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The human aspect of shipping: the present status and future trends of maritime labour

Samson Shiferaw

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THE HUMAN ASPECT OF SHIPPING:
THE PRESENT STATUS AND FUTURE
TRENDS OF MARITIME LABOUR

SAMSON SHIFERAW
GMA '86 ETHIOPIA
THE HUMAN ASPECT OF SHIPPING:
THE PRESENT STATUS AND FUTURE TRENDS OF MARITIME LABOUR

by

SAMSON SHIFERAW
ETHIOPIA

A paper submitted to the World Maritime University in
a partial satisfaction of the requirements for the award
of a

MASTER OF SCIENCE DEGREE

in

GENERAL MARITIME ADMINISTRATION

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

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# The Human Aspect of Shipping:
The Present Status and Future Trends of Maritime Labour

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I. INTRODUCTION:

This paper attempts to examine shipping from a different perspective than the ones which one most probably has been seen in most other papers. It signifies the importance of human labour in shipping as in all other fields of present day business industries. It intends to get into the "pros" and "cons" of regulation versus non-regulation and their impact on the general operation of ships in relation to its labour conditions. The various efforts that have been made to standardise the international maritime situation in the fields of Management, Administration, Labour Economics, Labour Union, Maritime Law and Policies and advance in technology and their impact on social conditions would be main areas of this discussion. An important point worth mentioning is that although maritime labour in general, may include ship-building labour, stevedoring, port labour (dockers) and/or fishermen this paper emphasizes particularly on matters relating to seafarers; especially sea going ship personnel only.

The glory of the past, the rapidly changing present day technological advancement and the undefined future with a high probability of phasing-out of the seafaring profession will be discussed in detail taking into consideration and paying special attention as to the present status of ship-operation in relation to the shipping policies exercised by state administration and governments on areas of:

- Registration of ships and their impact on labour.
- Port-state control vis-a-vis flag state control.
- Labour unions role.
- Manning of vessels.
- Training and certification of seafarers; and
Shipping as a phase of production, is indispensable to economic progress and military strength which is confined to government policies. This being the main vehicle of international trade is a major economic tool playing a significant role regarding the balance of payments of a country. Sir Walter Raleigh in History of the World, 1616, has clearly shown the importance of shipping in this famous excerpt;

"Whosoever commands the sea commands trade; whosoever commands the trade of the world commands the riches of the World, and consequently the world itself." (1)

The safe administration and management of shipping companies, be it governmental or private, is a major concern of governments to maintain this balance. The micro-policies of these lines which might be different depending upon the areas of the trade they are engaged in should be regulated to have conformity with the macro-policies of the State and the National interest.

Safety is the object of any good administrative function which shipowners, ship-operators, governments and the world community as a whole take great interest in. The safety of vessels, crew, as well as the marine environment is the concern of governments and international organizations in which certain requirements have been set up to be met where shipowners sometimes find it difficult to implement for economic reasons. This has to a certain extent created disparities and new interests in the registration of ships under foreign flags which has created areas of discussion in the International fora. The need for transporting goods and experiences from one corner of the world to the other covering wider areas of state administrations with different political, economic and jurisdictional rights calls
forth for international cooperation and the set-up of reasonable working conditions despite the differences creating new frontiers of International Law in the maritime field.

The International Maritime Organization (IMO) as the name implies takes the lead role in working together with United Nations Organizations and other governmental bodies in order to set-up a reasonable working condition at the International level. With its motto "Safe Ships & Clean Oceans" IMO has passed several recommendations and conventions in the administrative as well as in the constructional safety measures to fulfill its objectives. Those international United Nations Organizations and other organs with which IMO closely works in the maritime field are the International Labour Organization (I.L.O.), United Nations Conference on Trade and Development (U.N.C.T.A.D.), World Health Organization (W.H.O.), International Transport Workers Federation (I.T.F.), Organization for Economic Cooperation and Development (O.E.C.D.), and Seamen's Church Institute.-Center for Seafarer's Rights contribute a lot for the development of this international cooperation. These international organizations and agencies are seeking ways and means to set-up favourable working conditions taking into account the capital intensive nature of ship-operation and the need for safety precautions.

Shipping is a capital intensive, highly competitive business operating in the international market requiring efficiency and adjustment. The three important and determinant key factors in considering ship-operation and its human aspects are:

i. The capital intensive nature of shipping,

ii. The highly competitive environment, and
iii. The continuously changing characteristic due to the requirements of trade.

Shipping is a capital intensive business which requires high capital and efficient management. Apart from the high investment made in the purchase of ships and administrative costs which are fixed; considerable attention should be given to the running or operation cost which is the only area of possible cost-reduction in the daily operation of the ship. The running or operating costs consist of labour (major cost), administrative, insurance, social welfare, travel, etc.... It is in these areas the shipowner tries to reduce his costs in order to remain competitive in the shipping market. If he does not remain competitive, the market forces would drive him out of the business, it is for this reason including his main profit motive that he seeks other means of staying in the business. The major cost area of operation being labour costs, the shipowner tries to get cheap labour through open-registries or by utilizing advanced technology ships with reduced manning. The purchase of advanced technology ships requiring high investment and more specialized personnel have not helped much in cost reduction since the training and wage costs are high, in addition to creating more labour conflicts. Shipowners prefer advanced technology outcomes such as high automation and use of robots which are being highly fought by labour unions and has become the concern of governments, unless otherwise sometimes subsidized by the same; since they contribute highly to permanent unemployment which is contrary to government interests of full employment, and idle payments which are curse to society.

As far as the continuously changing characteristic of shipping is concerned due to its being the servant of trade, i.e. the change in the kind of goods to be transported influencing the kind of ships to be built leading to
technological advancement and low costs and even changing the structure of Shipping Companies from a crew of thousands and a supreme master with all decision making power to a staff of eight with nominal master who gets almost all orders from the mother company miles away because of efficient communication system of present day technology and finally the future looking to the use of robotics and satellite controlled, unmanned ships which are on the process of taking over.

The major advances in technology and particularly the computerization process have brought with them the reduction of the probability of human errors in ship operation thereby increasing the safety of ships, crew, maritime property and the environment. The side effects of this technological advancement are increasing as well in social consequences such as unemployment and labour (man) losing his sovereignty to automation despite his intrinsic nature for work. Ultimately this will lead to a social welfare or Social Security System which becomes an end in itself, where payments are made for idleness in lieu of payments for productive work. The problem does not rest only on the unemployed but on the nearby relatives and the youth who are vigilantly watching and are worried about their future. This contributing to the development of distortion in the attitudes and character of some members of the society which has been witnessed in the past two decades as social revolts or social drop-outs, defined in some cases as hippies, punks, weiros, etc....

The issue of unemployment as a result of technological advance always remains a matter to be left to state decisions and a great labour problem discussed without solution. The question of the right to work (with dignity), a basic human right as the Universal Declaration of Human Right proclaims leads to the eternal and perennial question "Was man created to work or work created man" which are main social, economic and
political issues and basis of the two main ideologies, idealist or materialