac/*Crude wine*	21.448	34.472	50.745	83.813	51.504	88.817	83.471	76.724	51.314	53.319	52.101	51.486	46.687	32.181
Produits chimiques de base/*Easic chemical*		52.265	128.212	139.986	108.425	146.613	142.630	140.718	117.521	113.857	117.323	121.001	97.930	84.992
Engrais Siveng/ *Fertilizer for Siveng*		61.922		117.037	130.849	101.782	104.038	112.494	127.491	129.981	160.540	115.061	130.272	112.653
Pétrole brut C.I./ *C.I. crude oil*										487.404	449.781	80.915		

PRINCIPAUX PRODUITS EXPORTES (en Tonnes) : Evolution de 1960 à 1988
Major Export Products (in tonnes) Evolution from 1960 to 1988

Produits/*Products*	1960	1970	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Café/*Coffee*	151.553	191.689	218.020	190.537	205.637	158.725	168.599	198.064	164.726	168.123	190.330	174.439	142.465	169.059
Cacao en Fèves/ *Cocoa Beans*	64.619	114.132	169.112	219.434	173.653	288.247	389.595	305.641	239.391	417.570	417.622	465.596	441.654	364.735
Bananes/*Banana*	73.435	143.258	119.313	150.748	120.466	122.204	109.270	91.343	86.326	104.922	117.716	91.701	87.408	85.708
Ananas frais/ *Fresh pineapple*	2.330	14.342	71.809	101.850	103.879	96.155	100.731	92.876	91.451	138.197	178.023	183.229	180.226	154.277
Bois en grume/ *Timber*	570.653	2.012.267	413.541	1.095.182	1.116.650	1.179.309	895.142	821.874	836.646	718.977	398.540	260.359	144.477	106.024
Bois débités/ *Processed wood*	23.030	14.342	215.811	189.542	169.057	152.070	162.825	176.811	225.345	257.677	266.512	256.254	258.256	256.510
Tourteaux provende/ *Provende Cake*	850	18.875	40.633	70.486	62.825	86.229	67.719	93.235	90.148	98.751	113.628	115.628	128.825	113.745
Conserves d'ananas/ *Canned pineapple*		28.365	60.237	65.269	66.736	58.043	54.359	32.549	15.781	19.927	23.821	16.558	2.698	376
Coton en fibres/ *Cotton fibre*	615	33.032	65.785	69.250	79.327	108.905	84.427	80.079	105.866	110.688	111.719	178.715	175.039	187.531

France, Canada, Belgium etc.

Seeing the development of shipping in the young African maritime States, Cote D'Ivoire adopted by law No 75-941 on the December 1975, the creation of an Academy of Sciences and Technology of the Sea in Abidjan with a regional vocation. At the 1976 conference, other West African States approved this idea and thanks to The IMO the Abidjan Academy was created in October 1987 as a branch of the World Maritime University.

The Academy is composed of an ENS and one College.

The Courses are those intended for deck officers and engine officers ; some conditions for entry are:

- examination,
- students having general Certificates C,D,E,F1,F2,F3 or equivalent,
- age to be at least 25 years old.

The students study 30 weeks together (Deck and Engine Officers) .Then 30 weeks for the training of the long course by specialty. After that, students embark on two months on board ship. The third year, they study 30 weeks to obtain the first certificate for long courses in the different specialty; then, students embark on board ship for 12 months and obtain their first part of the Certificate (DMS1). After that, students have to go on board for 24 months to attend the long course.

In the last year students obtain their second certificate and embark again for 12 months of navigation

to get their second part of the Certificate (DMS2).

The maritime college carries out training for Deck officers on board ship with a size of less than 7500 t and Engine officers for ships having 10.000 kw.

Students obtain their technical diploma after 3 years of study and 24 months of navigation, divided into 12 months between the three years of study.

1.1.6 COTE D'IVOIRE NAVY

Colbert the French Minister said if it is ready for an efficient merchant marine, it must be protected by a navy.

So, aware of the future of its merchant marine, Cote D'Ivoire created the National Navy which is one of the National Army bodies equipped with some naval ships:

- 1 : Batral
- 2 : BSC
- 2 : PATRA

- Yachts and small boats for rapid intervention.

1.2.1 MISSIONS AND THE ROLE OF THE NAVY AS REGARDS THE MERCHANT MARINE

The Cote D'Ivoire navy assures:

- the protection of the national maritime interest.

- the maritime security approach to the country.

- maritime surveillance.

- protection of the vulnerable points in the maritime areas.

- the prevention of the maritime events.

- the protection of the maritime and lagoon environment and the coastal areas.

Besides the traditional military functions, the national navy has some civil functions as regards the Merchant marine.

The following navy personnel are responsible for:

- the supply and secretarial officers,

- ship exploitation,

- management of the navigation personnel

- commissary

- seafarers' hospital

- The Cote d'Ivoire navy also deals with Marine pollution matters through the CIPOMAR (Centre ivoirien de la Pollution Marine).

- an Officer as Harbour Master is in charge of policy information and all services rendered to vessels berthing

at the port.

1.2.2 TRAINING OF NAVY PERSONNEL

The personnel officers attend foreign navy academies such as in France, the U.S, Canada and RFG.

The lower officers and crews study in specialized Frencch schools. CIN Cote D'Ivoire carries out the initial training of crews.

PRESENT SITUATION

CHAPTER II: MARITIME ADMINISTRATION

1. MARITIME ADMINISTRATION IN COTE D'IVOIRE

It is important to emphasize that the notion of Maritime Administration may have different meanings in different countries according to the organization of a given country mainly due to the reality of shipping potentiality.

2.1.1. DEFINITION

Maritime Administration in Cote D'Ivoire is an executive arm of the Government and is to implement the regulatory functions of the country's maritime legislation.

It consists of a body of specialized officials with statutory powers to carry out the roles and functions of the department.

The Maritime Administration is responsible for managing and governing.

2.1.2. STRUCTURE OF THE MARITIME ADMINISTRATION

Evolution has marked the Maritime Administration's life in Cote D'Ivoire. The Maritime Administration has since 1960 been a department belonging to the Ministry of Transport and Telecommunications. In the light of several years of experience the Maritime Administration needed new legislation in compliance with the exigences of a modern Maritime Administration, the dimension of the economy and

the social progress of the country. Ministry of Marine matters was established in 1976 to organize and deal with maritime matters.

Important reforms in 1987 reattached the Ministry of Marine to the Ministry of Defense and by decree a Director General of Marine was appointed. He is responsible to the Ministry for implementation of maritime policy.

The new Maritime Administration organization is illustrated according to the following chart.

2.1.3. ROLES AND FUNCTIONS OF THE MARITIME ADMINISTRATION IN COTE D'IVOIRE

Activities of the Maritime Administration in Cote D'Ivoire are those assigned to it by the political executive on the basis and reality of the maritime policy and, the national legislation.

In this connection the diagram conveying the above concept is attached to facilitate the roles and function of the Maritime Administration in Cote D'Ivoire.

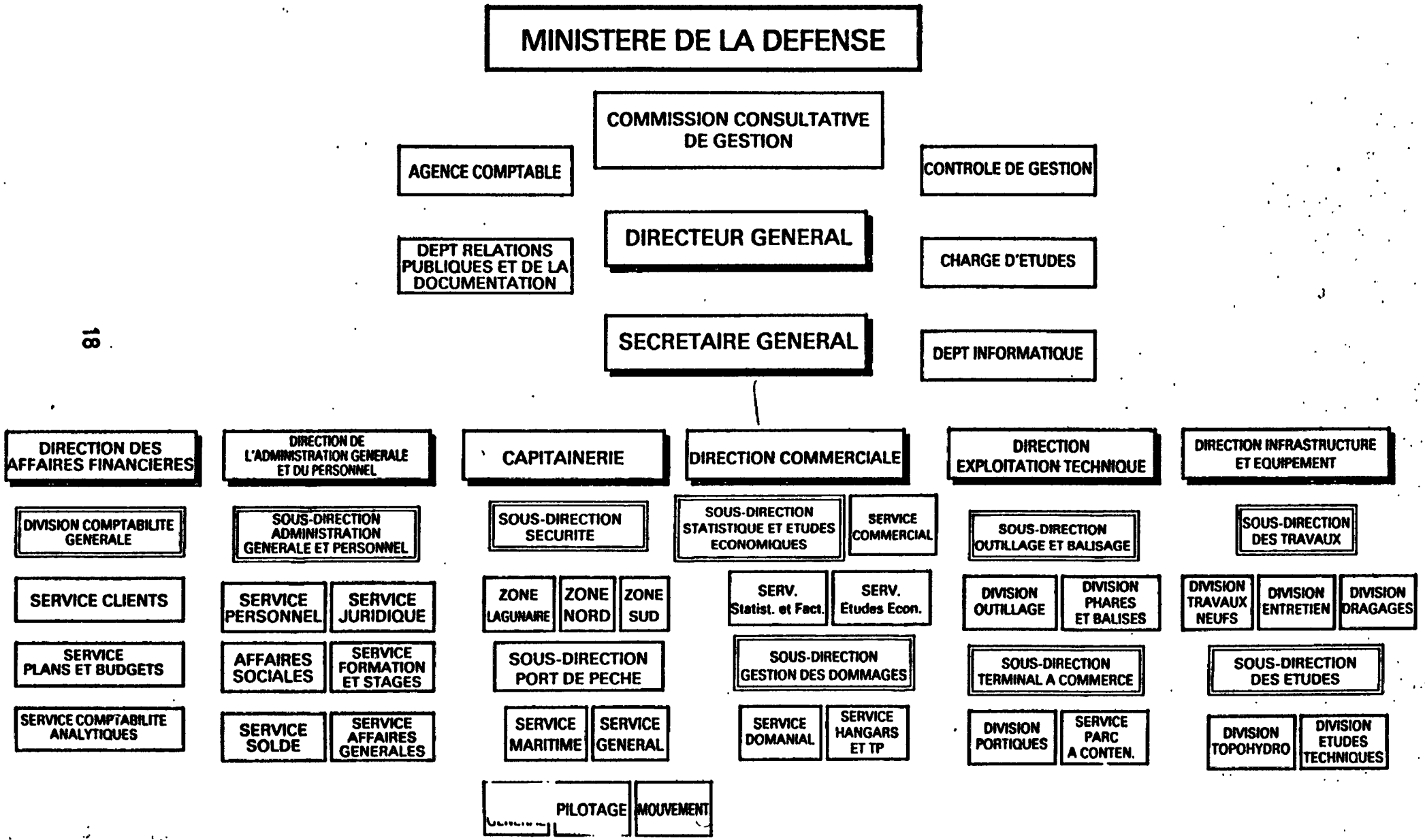
1) Ministry of Defense and Marine

The Ministry of Defense is responsible for all matters relating to the sea.

2) Director General of Marine

He is responsible to the Ministry of Defense. In the exercise of his functions the General

ORGANIGRAMME DU PORT AUTONOME D'ABIDJAN



Director of Marine is reattached by directions and services.

3) **Departments**

a) **General Inspection of Maritime Training**

Deals with all matters concerning the training

b) **Harbor/Harbor Master**

He is in charge of gathering and dissemination information, piloting and shipping movements. He is also responsible for all services rendered to vessel berths at the port.

c) **National Navy Authority**

The national navy is in charge of the Ivorian Center of Maritime and Lagoon Area Surveillance and fighting marine pollution.

d) **Department of Maritime Harbor and Industrial Affairs (DAMPI)**

This is divided into two sub-sections:
sub-sections of navigation and maritime safety.

The DAMPI is assisted by at least two inspectors in charge of navigation and maritime safety.

e) **Department of maritime Transport**

This is composed of two sub-sections:

- sub-sections of transport.

- sideboard and maritime co-operation

f) **Department of the Human Resources and Maritime Regulations**

Two sub-sections deal with:

- legislation and maritime regulations

- maritime personnel and human resources

The manager is assisted by an inspector of marine affairs especially in charge of maritime work.

g) **Department of General Administration and Finances and the Commissary of the Marine**

this is made up of three sub-sections dealing with:

- Personnel.
- Finances and material.
- Commissary of marine.

h) Major Sub-divisions of the Abidjan and San-Pedro maritime department are under managers in the central Administration.They are responsible to the Human Resources manager.

B SERVICES

a) Autonomous Health Service of Marine

Handles the seafarers and their families health

b) Autonomous Service of the Maritime and Lagoon Environment

Deals with the Promotion and Coordination of the Maritime and Lagoon Environment Protection Action.

C. OTHER STAFF

The Secretary, accountants agency, administrative Control, Department of Public Relation, Documentation and Computer also answer directly to the Director General of Marine in dealing with all matters relating to the central Administration.

As Manning in the right way has led to the re-organization of the Administrative structure the Maritime Administration undertook a number of actions to optimize manpower and material resources performance. To face to the economic crisis and the keener competition.

In this connection the Maritime Administration advocated continuous training at all levels and modernization of the Administrative and financial management tools through computerization of which the data bank functions obtain
a number of services and information such as:

- port statistics
- port tariffing
- management of ships and quay berths
- maritime law
- general information
- message delivery service, harbor, authorities and users.

As regards co-operation, the Port Authority participates in several regional and international meetings held by professional organizations concerning maritime matters.

CHAPTER III.MARITIME SAFETY AND THE MARITIME ENVIRONMENT

1 MARITIME SAFETY AND SAFETY NAVIGATION IN COTE D'IVOIRE

IN the present situation under the Department of Maritime, Harbor and Industrial Affairs authority, the maritime safety and safety navigation are represented by a sub-section which offers seven services:

3.1.1 SERVICE OF THE INSPECTION

This service is composed of two offices responsible for:

- navigation questions
- engine propeller matters

beyond the function relevant to their specialty the inspectors are in charge of the survey/inspection of:

- ships,
- small boats,
- infraction of maritime safety navigation,
- detention of ships.

3.1.2 FIVE OTHER SERVICES

These services have the same implementation in the national regulations but the technical controls are in different areas:

- service of trade

- service of fishing navigation
- service of pleasure navigation
- service of lagoon navigation
- service of navigation in port

Three offices treat all matters concerning safety navigation, control and regulations.

A The offices of Technical Control and the Classification of Ships/Boats

- ensure the respect of the navigation Regulation,

- deal with the technical visits concerning ship safety,

- control the implementation of safety regulations,

- renew the shipping licences of ships,

- establish to apply the technical regulations relating to special engines (except river and lagoon ferries) and drilling platforms,

- participate in the nautical control and its implementation decided by the Ministry,

- hold a technical book of ships in which the historical repairs and maintenance are written,

- apply the regulations of the classification societies,

- Control the technical standards of ships,

- deliver certificates of Tonnage and Freeboard,

B **Office of the Sea Events matters**

- participates in Search and Rescue operations from the coastline to lagoon

- deals with nautical enquiries concerning discipline and penal Regulations,

- manages maritime wrecks.

B **Office of the navigation policy**

- assures:

- the respect of safety navigation,

- the watchkeeping operations of ships,

- verifies infractions of the navigation policy,

- controlles titles of safety and marks of the freeboard on ships,

- controls the instructions made by commissions of the safety visits,

- establishes lawsuits and applies infraction to the navigation policy,

- participates in:

- the different enquiries of accidents occurred on any kinds of ship

- the visits of safety on board trade ships,fishing vessels and boats.

3.1.3 SERVICE OF THE REGISTRATION CONTROL

- Controlles the administrative and technical files asked of any ships of trade, fishing vessels and small boats.

- Delivers the registration number and names to ships.

- Controlles the registration books.

3.1.4 MARITIME ENVIRONMENT

The maritime and lagoon environment is looked after by an autonomous service called SAMARPOL responsible for the promotion and coordination of maritime and lagoon environment protection.

The SAMARPOL under the Ministry of Defense authority assures:

- the maritime traffic network and observations,

- the quality of sea and lagoon waters,

- definitions of the maritime objectives,

- the coordination of preventive actions against

Marine Pollution.

In the case of accidental marine pollution from ships, offshore Units or industries, the SAMARPOL supervises the actions led by the Ivorian Center of Marine Pollution called CIPOMAR.

The National navy works with this center which is in charge of maritime and lagoon pollution,its fighting and prevention. It assures and coordinates all operations.

To fulfill its missions the center has at its disposal some materials for sea and lagoon water analysis and primary intervention.

PART II

DESIRABLE SITUATION

CHAPTER IV. A MARITIME SAFETY ADMINISTRATION WITHIN IVORIAN MARITIME ADMINISTRATION

These days, coastal states are becoming more aware of the need for maritime safety in order to protect their shipping and likewise the maritime environment.

In this connection it is important to find ways and means to face these problems. The author thinks that it is a necessary for Cote D'Ivoire to get genuine technical assistance in the form of the Maritime Safety Administration, which has given much satisfaction to other developing countries such as the Caribbean and some of the Asian countries and which deals with all matters relating to maritime and lagoon safety.

4. 1. MARITIME SAFETY ADMINISTRATION, WHAT IS IT ?

4. 1.1.DEFINITION

A Maritime Safety Administration is the specialized executive arm of a Marine Department. It implements the regulatory functions embodied in the national maritime legislation , especially those pertaining to Registration of ships ,Maritime Safety,Marine Personnel ,Marine Casualty Investigations and Protection of the Marine Environment ,Search and Rescue.

It may be possible for the International Maritime Community to coordinate and co-operate in the regional agreements in maritime safety matters.

4.1.2. FUNCTIONS AND RELATED ACTIVITIES

The functions of a Maritime Safety Administration are those intended to ensure safety of life at sea and safety of navigation; they may be outlined as follows:

- general superintendence and coordination
- registration of ships and related functions
- surveys, inspections and certification of ships, in compliance with the relevant rules/regulatory fitting to international conventions and national requirements.
- examination and certification of seafarers
- manning of ships
- conducting inquiries/investigations into shipping casualties,
- dealing with matters pertaining to prevention/ control combating of Marine Pollution,
- dealing with matters pertaining to marine Search and Rescue,
- crews matters such as discipline ,personnel safety, health, wages welfare etc.
- ensuring safety of fishing vessels and other small craft,

- dealing with wreck within national jurisdiction,

- advising the Government on all (marine) technical matters,

- maintaining of technical records of national ships,

- encouraging the development of marine equipment and approved of such equipment

- appointing and providing instruction and guidance to person acting on its behalf such as receiver of wrecks.

- Port state control

In addition to the general functions of the Maritime Safety Administration, the engineer surveyor deals with supervision during the reconstruction, conversion of ships or, overhauling of the engine on the basis of technical documentation which has been approved by certifying bodies.

The scope of the inspection, measurement and tests to be performed during supervision shall be stipulated by an appropriate division in accordance with the applicable instructions and taking the actual condition.

The machinery survey is one of the most important surveys. The state of the engine room, the general impression about the external condition of the propulsion system (main engine) gear, and coupling and of auxiliary machinery together with the maintenance and cleanliness

give the technical state of the whole plant. Valves and pumps below the foot plates and pipes are often exposed to the vibration.

The separator of oil will be checked in accordance with: Annex I of SOLAS 74. All paramounts of the main engine security, automation ventilator, safety arrangement of flaps or valves in the crankcase, safety regulator intended to prevent overspeed of the engine are also checked with possible tests in the port with diesel generator sets.

4.1.3. SURVEY/INSPECTION AND CERTIFICATION OF SHIPS

A CERTIFICATES

Such functions would have to cover.

Various types of periodical surveys/inspections of ships in accordance with the relevant rules/regulations conforming to international conventions (SOLAS, MARPOL), standards and national requirements and the insurance of one of the following Certificates to each ship:

- passenger ship certificate, along with the record of the equipment,
- cargo ship safety construction certificate,
- cargo ship safety equipment certificate, along with the record of the equipment,
- cargo ship safety radio certificate, along with the record of equipment,

- Safety certificate for the cargo ship, along with the record of equipment (substitute for the certificate mentioned),

- load line certificate,

- tonnage certificate,

- international pollution prevention certificate for the carriage of noxious liquid substances in bulk,

- local cargo ship certificate (for non convention ship under 500 GRT),

- exemption certificate where necessary.

The safety of fishing vessels and other small craft is an essential part of the Maritime Safety Administration's functions.

In this connection the necessary regulations have to be promulgated and a system needs to be established.

The inspection and certification of at least the safety equipment of fishing vessels and other small craft which operate on sea and lagoons.

Competent manning of such vessels and craft.

In its function the Maritime Safety Administration deals with wrecks as the Receiver of wreck in order to ensure the custody of the wreck, protect it and avoid disturbance during navigation.

B SURVEY/INSPECTION OF SHIPS

Surveys/Inspections ensure the long life of ships even the safety of these ships. So, the frequency of ship surveys/inspection is an important factor in the tasks of the Maritime Safety Administration. All the safety conventions make provision for the construction and equipment of vessels (passenger, cargo, fishing,offshore units), also provide for mandatory surveys to ensure compliance with the convention requirements and the ability of the hull, machinery and equipment that ships are in good condition (seaworthyness).

These surveys/inspections include:

a) INITIAL SURVEY

This survey is performed before a ship comes into operation. It will include a thorough examination of the ship and its equipment in conformity with the provision of the related conventions, (SOLAS 74/78, MARPOL 73/78 Load Line 1966 Torremolinos and MODU code) before certificates are issued.

The initial survey consists of:

- type approval, examination of plans, specifications and other technical documentations to ensure compliance with relevant requirements of conventions/ code.

- survey of conformity with approved plans concerning construction, equipment and installations, specifications and technical documents, and crews of

ship are adequate.

- confirmation of required certificates on board, log book, and other documents, specified by conventions/code.

b) MANDATORY ANNUAL SURVEYS

These surveys are performed annually to make sure that the ship and its equipment are maintained in good condition for the intended service .They consist of:

- a general examination of the ship and equipment certificates, and some tests to confirm that their condition has remained satisfactory.

- a visual examination to ensure that no changes or modifications have been made to the ship structure and equipment.

The IMO has urged all Parties to MARPOL to implement the mandatory annual scheme.

c) INTERMEDIATE SURVEYS

Examination to ensure compliance with the applicable requirements.

These surveys are to be conducted at least once a year during the period of validity of the certificates required by the safety and pollution prevention conventions. In the case where one intermediate survey is required, this should be preformed at the half period of certificate validity.

These surveys consist of examining ships as required

by these conventions:

- SOLAS 74/78

  the good condition of the hull, machinery and equipment of tankers ten years old above; life-saving appliances and other equipment ten years old are also checked to be in good condition.

- MARPOL 73/78

  the good working of all equipment such as the dumping and piping system, oil discharge monitoring and control system, crude oil washing system, oil-water separating equipment and oil filtering comply with the applicable requirements of the conventions.

d) PERIODICAL (RENEWAL) SURVEYS

The period between periodical surveys is set at five years for cargo ships and one year for passenger ships.

A complete examination and relevant tests in order to renew IOPP certificates should be performed. This examination is similar to the initial survey except there is no plans examination.

The periodical survey for a developing country as Cote D'Ivoire is to be entrusted to a recognized Classification Society/ies which is equipped with more expertise in technical matters and financial questions, because if surveyors from a Classification Society were assisting surveyors from the Maritime Safety

Administration, the cost of the work will be higher (the amount of expertise from a private society will be expensive for the Administration) due, to the need to perform technical evaluations related to ship safety.

The Maritime Safety Administration (surveyor/Inspector) is for avoidance of such dependence.

However the Maritime Safety Administration will survey the Classification Society's work.

The contract between the government and a Classification Society should consider the following provisions:

- reports have to be submitted to appointed Government Officials (Maritime Safety Administration) after every survey operation.

- objective comments of Classification Society/ies'reports and possible modifications. The reports should be kept.

- the quality system of Classification Society/ies.

- free copies of Classification Society/ies Class Rules to be given to the Maritime Safety Administration.

- agreement between Government and Classification Society/ies to avoid conflicts between them.

Some areas where Government might have assistance from Classification Society/ies.

Tonnage measurements.

Plan approvals and surveys relating to SOLAS 74.
Plan approvals and surveys relating to MARPOL 73/78.

Plan approvals and surveys relating to IMO codes and guidelines under Annex I of MARPOL (MEPC/circ109 April21, 83 and MEPC/221).

Other surveys are:

- survey of departure,

- unscheduled survey.

- shipowner's request survey.

C EXAMINATION AND ISSUANCE OF CERTIFICATES.

The convention on STCW (Standard of Training, Certification and Watchkeeping) of seafarers has made provisions for the following requirements:

Regulation II/2 Master and Chief Mate of sea-going ships shall hold appropriate certificate.

Regulation III/3 on Chief Engineer Officer

Regulation II/1 on Radio Officer

Regulation II/2 every candidate for certification shall have passed an appropriate examination to the satisfaction of the Administration.
The crews of ships flying the flag of the State have

to hold the appropriate certificates delivered after the necessary examinations to test the qualifications and ensure the competence of crews. The condition of these examinations is one of the main tasks of the Maritime Safety Administration. The period of examinations can be set at either three or six months or once a year.

The Maritime Safety Administration and Authorities have to issue the homologation foreign certificates which comply with the STCW convention.

4.1.4 PORT STATE CONTROL

Port State Control came into being with the IMO Resolution A 466 (XII). In all conventions the principle is the same, but there are, however, additional to SOLAS many other instruments which may be applied in Port State Control (Reg.19 Ch.I of SOLAS).

International instruments which deal with Port State Control such as the instrument for the promotion and improvement of Maritime Safety, Prevention of Pollution and Seafarers Social Welfare, Safety Navigation and Compliance of Certificates according to International Conventions etc., are used as a framework in carrying out Port State Control.

In this context the Port State Control is right and an obligation for " convention ships ". That means ships with some conventional feature engaged on international voyages, not only national ships, but above all foreign ships in the Ivorian ports may be subject to thorough inspections to verify that there are valid Safety certificates on board ships. This control includes the

physical inspection of a ship, and, if warranted by the evidence, the detention of the ship until repairs/correction are effected.

This inspection activity has also been expanded as a result of an agreement between 14 European countries Memorandum of Understanding on Port State Control 1982.This agreement entertains a genuine co-operation which permit the harmonization of the inspection of ships in different ports all over the world to achieve the IMO objectives: Safer Navigation and Cleaner Oceans.

4.4.1. SHIP DETENTION

During the inspection if the surveyor finds that the ship presents certain deficiencies or is unsafe or is declared unseaworthy, the surveyor must take all steps to ensure that the ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the appropriate repairyard without danger to the ship or persons on board.

In this case the Officer carrying out the control shall inform, in writing, the Consul or the diplomatic representative of the State whose flag the ship is entitled to fly of all the circumstances in which intervention was deemed necessary; in addition the surveyor or recognized organization responsible for the issue of certificates shall also be notified of the facts concerning the detention which shall be reported to the organization. All the relevant information about the ship shall be given to the Authorities of the next port call.

4.1.4.2.SHIPS EXEMPT PORT STATE CONTROL

Ships which are not submitted to Port State control are:

- warships
- primitive wooden ships
- troop ships
- pleasure yachts
- fishing vessels less than 25 meters.

4.1.4. CLASSIFICATION SOCIETIES

The Classification of ships has been developed over a long period of time. It was linked to insurance and become a body whose functions were to evaluate the ships by classifying them into various categories so that the insurers could stipulate their premium based on the class of individual ships.

An Important part in the evolution was the established of Classification societies.

At First, Classification Societies were established as controlbodies for the exclusively benefit to underwriters. With the conventions like SOLAS, Load Lines and MARPOL, maritime countries gradually changed the role of the Classification Societies, as the conventions require every cargo ship engaged in the international trade to have a safe construction.

There were certain Administrations which were lacking organizations or systems for ship inspections and thus, they entrusted the Classification Societies with the inspection of safety equipment, Safety Radio installations and, with the issue of relevant certificates in addition to Safety construction. Finally the Classification Societies undertook those inspections and issued

international convention certificates on behalf of the Administration, extending their technical expertise.

Nowadays, Classification Societies execute surveys for the underwriters and owners according to their proper Rules and Regulations and, execute Statutory Surveys at the same time for the Administration according to the various International Regulations and Codes relating to ship Safety and Prevention of Marine Environment.

1.4.1. ACTIVITIES

The services of the Classification Societies now offered are in general divided into three groups:

- Classification Services
- Statutory Services
- Technical Advisory Services

a) Classification Services

The Classification Services develop and administer the technical standards for the design, construction and periodical surveys of ships and other structures such as Mobile Offshore Units. These are called the " Rules. Through the work of their technical staff and surveyors the classification services certify that the ship complies with the Rules and provide certificates for the structural and mechanical fitness of the ship for its intended services.

The development and updating of rules in each

Classification Society is made by a technical committee composed of the representatives of the whole industry including the shipping and shipbuilding industries. These rules are considered to be authoritative and impartial.

Upon confirmation of their compliance with the requirements of the rules through the Classification survey by the surveyors, the ships are entitled to a class appropriate to their type and to the services which they are intended for.

For the ships entitled to a class, certificates are issued by the Classification Society confirming that the ships have both structural and mechanical fitness for their intended services. Such certification is vital for the design, construction and operation of a ship, and, affects shipping, shipbuilding, marine insurance broking and banking.

The ships classed are presented for periodical surveys by surveyors to ascertain that the ships will comply with the rules and requirements. The periodical surveys are required annually, and 4 or 5 years with intermediate surveys for certain ships. These surveys are to examine thoroughly the ship.

It is the obligation of the shipowners to present their ships for the periodical surveys or occasional surveys relating to any damage affecting class. Surveyors execute all surveys at the shipowners' request and can record, report and recommend in accordance with what is seen during the surveys.

Any deficiencies found during surveys are to be rectified or repaired in accordance with recommendations. If anything is not ratified the Society may declare

the ship unseaworthy.

b) Statutory Services

- Load Line 1966 in its Article 13 and Reg.1 in Art.1

- SOLAS 1974 as amended and Protocol 1978

- Prevention Pollution from ship 1973 as amended

These conventions state that the Administration may entrust the survey inspection and make nomination of surveyors to organizations recognized by it. Also the ships, in compliance with the classification Societies requirements recognized by the Administration may be considered to have authority.

These entrusted services are the statutory services which comprise the survey/inspection in accordance with International Conventions on behalf of the Administration.

On the basis of Regulations/Articles Administrations authorize the Classification Societies to act on the ships flying their flags and the issue of statutory certificates, while the degree of delegation differs from nation to nation.

The major International Conventions and Codes for which Classification Societies act on behalf of Administrations regarding maritime safety and pollution prevention of the marine environment are:

- International Convention of Load Line 1966.

- SOLAS 74 as amended and Protocol 78 to Solas 74 amended.
- COLREG 1972 as amended.

- Protocol 1978 relating MARPOL 1973 as amended.

- International Convention on Tonnage Measurement of ships 1969.

- International Code for the construction and equipment of ships carrying dangerous chemicals in bulk (IBCC).

- International Gas Carrier Code for the Construction and Equipment of Ship Carrying Liquefied Gases in Bulk (IGC).

- International Code for Safety Containers (ICSC 1972).

The dual function of classification and statutory work has the great advantage as it means one body is responsible for the full technical supervision of the ship both during construction and throughout its lifetime. It is what characterizes the Classification Societies.

c) Technical Advisory Services

Related to ships under design and ships in service, the Technical Advisory services assist the shipowners and operators in different fields :

- advice in respect of the International Convention

- statutory Surveys and Certification
- vibration on noise assessment
- ship manning characteristics
- contingency planning
- hull and performance monitoring

- advice in unconventional structural design and stability assessment:
  - Monitoring of long term anchoring performance
  - Ocean towage
  - Serve as advisor in International Forums
- undertake worldwide statutory supervision based on local Standards

4.1.4.2.THE FUTURE ROLE OF CLASSIFICATION SOCIETIES

With the evolution of technology and introduction of computer integrated manufacturing system for ship constructions, the shipbuilding industry has become modernized. Certainly the Classification Societies could establish its work on the basis of data accumulated in computers for examination and re-valuation through the whole process of construction and service of ships.

So, the role of Classification Societies in the

future, is to work actively as the center of control activities in the shipping and shipbuilding industries, in the technical field and,in order to be able to contribute to the marine insurance industry and other matters relating to the shipping and shipbuilding industries.

4.1.4.2. INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS).

The purposes of this association are:

- to improve the safety of ships,
- to provide for consultation and co-operation concerning international and national organizations,
- to co-operate closely with the maritime industries of the world.

In 1968 the Members were seven (ABS, BV, DNV, LR, GL, NK, RINA), it has increased since 1970 to eleven members which are:

American Bureau of Shipping	ABS
Bureau Veritas	BV
China Classification	ZC
Det Norske Veritas	DNV
Germanisher LIOYD	GL
Korean Register of Shipping	KR
LIODYS Register of Shipping	LR
Nippon Kaiji Kyokai	NK
Polski Register Statkow	PRS
Register Italino Navale	RINA

USSR Register of Shipping RS

The IACS is governed by a council which deals with matters concerning statutory surveys for over 100 Maritime Administrations.

4.1.6. CERTIFICATION

In all organizations we need to control to ensure that requirements in the standards are met. This documentation verifies the compliance with the standards required.

The documents used for this purposes are:

- log books,
- certificates or similar documents.

The certificates ensure that the standards are in compliance with design and construction rules.

In this context the Administration establishes standards which are covered by IMO documents in the following categories:

- Category I Standard given in IMO/ILO documents.
- Category II Standard based on IMO or ILO document.
- Category III other standards.
- The Categories I and II in the Regulation 3 SOLAS II-2 relate about class division and,in the Regulation 41 SOLAS III, general requirement for lifeboats.
- 15 hatchway covers.

Related to Category III the use of national Regulations.

4.1.6.2.CERTIFICATION METHODS AND PROCEDURES

- Certificates in the contract between shipowner and owner.

- Component certificates for important and various components of a diesel engine.

- Other certificates for ship safety are also to be pointed out.

In order to issue a certificate, process and method are needed. When an owner is deciding to build a ship, he takes the necessary contacts and determines the needs of Certificates, statutory as well as classification.

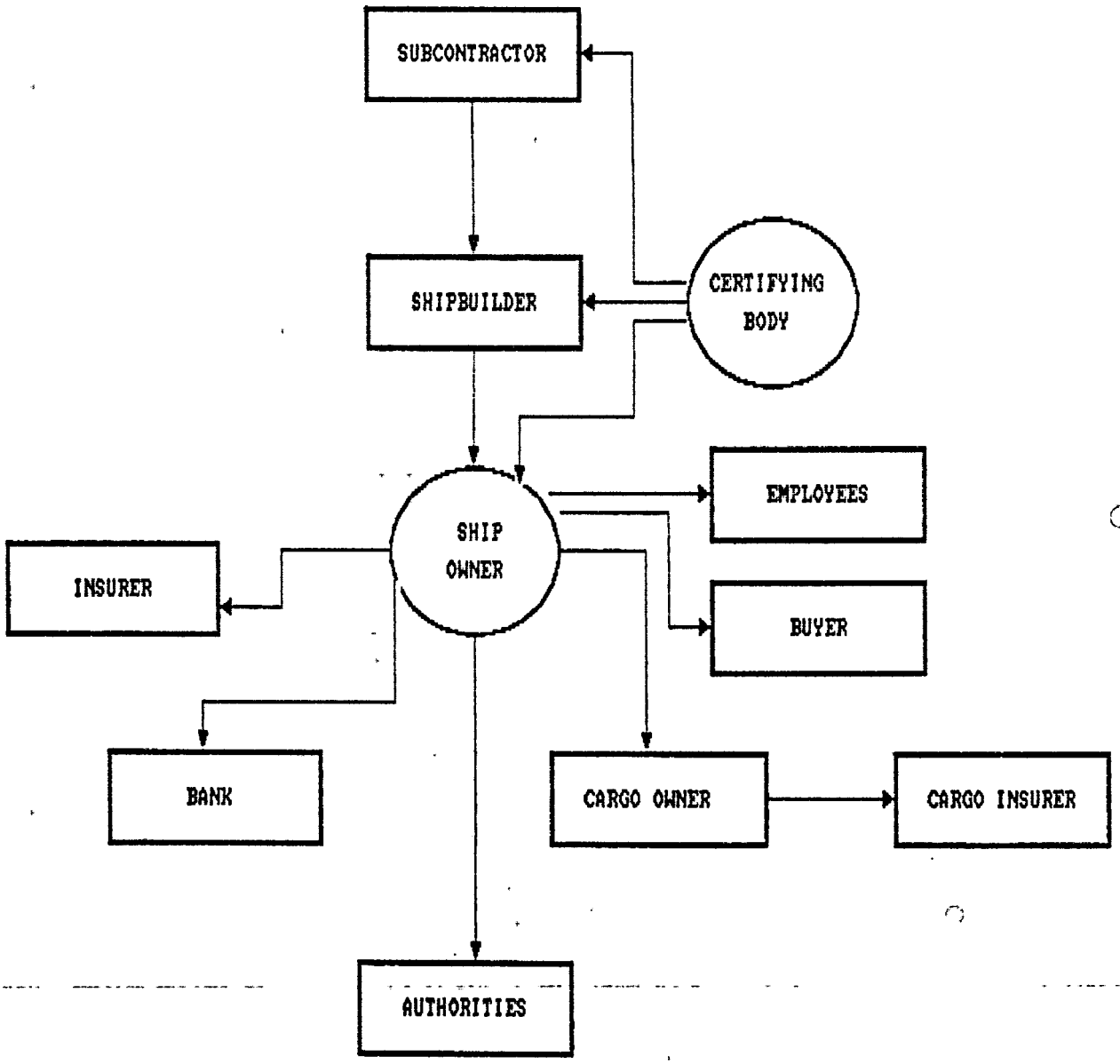
The owner transfers his requirements to the shipbuilder who, contacts the certifying bodies. (Administration of flag State or Classification Society referred referred by the owner and the shipyard during the contract).

Statutory Certificates will be issued by the Administration or by the Classification Society referred in the contract. The Classification Society also issued Classification Certificates. (see chart in Annex)

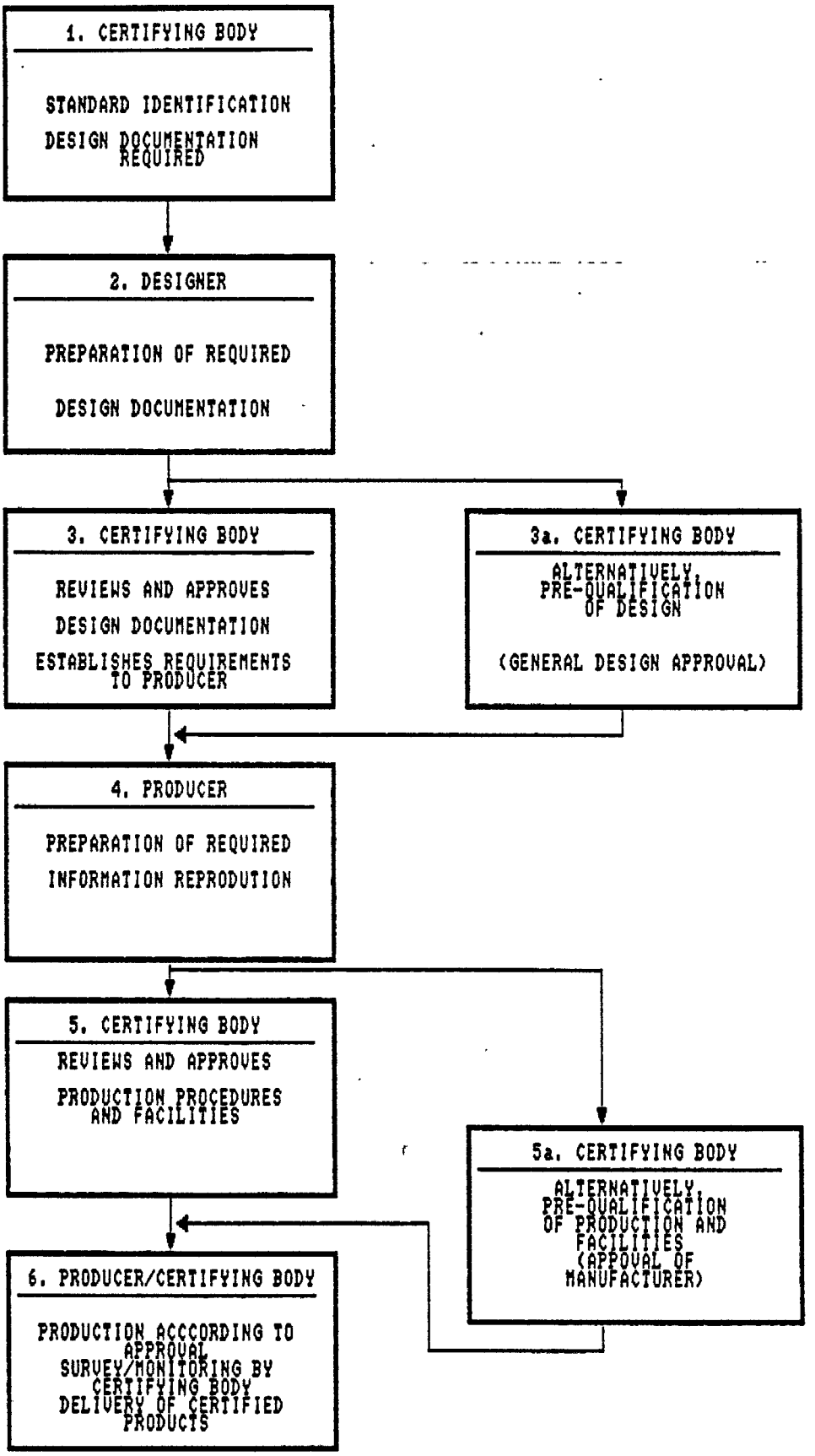
A. INITIAL CERTIFICATION

Is the first certificate delivered when the

CERTIFICATION METHODS AND PROCEDURES



PLAN APPROVAL PROCESS



vessel come into service.

B. RENEWAL CERTIFICATION

Is issued after each survey/inspection.

4.1.6.3. MONITORING OF CERTIFICATION BODIES

Certifying Bodies are either the Administration or Classification Societies. They are carrying out Certification by Alternatives, executing Certification and establishing Standars. There are four categories of alternatives which are:

ALTERNATIVE 1

The Standard is established and Certification executed by the Administration, the Administration has to ascertain the quality of its own work,verification procedures and quality Audit.

ALTERNATIVE 2

The Standard is established by the Classification Society and Certification is executed by the Administration. In this case, ships are not classified by the Classification Society recognized by the Administration.

The Administration uses the Rules of the recognized Classification Society as a basis for its proper Certification.

The Administration needs to monitor the

development of Standards.

ALTERNATIVE 3

The Administration establishes the Standards and the Classification Society performs the certification, ie. the Statutory Certification. The Administration needs to monitor the execution of certification.

ALTERNATIVE 4

The Standard is established and Certification executed by the Classification Society. The Classification of ships and Certification of equipment and components are checked according to the Rules. The Administration needs to monitor the both Standards and Certification.

4.1.6.4. MONITORING METHODS

In the formal agreement of the Administration and the Classification Society, the Administration should include clauses, referring how to monitor the Society.

Two methods of monitoring are as follows:

A STANDARD AND MAINTENANCE STANDARD

- Participating
- Checking

a/ PARTICIPATING

The Administration participates actively in the establishment and the maintaining of the Classification

Society by committees discussing rules, proposals or receiving proposals on hearing.

CHECKING

The Administration has received the documents of the Classification Society and reviews the documents received both with respect to Safety and Coverage.The combination of the two methods are possible.

B CERTIFICATION

Two methods or combination of the two:

- quality audits
- Checking

a/ QUALITY AUDITS

The Administration receives documentation describing the quality system of the Classification Society. This documentation is reviewed and finally accepted by the Administration. The Classification Society uses the accepted system documentation as a basis, carries out the certification, and the Administration monitors the conformance by an interview process (audit).

b/ Checking

Checking the reports prepared by the Classification Society or re-survey ie. repeating the survey made already by a surveyor of the Classification Society.

Reference to the professor H. Tangen's Certification Manual.

CHAPTER V. SECONDARY ROLES OF A MARITIME SAFETY ADMINISTRATION

5.1.1 IMPORTANCE OF THE MARITIME SAFETY ADMINISTRATION

Before starting this chapter there is grounds to reiterate the purposes of the IMO and the solution brought to maritime matters.

The IMO is a highly technical body of the United Nations with aims:

- to provide machinery for co-operation among Governments in the field of governmental Regulations and practices relating to technical matters of all kinds affecting shipping engaged in international trade.

- to improve maritime Safety, efficiency of navigation and prevention and control of marine pollution from ships.

These purposes eliminate the practices in 1950s where each shipping nations had its own maritime law, there were comparatively few international treaties and those that existed were not accepted or implemented by all maritime States. The result was that standards and requirements varied considerably and were sometimes even contradictory.

The convention standards and other instruments developed by the IMO have brought good results to this situation in SOLAS and MARPOL. Despite the growth of the world fleet there is a decrease in maritime accidents and oil pollution of the sea.

These results are partly due to the IMO's

technical assistance.An example is the training, at World Maritime University of the Maritime Safety Administration courses with functions of:

- controlling ship safety and combat marine pollution,

- supervising the implementation of conventions/ recommendations,

- technically advising of the Government in maritime matters.

The existence of a Maritime Safety Administration is more than vital within the Maritime Administration of a country.

5.1.2. MARINE POLLUTION

Marine Pollution remains one of the problems of developing countries. Despite the sophisticated technology and the actions led by the IMO to minimize pollution, to restraint the contamination of sea, land and air by ships and other engines operating in the marine environment, pollution continuous to occur. The threat of marine pollution is more than a concern of this century because many different sources of pollution are not only, pollution threat but they can also be extremely dangerous to ships and equipment,and more importantly to people.

The marine pollution and its related activities can be best stated by referring to the study made on the

different Annexes of the IMO from the visiting professor

Gunnar Stubberud's test on MARPOL, in which some parts be will quoted by the author to illustrate his study.

5.1.2.1. THE THREAT TO THE ENVIRONMENT

The most important type of marine pollution from ship operations is oil, resulting from the transport of oil from one country to another by sea. The remainder comes from land-based activities and industrial waste ,urban run-off and natural seeps.

The most known cause of oil pollution is that arising from tanker accidents. Today, tankers are very big in size, and the consequences of an accident are always disastrous to the immediate area. The Torrey Canyon 1967 and the Amocco Cadiz 1978 are two examples. The NAS made some statistics and estimated that about 390.000 tons of oil a year enter the sea from this source. Collisions and groundings account for 83 % of major oil spills.

The most common pollution accidents are those occurring during terminal operation when oil is being loaded or unloaded with perhaps 92% of oil spills according to the International Tanker Owners'Pollution Federation. Also another source of oil pollution from ships, probably the biggest, is that occuring during normal tanker operations usually associated with the cleaning of cargo residues and ballasting. Often a pavit can be thrown overboard by a careless sailor.

The problems associated with oil pollution are considered as the most important sources of marine pollution, but many chemical products noxious substance and dangerous goods carried by sea are far more dangerous

to marine environment (fish and other Marine life). They can make the food chain from fish a danger to human health.

The number of different chemicals and other goods of this type are growing as the industry in the world becomes more complex. It has been estimated that up to 15% of all goods carried in conventional dry cargo ships are dangerous to some degree , and if liquid substances carried in chemical carriers or tankers are included the total is around 50%.

Other sources of Pollution that are no less important are:

5.1.2.2. GARBAGE AND SEWAGE

Traditionally garbage and sewage from ships have been dumped into the sea and was not considered excessive. However, with the growth of the fleet (ships) today, the use of substances such as plastics, cans, papers etc. thrown into the sea are extremely and potentially harmful to mammals,fish and the lose of the economy resulting from the lack of tourists, because the esthetic quality of coastlines and beaches are devalued by the accumulation of wastes.

5.1.2.3. LAND GENERATED WASTES AND SOLIDS

The industrial and municipal wastes (sewage, sludge) generated on shore are disposed of by dumping at sea. Most of them do not present harmful effects, but other materials such as radioactive wastes and chemicals are so dangerous that their disposal is a major problem.To keep them on land is very complex and the solution is

incineration at sea.

5.1.3. PREVENTING MARINE POLLUTION

Seeing the threat that Marine Pollution represents, necessary measures have to be undertaken to prevent it and minimize the eventual pollution from ships, a main concern of the IMO which, to this effect, created a technical assistance body the Maritime Safety Administration having as its task dual roles in the prevention of Marine Pollution from ships.These roles cover:

- the primary role which is: Certification and the survey/inspection of ships.

- the participating and coordinating role of combating marine pollution when it occurs.

5.1.3.1. HOW CAN A COUNTRY PREVENT MARINE POLLUTION ?

This question is one of the many problems of some countries, particularly developing countries, which cannot follow all international maritime activities to improve their maritime matters. In addition, the deficiency of the infrastructure, and other factors such as: the financial question formation of personnel, involves these countries who do not consider the most serious problems which, with awareness and effort can surely be resolved.

The solution of this question depends on what a country expects to do to its surrounding waters to improve its development. Otherwise, the actions advocated by the IMO will be able to help developing countries to resolve

their problems.

Concerning MARPOL 73/78, the standards established in Annexes if implemented by the Maritime Safety Administration can permit developing countries can prevent against Marine Pollution.

The situation that Cote D'Ivoire had found adequated was the creation of CIPOMAR (centre ivoirien de la pollution marine) which deals with Marine Pollution. However this institution is still ineffective due to its weak means of intervention.

5.1.3.2. STANDARDS

IMO, a specialized agency of the United Nations which met for the first time in 1959, sets technical standards for International Shipping. It produces international agreements called conventions which member States implement by passing their own national laws.

The most important area covered by the IMO is the SOLAS convention, but the secondary function is the prevention of marine pollution from ships.

Through the technical standards for international shipping the IMO tries to stop the destruction of the Oceans. In this context a number of Regulations in Annexes are the tools of the prevention and combating of Marine pollution.

The fist international pollution convention was signed in 1954 and concerned only oil (OILPOL), it was replaced in 1973 by MARPOL which covered oil, as well as

chemicals and other dangerous substances eg.sewage and garbage. In 1978 after the Amoco Cadiz accident, a protocol was adopted by the IMO modifying the precedent convention. The protocol came into force in 1983 under the name MARPOL 7/ 78.

Five Annexes govern MARPOL of which the most important that may be accepted by governments ratifying the MARPOL convention are Annexes I and II.

A ANNEX I

Annex I deals with oil pollution and contains:

- requirements for operational and accidental discharges in any form: crude oil, sludge, oil refuse and refined products (other than petrochemical).

- requirements for the control of these discharges. Tankers and other vessels must have in operation oil discharge monitoring and control system fitted during construction, equipment and maintenance standards for ships, the quantities of oil which may be legally discharged into the sea.

- oil facilities in the port.

The objectives of Annex I are:

- to improve tanker safety and pollution prevention,
- to strengthen the earlier conventions in order to provide more effective framework for oil

tankers.

B ANNEX II

This deals with the prevention of pollution by noxious liquid substances such as chemicals in bulk; it is divided into four categories:

category A presents a major hazard
category B presents a hazard
category C presents a minor hazard
category D presents a recognizable hazard

All of them are dangerous to marine resources and human health or can cause harm to amenities.

Annex II contains requirements relating to:

- design construction of chemical tankers,
- equipment and constructional standards for new and existing ships,
- operational discharges,
- measures of control, surveys and certificate requirements for minimizing accidental pollution.

a) Objectives of Annex II

One of the main goals is to achieve the complete elimination of intentional Pollution of the marine environment by oil and other harmful substances and, the minimization of accidental discharges of such substances. This Annex is applied to all ships carrying Noxious Liquid

Substances in bulk. There is no lower tonnage limitation.

The convention sets out detailed requirements for the discharges criteria and measures for controlling the pollution from noxious liquid substances carried in bulk.

ANNEXES III , IV , V

Are optional.

Annex III covers harmful substances carried in packages (tanks and containers)

Annex IV deals with sewage

Annex V regulates the dumping at sea of garbage

In a recent study of" the Scientist", it appears that the chief polluter source of man-made ocean pollution is from discharges and run-off 44 %, the atmosphere 33 %, maritime transport 12 %, dumping 10 %, and offshore production 1 %.

Viewing these statistics the authorities have to take all measures to face all forms of marine pollution despite the limited means of the country.

In the case of oil spills the Maritime Administration, through the Maritime Safety Administration, takes the necessary steps/measures for the first interventions before getting international help in combating this pollution as prescribed in IMO Conventions. Therefore, minimum anti-pollution material must be a preoccupation for Ivorian Maritime Administration

authorities.

5.1.3.3. CONTINGENCY PLANS

To prevent and combat an eventual accidental and any other pollution, the country has to establish a contingency plan for containing and cleaning up an oil spill resulting from ships and offshore units and taking all the necessary measures to protect its maritime environment.

The role of Maritime Safety Administration in this area consists of:

- ensuring the availability of approved contingency plans,

- ensuring the availability of adequate anti-pollution equipment (booms, skimmers, nets etc.) according to the magnitude of the pollution threat.

- establishing Regional contingency plans with neighboring States or coordinating actions expected from plans beyond the territorial water limits.

The chart in the Annex is a model of the contingency plan of Venezuela where oil pollution has occurred earlier.

The personnel staff is responsible for the planning conducting, and supplying the operations and providing with information to the public. The

Administration deals with administrative matters.

The contingency plan requires:

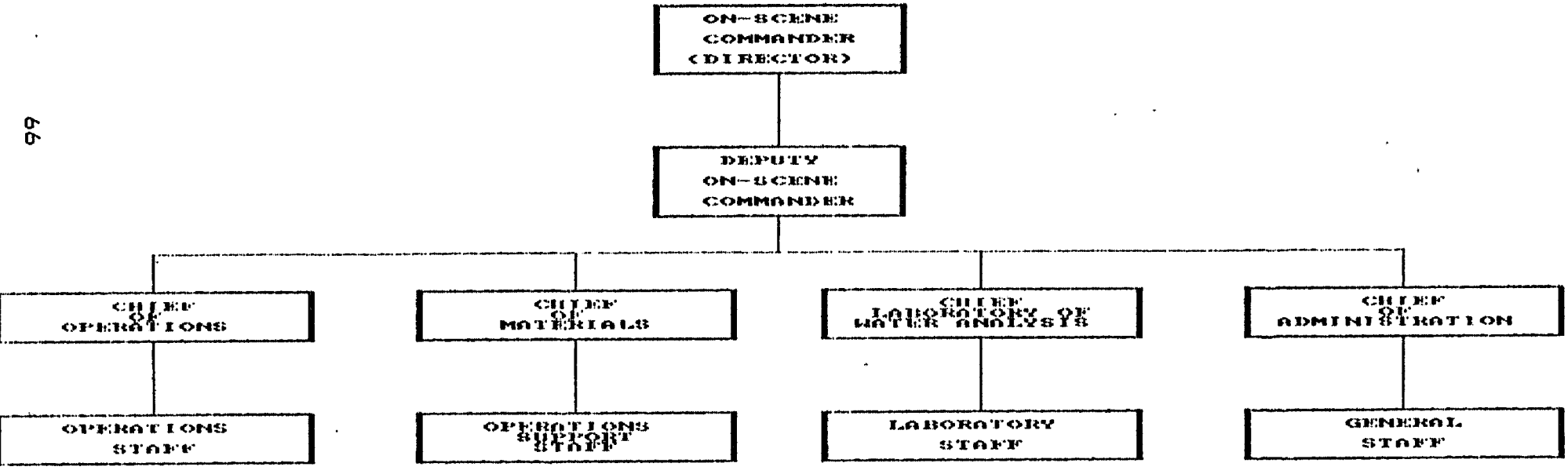
- A team experts available in contingency plan matters,
- the facility to join the team with as brief delay as possible if required,
- anti-pollution material to be used,
- reports of different coordinators and Deputy officer to the on- scene commander on:

    - present operations
    - future actions to be taken
    - instructions on the operations

The on-scene Commander will establish the reporting frequencies according to operations and the drafting of reports has to bear all specifications possible:

- date / time
- name of ship
- nature and source of pollution
- location of oil spill
- eventual consequence
- weather and sea conditions in the immediate area
- actions taken and to be taken
- other information.

POLLUTION ORGANIZATION CHART



5.1.3.4. OFFSHORE UNITS

A SAFETY REGULATIONS

Reference has been made to the special consideration with respect to Safety in Offshore operations as a distinguishing feature of the offshore petroleum industry, There is a measure of danger inherent in any offshore activity, eg. oil and gas exploitation, particularly from the risk of a well blowout. Apart from from the immediate physical danger for people in the vicinity of a well blowout, in the case of an oil blowout in an offshore area there is the added danger of potentially disastrous environmental damage.

The result of these considerations is that all states licensing offshore petroleum activity regulate the actual conduct of the operation in a detailed manner. Typically this regulation starts with the inspection of licensing the drilling equipment , both from the marine perspective and to its suitability for the particular oil and gas programme in which the equipment is proposed to be employed.

All details must receive Regulation approval before the well can proceed.

B LIABILITY REQUIREMENTS

At this stage of licensing offshore activity it is frequently a requirement that the industry make a satisfactory arrangement to meet any liability that might be incurred in the event of a blowout. Thus depositing evidence of insurance.

C PUBLIC LIABILITY

The public responsibility on which offshore oil and gas activity has a clear impact in this respect,is the function of Search and Rescue. Even though the primary personnel in an emergency must rest with the operator. Obviously in the event of an emergency the agency responsible for Search and Rescue in the relevant Region must be prepared to respond to the extent that it can. This means in turn that the agency must develop its own contingency plans to deal with on emergency associated with an offshore drilling or production facility.

In this connection The Maritime Safety Administration performs surveys/inspection on offshore units to protect the marine environment. It coordinates and provides all necessary action to rescue the personnel in distress in concert with the agency of the Search and Rescue.

5.1.4 CASUALTY INVESTIGATION

Each Maritime Administration is under the obligation to conduct an investigation of any casualty to any ship for which it is responsible and which is subject to the conventions of:

load lines 1966 Art. 23 casualties

IMO Resolutions A. 173 (November 28, 1968)

Resolutions A. 322 (November 12, 1975)
investigation

SOLAS 74 chap.1 Regulation 21 casualties.

Usually there is no international convention for the investigation procedures. However, these conventions direct each Administration to ensure countries with a substantial interest in marine casualties, that they are permitted to be represented at the inquiries, and to encourage international investigation practices.

The conventions recommend that the country conducting the inquiry shall, subject to national rules, allow a representative of a country with substantial interest to attend and participate in the inquiry.

They draw attention to the obligation of contracting governments to investigate casualties as stated in the conventions and to supply the IMO with information about the lessons to be learned and the conclusions.

5.1.4.1.PURPOSE OF THE INVESTIGATION

The purpose of the investigation is to determine the circumstances and causes of an accident with aim of the improving the safety of life at sea (SOLAS) and preventing accidents in the future. It is not the purpose to apportion liability or except as far as is necessary to achieve the fundamental purpose, to apportion blame.

5.1.4.2.TYPES OF INVESTIGATION

Safety investigation
Criminal investigation
Civil liability investigation
Violation of law (enforcement) investigation.

5.1.4.3.PROCEDURES OF THE INVESTIGATION

When a shipping casualty has occurred on or near the coast of a country, the master through the Harbor Master Pilot or any other person in charge of the ship or in charge of each ship (when two ships are concerned) at the time of shipping casualty, shall on arriving in the port of State the give immediate notice of the shipping casualty to the officer appointed on his behalf by the Government.

Whenever credible information is received that a shipping casualty has occurred the Government may decide on the preliminary inquiry and according to the magnitude of the casualty it may order a formal investigation. Referance to the chart from professor Colucciello.

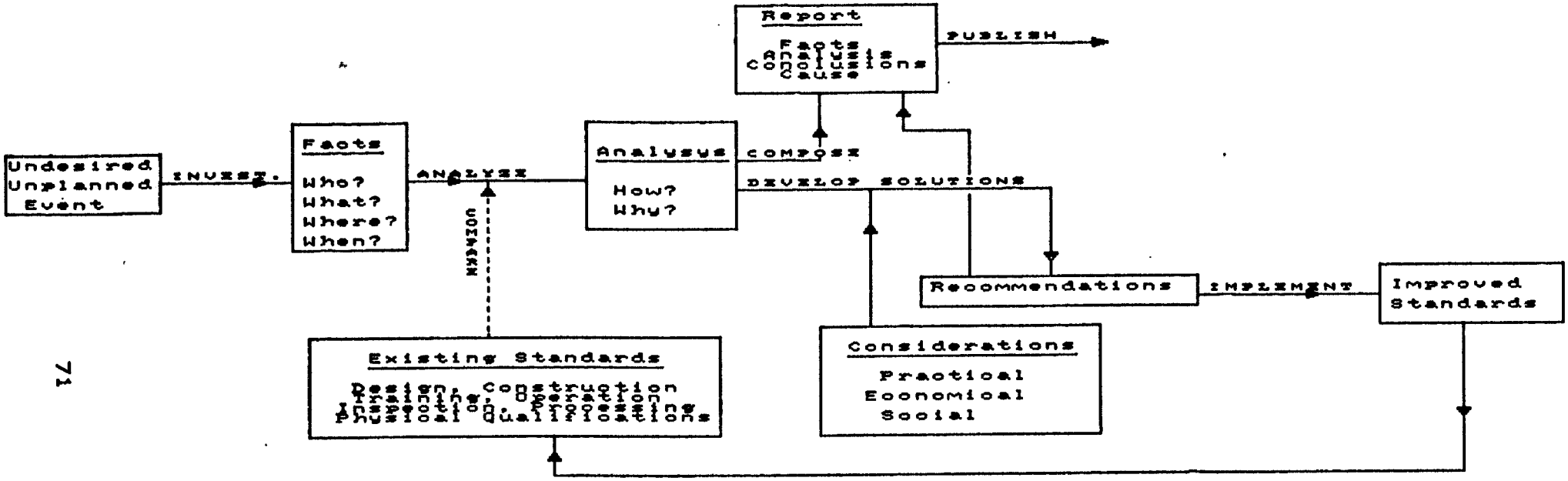
A CONDUCT OF THE INVESTIGATION

Subject to his power, an inspector shall conduct an investigation by proceeding as follows.

a / PRELIMINARY INQUIRY

A surveyor is appointed by the Government to deal with the preliminary inquiry which consists of the taking of declarations in all aspects of the casualty according to its nature. The preliminary inquiry covers a chain of events but if that involves consultation with a wide variety of interest such as shipbuilder, manufacturer, product carrier, shipowner, main Marine equipments, a confidential report is prepared to enable the Government

THE ACCIDENT INUESTIGATION PROCEES



to decide whether a formal investigation should be held.

b / FORMAL INVESTIGATION

A formal investigation is a public inquiry decided by the Government instead of the preliminary inquiry. It is led by a Court or a Wreck Commissioner empowered under the Merchant Shipping Act, assisted by Assessors of appropriate expertise nominated by the Department concerned.

The rules and procedures of the Court and the provision appeals re hearing etc. are those of national legislation. However, the role of the Maritime Safety Administration is to assist the Court or Wreck Commissioner in his tasks.

This assistance covers:

- The appointment of the consul to represent the Government and thus provide assistance through him.
- Ensuring production of the penal Assessor.
- Presentation of facts/evidence as available (the proceeding of the preliminary inquiry can be invaluable for this purpose).
- The presentation of a witness list.
- Arrangements for the attendance of witnesses.

- Arrangements for the attendance of any expert witnesses that may be necessary.

- Arrangements for the Court or Wreck Commissioner and Assessors to make any visit to any ship or place that is relevant.

- Any other form of assistance needed by the Court or Wreck Commissioner.

5.1.4.4. CONDITIONS OF THE FORMAL INVESTIGATION

Besides those pointed out above these conditions enable the government to decide on a formal investigation if:

- the preliminary inquiry is deemed insufficient.

- the casualty was accompanied by loss of life or property or involved serious damage.

- the casualty has been alleged at fault or there is negligence on the part of the Master.

- it appears that the shipping casualty has occurred through a cause.

- it appears likely to lead to the prevention of similar casualties in the future.

Reference: P. S.Vanchiswar's volume I and the handout of P. Colucciello, (see bibliography).

5.1.5. SEARCH AND RESCUE AT SEA

Search and Rescue at sea is one of the important functions of the IMO in improving Safety of Life at Sea.The SOLAS convention is concerned with this subject to help ships and persons in distress at sea.

As a result, guidelines are provided in the international Maritime Organization's Search and Rescue manual (IMOSAR) and the IMO Merchant Ship Search and Rescue Manual (MERSAR). It might be of interest to Cote D'Ivoire within its Maritime Administration to organize the service of Search and Rescue at sea through a Maritime Safety Administration. This Administration would create a plan of action and coordinate Search and Rescue missions.

Efforts have been made since January 1, 1963, the date the Rescue Coordination Center was created (RCC) until now. Therefore, it is fitting to point out it is necessary to study the inadequate infrastructure as regards organization and personnel Maritime and Lagoon Search and Rescue matters.

In the present situation, the National Search and Rescue is under the responsibility of the National armed forces and the RCC is directed by the Commander of the Air Force. The different manners to operate such an organization may give rise to difficulties, particularly at the initial stages of alert and operations.

This paper describes SAR in order to improve the future maritime and lagoon SAR system.

5.1.5.1. THE SAR SYSTEM

The SAR system is the arrangement undertaken to assist, as quickly as possible, persons and ships in distress at sea around the coasts.

5.1.5.2.SAR ORGANIZATION

This deals with matters pertaining to States regarding the organization and existing services and facilities and the establishment of additional services and facilities necessary to provide practical and economical Search and Rescue coverage of a given area.

SAR is organized as follows:

SAR coordinators (SCS).
Rescue coordination centers (RCCS).
Rescue sub-centers (RSCS).
SAR missions coordinators (SMCS).
On - scene commander (OSC).
SAR units (SRUS).

Other components of a SAR system.

The personnel and equipment to be used.

The communication system for alerting, coordination
control, detection and reception facilities.

Medical assistance for emergency medical treatment.

Documentation for recording different cases and development of distress.

A SAR PLAN

The SMC will establish an intervention plan and coordinate with different sub-centers for the plan's execution. The plan differs according to the type of distress and circumstances.

The SAR exists:

- to determine the availability of the personnel and appropriate material allowed for this effect,
- to specify the method to be used for the circumstances, (the selection of Rescue method is made by the OSC or RU),
- to establish a schedule of the intervention and exercises,
- to take all steps for a safe delivery of all survivors and their transportation.

B MATERIAL FOR A RESCUE PLAN

In the case of Cote D'Ivoire it is recommended the use the:

- Naval ships, boats.
- Aircraft, particularly helicopters for the hoisting and landing.

- Vessels and other units.

- Communications for coordinating helicopter/rescue boats, military fire brigade unit.

5.1.5.3.SEARCH AND RESCUE OPERATIONS

The obligations of ships responding to distress messages and signals from other ships is one of the oldest traditions of the sea.

The obligation to provide assistance to persons in distress at sea has been embodied in other international Conventions particularly SOLAS and Highseas 1958.

Regulation 10 SOLAS 74 states facts concerning the assistance of a Master of a ship at sea to other ships, aircraft or survival craft in distress by any signal (messages, light etc.).

The Master is bound to proceed with all speed to assist the persons in distress giving them his intentions.

With regards to rescue operations Regulation 15 SOLAS convention gives the basic requirements to governments regarding SAR operations.

It states that each contracting government undertakes all steps to ensure any arrangements for coastal watch and the rescue of persons in distress at sea around its coasts.

The International Convention on Maritime Search and Rescue 1979, stipulates that a group of experts has to be established to prepare a draft of the international

convention on maritime SAR. The reference will be born in the second manual, IMOSAR, which provides guidelines rather than requirements for a common MSAR policy, encouraging all coastal states to develop their organizations on similar lines and to co-operate and provide mutual assistance with neighboring States.

5.1.5.7.SAR PROCEDURES

This Contains material to assist all personnel who will participate in SAR operations and exercises.

The convention was adopted in 1979 in Hamburg and came into force on June 22, 1985. It was designed to remedy the weaknesses in the current SAR system practiced on individual country requirements of which the dissimilarly standard procedures on a world wide basis may r result in difficulties during the alerts.

However, the regional agreements on mutual contacts, exchange of personnel and the linking of communication may permit a successful SAR system.

The organization of a such a regional arrangement is contained in Regulation 15 Chap V of S 1960 and 1974. It requires that each SAR Region shall establish agreements among the parties concerned.

Parties to SAR services can give a prompt response to any distress signal with for the appropriate assistance to any person in distress.

IMO must be informed about the SAR services of parties by circular.

In order to achieve these objectives, parties are required to ensure radio watches on the international distress frequencies if this is practicable and necessary.

In the examples of developed countries this harmonization of SAR services permits their successful in this area.

5.1.5.8. SAR MISSIONS

This comes under the responsibility of a coordinator called the SAR Mission Coordinator who:

- conducts Search and Rescue,
- assigns SAR mission coordination with appropriate RCC/RCS, and SAR units during all operations and decides where to suspend in the case of an unsuccessful operation,
- improves SAR actions through the use of available SAR support,
- cooperates with private services in the SAR area,
- ensures the implementation of the SOLAS convention Regulation 15 chapter 5 and Recommendations,

On the international level the SAR coordinator's roles are to:

- establish an agreement with neighboring States and common procedures,

- conduct joint training and exercises,

- check inter-State communication,

- make arrangements relating to liaison visits by RCC personnel and the exchange of SAR information.

5.1.5.9 MARITIME SAR MISSION REPORTS

The coordinator provides the SAR Mission coordinator to RCC/RSC as applicable. The coordinator acts as a OSC. The reports should detail any problems involved with the mission (communication, coordination) and any new or innovative practices that are held by the mission, and, any other comment that might aid the prosecution or prevention of similar incidents in the future.

The format is shown in the Annex.

CHAPTER VI. PROPOSALS

1. SUGGESTED MODEL OF A MARITIME SAFETY ADMINISTRATION FOR COTE D'IVOIRE.

The rapid development of shipping throughout the world has resulted in new standard requirement established by the International Maritime Organization. Nevertheless, in developing countries a manifest delay is noted which prevents this development namely:

- non-involvement in the evolution of international standards,
- inadequate infrastructure as regards organization and personnel to improve maritime development in general,
- lack of appropriate training of Marine Officers with the necessary qualifications and experience,
- limited financial means.

To remedy these deficiencies which paralyse the development of maritime activities, many measures have to be taken into consideration by determining the level of ambition in maritime areas.

In this context, Cote d'Ivoire is aware of the gradual change of its Administration, has always thought about the decentralization of Maritime Administration, and given priority to the training. Thus it was decided some years ago, to create a Maritime Safety Administration. The

effect of this is that three students are already trained and the author will be the first beneficiary to be trained at World Maritime University in all matters relating to safety.

The author chooses this opportunity to propose to the authorities a set-up of a Maritime Safety Administration which takes into account the realities of the country. The standardization recommended will be established on the basis of the IMO standards, developed in volume I the Establishment of Maritime Administrations in Developing Countries, by Professor S. Vanchiswar.

6.1.1. EXAMPLES OF DEVELOPED COUNTRIES

The Maritime Safety Administrations of developed Countries deal with all matters relating to safety whose efficiencies are without precedent.

Countries such as the UK, France, FRG, Netherland and the Scandinavian countries Sweden, Norway, Denmark, and Finland are known as traditional Maritime countries. Their Maritime Safety Administrations, have good structured organization working together with other bodies, ie. the Part-time official bodies as Receiver of Wrecks, Classification Societies, Coast Guards etc. There is a genuine Regional co-operation between them to administration activities.

Opportunity was given to the author during field training to study and see how to establish a Maritime Safety Administration, how it functions. Their Rules and Regulations are based on the IMO standards. So, the author wishes that these propositions on the

organization to be taken into consideration for the continuous progress already started.

6.1.2. ORGANIZATIONAL STRUCTURE

The following model of the organizational structure is to be suggested to the Authorities for the Maritime Safety Administration in Cote d'Ivoire,in the form of an organization chart (see Annex).

This chart is an organizational structure that is expected to be required for a Maritime Safety Administration in a developing country whose development is expected to be substantial in order to enable it to carry out the necessary functions.

The chart projects the types of officials required as enumerated previously and indicates the chain of hierarchy; it also incorporates therein the position of part-time officials such as Receiver of wrecks and other delegated functions such as Classification Societies.

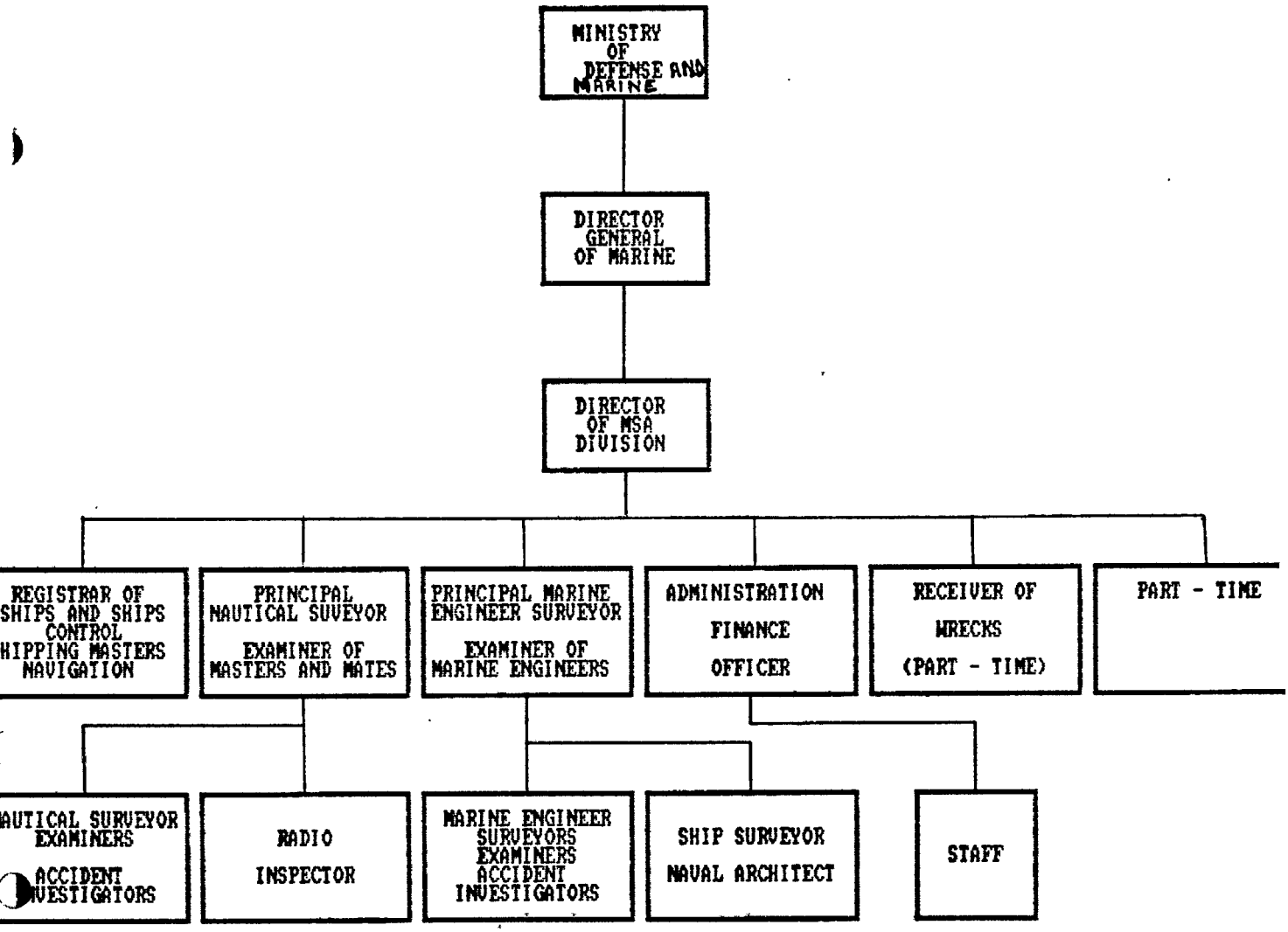
This chart assumes which functions will perform such task as the survey/inspection of ships and related matters.

6.1.3. FUNCTIONS AND DUTIES OF THE ORGANIZATION

Having dealt with the functions/duties to be performed, the type of officials required, the desired qualifications and experience of those officials concerned.

The functions of the officials and the working

MARITIME SAFETY ADMINISTRATION ORGANIZATION



areas are those described in the preceding part (two) namely:

- survey/inspection of ships,
- coordination with Classification Societies as delegated by the Government,
- inquiries/investigation into shipping casualties
- maritime Search and Rescue (in concert with other units),
- Marine Pollution matters (in concert with other units),
- ensuring the safety of fishing vessels and small boats,
- maintenance of the central (technical) records of national ships,
- advising the government on technical matters in general,
- ensuring the relationship between the Administration, Directorate General and Port Authorities.

6.1.3.1. QUALIFICATIONS AND EXPERIENCE OF OFFICIALS REQUIRED

The setting-up of a Maritime Safety Administration naturally depends upon the means, nature

and extent of the duties and responsibilities involved in respect of the maritime development now and the future.

According to the objectives and criteria, including functions described in detail above, the author proposes to Maritime Authorities the following:

- type of official required
- the desired qualification/experience of this official.

The following officials deal with Maritime Safety Administration.

A DIRECTOR OF MARITIME SAFETY ADMINISTRATION

a/ QUALIFICATIONS/EXPERIENCE

M.Sc (MSA) from World Maritime University (WMU) or Extra Master's Certificate or equivalent.

He can be Master or Chief engineer (surveyors of their state).

B NAUTICAL OFFICER/SURVEYOR

a/ QUALIFICATIONS/EXPERIENCE

Master (foreign-going vessel), Certificate of the competency, seven years experience in the deck department of ship engaged in international trade, to be at least a period of one year as Chief Officer.

b/ DESIRABLE QUALIFICATIONS/EXPERIENCE

M.Sc degree (MSA) from WMU or Extra Master's Certificateor equivalent.

- Service as Master of ship.
- Experience as a surveyor of ship.
- Experience in Maritime Safety Administration.
- Experience in government procedure.

C MARINE ENGINEER/SURVEYOR

a/ ESSENTIAL QUALIFICATIONS/EXPERIENCE

First class (steam an motor) Engineer Certificate.

Five years experience in engine department of ships.

One year as second engineer.

b/ ESSENTIAL QUALIFICATIONS/EXPERIENCE

M. Sc degree (MSA) from WMU or Extra first class Engineer's Certificate or equivalent.

- Service as Chief Engineer of ship.
- Experience as a surveyor of ships.
- Experience in Maritime safety Administration.
- Experience in government procedures.

The current training for some Naval architects

at WMU is on the Technical Management of Shipping course. However for the physical survey/inspection of ships, mainly during the overhaul of ships on dry dock, those can be useful. Also, the training of radio operator and electrician is not yet introduced at the WMU. But they can be delegated either by the board or by the Principal surveyor to perform surveys/inspection on their behalf.

D ADMINISTRATION OFFICIALS

Deal with all administrative matters and financial questions. the officials are appointed by the Director General of Marine.

a/ DESIRABLE QUALIFICATIONS/EXPERIENCE

M. Sc degree (General Maritime Administration (GMA) from WMU with seven years in Maritime Administration.

Administrative Certificate or equivalent.

- Service as Chief Department.
- Experience in maritime law.
- Experience in government procedures.

E MARITIME LEGAL OFFICER

A degree in law.

Three years experience in the legal profession as Public Prosecutor.

Desirable qualification, M.Sc degree (GMA) from World Maritime University.

Experience in government procedures.

F SHIPPING MASTER

ESSENTIAL QUALIFICATIONS/EXPERIENCE

A degree in Maritime law or Certificate of competency as Master or Chief Engineer (foreign-going)

Experience in shipping company and dealing with crew matters.

Deals with matters pertaining to registration, engagement and discharges of seamen.

Assist the Director in crew matters.

G REGISTRAR OF SHIPS

ESSENTIAL QUALIFICATIONS/EXPERIENCE

A degree in Maritime Law or Certificate of competency as Master or Chief Engineer (foreign-going vessel).

Experience in Registration of ships.

Exprience in government procedures

6.1.4. NATIONAL SAFETY COMMISSION

Examines the drawing and documents as submitted by the shipowner of ships above 500 grt or 200 passengers or proceeding on international voyages.

Advises the Minister in view of their approval. The commission is consulted by the Minister about approval

of safety materials and appliances, recognition and any questions relating to implementation of national as well as international Regulations and their subsidiaries.

The following are members of the commission:

Director General of Marine.

Harbor Master (representative of port Authorities).

Inspector (Nautical).
Inspector (Marine Engineering).

Registrar of ships

Shipping Master
Shipping accident investigator

Representatives of:

- Classification Society/ies,
- Shipowner,
- Shipbuilder,
- Underwriter,
- Civil servant,
- Seafarer.

The commission also examines small boats (boats intended to traffic and pleasure boats less than 25 meters and more than 5 meters in length) as submitted by a shipowner or importer in view of their approval by the Ministry. The commission is consulted by the Ministry about any matters relating to pleasure navigation.

6.1.4. SAFETY COMMISSION

A INITIAL SURVEY COMMISSION

An initial survey commission can be created in any port by the local maritime authority. It examines, When a ship came into operation under the safety requirements and fulfills all exigence.

The composition of the commission depends on the size of the ship. The shipowner and shipbuilder follow the work of the commission and express their observations.

B ANNUAL SURVEY COMMISSION

Can be created in any port by the local maritime authority. It examines if the ship fulfill the relevant specifications. It can renew or withdraw the certificates. The composition of the commission depends on the size of the Ship.

CONCLUSION AND RECOMMENDATIONS

Over 95% of external trade is carried over the sea, and, in addition to the the capacity of a ship's reception and the operation facilities San-Pedro, and particularly Abidjan Port, which is one of the most important ports along the West African coast, are involved in a growth of traffic. Even if at present the serious problem of accidents does not occur, the risk of accidents has not diminished.

In this connection, I have written this paper with the aim of showing to the Authorities a suggested model of Maritime Safety Administration and the work of a Maritime Safety Administration relating to Safety of Navigation, Marine Pollution and other activities such as Search and Rescue and Casualty Investigation, to prevent eventual catastrophes at sea. Proposals and Recommendations have been made to the Authorities to facilitate the future setting-up of a Maritime Safety Administration in Cote d'Ivoire.

I would like that the Authorities take into consideration with particular interest the Proposals and Recommendations below established after an analysis of the success of developed countries'Maritime Safety Administrations visited during my field training.

- An effective creation of a Maritime Safety Administration linked directly either to the Director General of Marine responsible to the Ministry of Defense and Marine or Ministry of Marine if that exists.

- The supply of offices, furniture and other

materiels (such as Records, logs etc.) to the Division.

- The training of surveyors and other staff of a high level has to be established at World Maritime University. Surveyors will attend Seminars and any meeting to entertain their knowledge in maritime safety matters.

- Participation at IMO conferences has become a requirement for Surveyors/Officials in safety matters in order to follow all activities advocated by the IMO and enable them (Surveyors/Officials) to implement all conventions ratified by the Ivoirian Government.

- A permanent representative of an official having necessary knowledge in maritime safety matters at the IMO's Headquarters in London. This situation will be of important interest for the Authorities. Some developing countries such as Senegal and Asian and Caribbean countries are represented so that they are acquainted with the rapid evolution and the evaluation of the needs of the country in maritime matters.

It is also the wish of Mr. Asouz.

- Concerning the Reception Facilities in addition to those attending to Garbage, it will be necessary to provide for one or two reservoirs/tanks with a maximum capacity and appropriate installation only to receive eventual accidental Dangerous Goods (chemical products) in the port and to avoid the contamination of the air which should present a danger for the people.

- With the crisis which shakes the whole world of which Cote d'Ivoire is no exception I could not suggest to create a service of Coast Guard which would ask more

expense. Nevertheless, the Authorities have to provide for the future with a proper Coast Guard with mixed personnel to deal with this service:

- Civil servants

- Navy personnel

Meanwhile, the Maritime Authorities have to strengthen the resources of the Navy to enable it to play the role of Coast Guard and do in concert this work with the Maritime Safety Administration.

- In maritime safety matters the human fact is important. Observations of the insurers, the statistics and the harbor authorities reports confirm this evidence.

Several forms can explain this reality. It may be:

- inefficient crews due to a low level of training, bad use of materials etc.

- errors due to the fatigue of crews, even if crews are competent

- bad operational procedures

In this context it appears that the respect of maritime safety depends of its attributes and the professional awareness, and even those of mentality which concern the ship operators, shipbuilders, shipowners and crews.

Through the diversity of measures undertaken by

the maritime Authorities regarding the human factors, including national as well as international Regulations, two important areas are privileged.

First of all, to train more crews as to how to operate ships.

Secondly, the Authorities have to arrange short training programs for crews, either one or two weeks before crews embark on board ship (because different crew operating on board). They must be trained in the important areas such as:

- safety on board ship and its related activities,
- the use of materials on board ship,
- watchkeeping of navigation and machinery,
- information about conventions for example SOLAS and Annexes I and II of MARPOL,
- and above all, the discipline and the conduct to be maintained on board ships,

These short courses can awake the awareness of seafarers while contributing in avoiding errors which might involve disasters.

I suggest that to render possible the running of such courses the national as well as private companies working within the ports can participate as sponsors; for example U.S Coast Guard is sponsored by the private companies, a manner to participate to the maritime

development.

It is also recommended that a Nationwide broadcast be implemented at least monthly, to inform and ensure the citizen's awareness for their fully participation in the maritime and lagoon pollution (possible projection of film about pollution).

Regional agreement to deal with Marine Pollution in West Africa.

BIBLIOGRAPHY

1 Port Autonome d'Abidjan Rapport d'exploitation 1985

2 Port Autonome de San-Pedro: Rapport d'Activites 1985

3 Journal Officiel Decret No 84 - 277 du 14 Mars 1984 portant organisation du Ministere de la Marine

4 Maritime Administration and Maritime Safety Administration of Volume I: Professor S. Vanchiswar

5 OTAC Classification Societies :Survey / Inspection Machinery :Visiting Professor Bossow

6 Certification ,Classification: volume I of Professor H. Tangen
Classification handout of Visiting Professor M. Abe

7 Surveys / Inspection :Guidelines survey /inspection of Visiting Professor Erick Larsson

8 IMO Prevention Marine Pollution Visiting Professor Guinnars

9 Marine Pollution : IMO publication No 3. 1989, Your Guide Does and Doesn't: The Sea No 88 1990

10 Casualty/Investigation: Volume II Professor S. Vanchiswar, handout visiting P. Colucciello

11 Focus on IMO Search and Rescue at Sea 1986

12 SAR Mission Coordinator Volume 3 IMOSAR

13 National Safety Commission : French Maritime Administration by Professor Henri Pinon .

ABSTRACT

Since some years a number of positive developments have taken place in maritime safety matters thanks to the International Maritime Organization (IMO), which establishes International Maritime Conventions not only to increase the safety of navigation, but also to deal with various other matters such as Prevention Marine Pollution, Search and Rescue and Casualty Investigation.

So, at present, the creation of a Maritime Safety Administration as Department within the National Maritime Administration has become a necessity for the maritime development of most countries on the international level, to achieve harmonization regulations and procedures as set out in the IMO's objectives.

This paper intends to outline the work of typical Maritime Safety Administration and put forward a proposal model set-up of the Maritime Safety Administration of Cote d'Ivoire, developed on the basis of IMO's recommended standards, taking into account the country's local maritime conditions.

Proposals and Recommendations are made to facilitate the Authorities'actions which should be undertaken in these matters.

ANNEXES

1. The Concept of a Regional (or Sub-regional) Maritime Safety Administration, where desired and possible

There are instances where a number of Governments in a region (e g, Caribbean Community Member States), while appreciating the importance and need for an effective Maritime Safety Administration, have expressed the following views:- 1/

(a) A number of countries in the region would have difficulties at the present stage in setting up appropriate National Maritime Safety Administrations due to non-availability of qualified national personnel (even with the minimum qualifications suggested) and on the grounds of economy
(b) A Regional Organisation for the purpose can benefit all of the Member States, even if in varying extents, and
(c) such a Regional Organisation can be more cost effective.

2. There appears to be merit in the aforesaid views in such circumstances, provided that a National Unit/Official is also nominated to serve as a national focal point to deal with maritime safety matters on a day to day basis and to maintain direct liaison with the Regional Organisation. Accordingly, the aforesaid concept is discussed below and suggestions are made for the establishment of a Regional (or Sub-regional) Organisation. 2/

3. Advantages/Functions

(i) It can carry out the functions of a Maritime Safety Administration for and on behalf of those Member States which wish to use same as such, instead of (or to supplement) setting up National Organisations, i e,

(a) Conduct of the various examinations of seafarers (Masters, Mates, Marine Engineers, etc) and their certification in accordance with international standards.

(b) Various types of surveys of ships for the purpose of the grant of Safety Certificates, e g, Safety Equipment (Life Saving Appliances, Fire Appliances, Lights and Sound Signals, etc), Safety Construction, Load Line, etc

(c) Tonnage measurement of ships.

(d) Inquiries/investigations into shipping casualties

(e) Implementation of Maritime Safety Rules/ Regulations

(f) Assist in the national registration of ships

(g) Implementation of International Conventions re: Maritime Safety

(h) Advisory Functions,

(ii) Maintain Central Records of:-

(a) Ships registered in the Member States details of their particulars, status regarding their safety certification, classification, trade in which engaged, etc

(b) Number of Categories of seafarers, including officers available in the region and their certification status

(c) Maritime information of relevance, including Conventions, publications and documents from all available sources

(d) Navigational warnings, including notices to mariners, etc,

(iii) Serve as Expert Advisory Body available to all Member States

(iv) Act as the Catalyst for the creation and development of maritime skills in the region

(v) Promotion and maintenance of regional co-operation in maritime safety/technical matters

(vi) Harmonisation of maritime safety standards in the region

(vii) Accelerated achievement and maintenance of adequate and common standards

(viii) Ensuring the availability in the region of adequate number of seafarers of the needed categories by arranging and co-ordinating the training and certification of seafarers to international standards. (This would also improve substantially the "employment potential" for such seafarers in foreign flag ships, which would be necessary in the long term)

(ix) Assisting the co-ordinated technical development of shipping in the region

(x) Encourage the development and manufacture of various marine equipment in the region itself through advice and guidance to (potential) manufacturers and advice to Member States as regards harmonising such developments/manufacture

(xi) Encourage the bulk import of marine equipment, if not manufactured locally, so as to gain the economy of scale

(xii) Provide a common forum to examine/consider maritime technical matters of common interest to Member States and to formulate common approaches where necessary

(xiii) Assist the Member States in the ratification and implementation of the various International Maritime Conventions relating to Maritime safety and allied matters

(xiv) Train and/or arrange for the training/updating of expertise of the officials of the national maritime safety administrations in the region

(xv) Co-ordinate the work of those Classification Societies to whom statutory functions are delegated by Governments in the region

(xvi) Co-ordinate external Technical Assistance Programmes
(xvii) Perform and/or co-ordinate other maritime activities as required/mandated.

4. Staff Structures

In view of the high level of expertise required to serve adequately the Governments in the Region, the Organisation needs to be headed by a Director (Principal Marine Officer), with the highest professional qualifications and wide experience in a Maritime safety Administration at or near the top level, covering a large quantum of shipping engaged in International Trade. He in turn needs to be assisted by one Nautical Officer/Surveyor, and one Marine Engineer Officer/Surveyor with adequate and appropriate qualifications and sound experience in the field concerned.

Thus the professional staff required for this Department would be:

(i) Director - One
(ii) Nautical Officer/Surveyor - One
(iii) Marine Engineer Officer/Surveyor - One.

The qualifications and experience required for the aforesaid professional officials need to be those indicated later. The aim has to be to fill up all these professional posts through officers from the region, even by attracting them back to the region through inducive salaries.
The aforesaid officials would also need administrative and secretarial support.

5. Legal Advice/Assistance

The aforesaid Organisation is expected to need legal advice/assistance from time to time; accordingly, arrrangements would have to be made. It is suggested that this may be arranged by the Host Government and the concerned Government/s, depending upon the location of the Organisation and the nature of legal assistance required.

Where IMO can help

Shipping

Development of national merchant marines

Maritime training

Maritime training at all levels, national, regional, inter-regional, including the establishment of regional and national maritime academies

Updating of existing maritime institutions

Maritime legislation

Harmonization of regional and sub-regional maritime codes

Writing up maritime rules and regulations

Drafting of technical rules and regulations in the maritime field

Organization of ships' registration

Maritime safety

Maritime policy

Safety of inter-island shipping

Assistance to national and international maritime transport organization

Maritime safety administration

Certification of ships' officers, engineers and crew

Dangerous goods

Safe transport and handling procedures in ports; stowage preparation procedures on board

Control and information procedures for arrival of dangerous goods by land/water

Lay-out and construction of dangerous goods areas in ports

International Maritime Dangerous Goods Code

Radio communication

Maritime radio equipment, including radar, VHF, etc

Establishment of position-fixing systems and navigation safety lanes

Shipbuilding and ship repairs

Shipyard development

Design and construction of new vessels

Naval architecture

Research and design in shipbuilding

Ship repair facilities

Rehabilitation and development of shipping

Towing tank operations, hydrodynamics, etc

Shipbuilding, welding and steel fabrication

Ports and harbours

Planning and development of ports and harbours

Port re-organization

Containers

Harbour piloting

Advice on port navigation and related marine services

Port operation

Improvement of shipping and ports

Improvement of radio aids and navigational aids in ports and approaches

Dredging

Technical port and harbour administration

Hydrographic surveys

Marine pollution

Marine pollution control

Pollution abatement study and hazard evaluation

Establishment of regional oil-combating centres

Study of arrangements for co-operation in event of pollution emergencies

Open sea oil transfer operations

Experience has shown that the problems facing the developing nations are both complex and varied, but they generally tend to revolve around one crucial weakness: the shortage, and sometimes the complete lack of trained and experienced personnel.

Remedying this is no easy task, even when finance is available. A successful merchant marine cannot be built up overnight. It takes years to train a master mariner, a chief engineer, and the other key crew members who are so essential in an age in which ships are becoming more and more sophisticated.

A shipping industry also needs people on shore. Some of them may hardly ever see the ships they are dealing with, let alone go on board them, yet all of them are vital to success. IMO knows what and who is needed, and the list on the right shows the main areas in which the Organization can provide assistance.

How IMO can help

Finance
No matter what type of assistance is required, it is bound to cost money. Since the financial resources of many developing nations are small, this could mean that many desperately needed projects could simply never be contemplated, let alone completed.

However, there are various ways by which financial support can be obtained. These include:

The United Nations Development Programme (UNDP)
The UNDP is the chief source of finance for IMO's technical aid programme.

Most of these funds are provided to individual countries through what is termed the *Indicative Planning Figure*. Under this, a country is allocated a certain amount of aid, and then has to determine the manner in which it is to be used. The amount allocated to assistance projects associated with maritime development, and involving IMO, usually comes from this total.

Apart from the IPF method of financing, the UNDP also provides assistance for some *regional projects* involving a number of countries within a certain area. Such projects are normally large-scale developments which would be too big for one country to handle alone.

In the same way, a limited amount of assistance can be provided by the UNDP for *inter-regional projects* involving still more countries.

The United Nations Environment Programme (UNEP)
As its title implies, UNEP is concerned with the protection of the world's environment, and works very closely with IMO on matters concerning marine pollution. The Organization has some funds available for use in connection with such projects, particularly those of a regional and inter-regional nature.

Funds-in-trust
Several developing nations — or groups of developing nations — have their own financial resources, but still require technical expertise and other forms of assistance. In their case projects can be arranged in which the country or countries concerned provide the finance, while IMO supplies the other assistance required.

Donor countries
Many of the more advanced nations, in addition to supplying technical advice, equipment and other forms of assistance, also have their own international aid programmes. These have been of immense value to the developing world in the past, and several of the countries concerned have helped IMO to carry out its aid projects. An agreement was signed in 1977 with the Norwegian Government. Assistance has also been received from Argentina, Belgium, Brazil, Federal Republic of Germany, France, Greece, Italy, Japan, Mexico, Netherlands, Saudi Arabia, Sweden and the USSR. The Organization has also been in touch with other donors to seek assistance.

Personnel
IMO's main objective is to promote co-operation among governments on technical and related matters affecting international shipping. This aim involves seeking the achievement of the highest practical standards of maritime safety and efficiency of navigation, and prevention and control of marine pollution from ships. Linked with these goals is one of IMO's most important responsibilities: provision of technical assistance in the maritime sector to developing countries.

IMO, as an Organization, is evolving a pragmatic and comprehensive programme of technical co-operation, with a view to meeting the essential requirements of developing countries in accordance with their wishes, needs and priorities.

At present, there are very pressing demands — both at global and national level — for advisory services in the fields of maritime training, maritime safety administration, prevention of marine pollution from ships, harmonisation of maritime legislation, and problems concerning technical operation of ports and related matters. These matters are receiving the highest priority.

IMO's role demands maintenance of continuous contacts with Member Governments in order to promote world-wide implementation of its Conventions, Recommendations, and other measures. IMO considers that utilisation of its Technical Advisory Services by Member States in the process of development will facilitate early achievement of this goal.

The adoption, by IMO, of international safety standards for ships and their operation, and for the training of maritime personnel, must be followed up by vigorous effort directed at their universal acceptance and implementation. Gradually, this stage is being reached and the demand by developing countries for high-level technical advisory services, to assist in the implementation process, is increasing rapidly.

In providing such assistance, it is necessary to ensure that a uniform approach to compliance with agreed international standards is maintained. This cannot be done in a fragmented manner, or by recruitment of individual experts for individual countries. Such a policy would involve the unnecessarily expensive use of a large number of highly qualified experts in different areas. In general, better results are achieved through use of a small team of high-level experts — following a consistent approach and methodology — travelling from one country to another for short-period visits.

This is the basis on which the IMO Technical Advisory Services have been formulated and placed at the disposal of developing countries. Essentially, it is a technical task force deployed by IMO to work in the field at the request of the recipient Governments.

Regional and Inter-regional Advisers
The advisory services consist of regional advisers and inter-regional sectoral advisers/consultants. They are located in the developing regions and their services are available, on request, to countries. The duties of these advisers have been very clearly defined:

Regional Maritime Advisers
Regional Maritime Advisers possess the highest marine qualifications — such as an Extra Master's or an Extra First Class Marine Engineer's Certificate, or other equivalent professional qualifications — and must have held responsible posts both on board ships and ashore.

The duties of Regional Advisers include:
— Visits to maritime countries in the region, with the object of identifying their overall requirements for assistance in the maritime sector.
— Identifying the assistance in the maritime field which more industrialised countries in the region could render to the lesser developed countries. This work would eventually lead to improved technical co-operation among developing countries (TCDC).
— Assisting in the preparation of an integrated regional strategy for the development of maritime transport.
— Giving on-the-spot advice to maritime authorities on questions of a general nature dealing with maritime activities.

Inter-regional Advisers/Consultants: Maritime Safety Administration
Again, officers appointed to these positions hold the highest marine qualifications. In addition, they must have served in senior posts within a national maritime administration and have had previous experience in dealing with maritime safety matters from an administrative angle.

Their duties include:
— Assisting governments in establishing a sound maritime safety organization within the relevant ministerial departments.
— Setting up ship inspection, survey and certification services to conform to the requirements of relevant international Conventions.
— Identifying qualified national staff to undertake technical and administrative duties in maritime matters.
— Organizing regional and inter-regional seminars and training

field

Inter-regional Consultants: Maritime Training

Of the three consultants recruited to these posts, one deals with training of navigating officers, one with training of marine engineers and the third with general aspects of maritime training — with special emphasis on training of port staff in subjects related to dangerous and hazardous cargoes. These officers possess very high marine qualifications in their respective fields, and are required to have adequate practical experience in maritime training at a senior level.

Their duties include:

– Providing technical advice to governments on establishing and improving safety measures in the transport, handling and storage of maritime cargo, including dangerous goods and bulk cargoes of all types, and establishing and improving maritime training in general, submitting practical proposals based on specific investigations and identified needs.

– Participation in the preparation of plans for the organization and modernization of maritime training in accordance with the best international standards, including optimum location of schools, use of facility, type and amount of equipment, qualifications and numbers of teaching staff.

— Assisting the potential staff, if required, in obtaining necessary training.

Inter-regional Advisers/Consultants: Marine Pollution

Officers possess a university degree, or equivalent professional qualifications, in the relevant field of engineering and science. They are also required to have practical experience in prevention and control of marine pollution, including a knowledge of methods used for dealing with oil and other forms of pollution. Additionally, they must have experience of working in a research laboratory dealing with prevention and control of pollution.

Their duties include:

– Providing practical advice to developing countries on technical and scientific activities for prevention, abatement and control of marine pollution, and other problems relating to the protection of the marine environment.

— Preparing practical plans for IMO assistance to developing countries in introducing appropriate measures for preventing and controlling marine pollution, including implementation of the provisions of Conventions and other instruments relating to marine pollution.

— Maintaining close liaison with laboratories and other scientific and engineering institutions, and associated personnel, engaged in research programmes dealing with practical problems of preventing and controlling marine pollution.

Inter-regional Consultants: Technical Port Operations

These officers possess a degree in harbour or civil engineering, or equivalent professional qualifications. Additionally, they have practical experience in dealing with technical port operations.

Their duties include:

— Providing technical advice to governments on the organization and administration of port installations and port operations; submitting practical proposals and identifying aid requirements.

— Establishing port administration offices to control construction, maintenance and utilization of port facilities.

—. Establishing and operating fire fighting and fire prevention services, coastguard functions, pilotage and tug services; radar surveillance; port and shipping information services and navigational aids, and maritime communication systems.

— Organizing regional and inter-regional seminars and training courses on technical and administrative maritime matters.

Inter-regional/Regional Advisers: Maritime Legislation

These officers must possess a high academic degree in law, with special emphasis on maritime law. In addition, they have a sound knowledge of international maritime Conventions, together with previous experience in dealing with national maritime legislation and experience of working in close contact with an international legal organization. Amongst them are officers whose principal languages are English, French, and Spanish, respectively.

Their duties include:

— Drafting legislation to incorporate the requirements of safety Conventions, such as the International Convention for the Safety of Life at Sea, the Load Line Convention, and Marine Pollution Convention, into national rules.

– Preparing model maritime codes on a regional/inter-regional basis, and organizing regional/inter-regional seminars and training courses on maritime legislation.

Available on request . . .

Regional Advisers are available to visit countries on request. Depending on the stage of development of the maritime administration the adviser will be expected either to identify immediate maritime needs and assist governments in achieving desired objectives, or deal with specific requests on concrete problems, as a first step towards obtaining further assistance.

The Regional Advisers' role can be compared to that of a general practitioner; their activities in the different countries within their region depend on the nature of the problem and origin of the request for assistance.

In some cases, Advisers deal with a problem on-the-spot, as a result of a short-term mission. In other instances, specialised advice may be needed, and Inter-regional Advisers, with the relevant specialisation, are called in to take over.

Very often there is a need to design a series of programmes and inputs which go far beyond the capabilities of limited advisory services, and this leads to the development of a project. In these situations the Advisers assist in the preparation of the necessary project documentation, and advise on possible sources of multilateral financing.

The Regional Adviser is also one of the most useful channels for promotion of TCDC activities, through his contacts in the various countries.

The services of Inter-regional Advisers/Consultants are similarly available to governments requiring expert advice on some specialized maritime field such as maritime training, dangerous goods etc. The Inter-regional Advisers/Consultants have visited several countries during 1980-81 and a resumé of their activities and recommendations made to the governments appears on page ix.

Basically, IMO's Technical Advisory Services is oriented towards assisting developing countries in implementing the developmental policies embodied in the resolutions and declarations adopted by United Nations intergovernmental bodies and international conferences. It also provides training and support in the highly specialized area of shipping, and promotes an exchange of knowledge and experience among developing countries at sub-regional and inter-regional levels.

IMO Technical Advisory Services are financed by the United Nations Development Programme (UNDP) and other aid bodies — the use of these services does not entail any expenditure upon recipient governments. Therefore, governments are invited to take note of the assistance available through IMO Technical Advisory Services and are requested to make full use of them.

The IMO experts

In most cases, IMO projects are carried out under the guidance of experts especially recruited by the Organization. After a preliminary evaluation of the project has been carried out, IMO is normally asked to recruit an expert to implement the project.

The Organization has built up a roster of 500-600 names of experts in various fields but vacancies are also normally circulated to Member Governments. A short list is then compiled and submitted to the Government for whom the project is being carried out. The Government makes the final choice.

The experts come from many countries and disciplines, and the work they undertake is equally varied. Sometimes the project will consits of a mission lasting a few weeks, followed by a detailed report. Frequently it will mean the expert taking up residence in the country concerned for a period of several years. But either way IMO can virtually guarantee to find the right person for the particular job.

Equipment

Many projects involve purchasing special equipment, such as radar simulators, towing tank equipment, language laboratories and navi-

gational aids, which are not obtainable in the country where the project is being carried out.

IMO provides assistance in this area, by collecting and disseminating information on the equipment available and also by assisting in the actual purchase.

To ensure that purchases are made in the most efficient and economical manner, and with complete impartiality, all major contracts are screened by a special Contracts Committee which advises the Secretary-General.

Fellowships

During the period January 1982 to August 1983, a total of 129 fellowships were under implementation. Of this number 97 awards were completed and 32 Fellows were still in place. Nationals from 32 countries took part in IMO's fellowship programme, including candidates from Algeria, Bangladesh, Benin, Brazil, Cape Verde, Chile, China, Cyprus, Democratic Yemen, Egypt, Ethiopia, Guinea, India, Indonesia, Ivory Coast, Jamaica, Malawi, Malaysia, Maldives, Malta, Mexico, Morocco, Namibia, Philippines, Republic of Korea, Sierra Leone, Singapore, Thailand, Tunisia, United Republic of Tanzania, Vanuatu and Yugoslavia. In addition, 27 candidatures were under review for placement.

Fields of study included cargo handling, seagoing certificates of competency, computer operations/maintenance, firefighting, electronics, marine survey and inspection, maritime administration, maritime equipment, marine engineering, application of modern techniques in maritime teaching, navigation, naval architecture, oil pollution (control and prevention), pilotage, port operations, radar simulator training, sea-keeping operations, ship repair, ship survey methods and hydrographic survey training.

Training was provided in 18 countries, which included Australia, Belgium, Canada, Denmark, Egypt, Federal Republic of Germany, Fiji, France, India, Ivory Coast, Japan, Kenya, Netherlands, Norway, Singapore, St. Lucia, Sweden,. United Kingdom and United States.

In addition to UNDP-sponsored awards, offers of fellowships and/or training facilities were received from Belgium, Brazil, Greece, Italy, Mexico, Norway, Singapore, Sweden and the USSR.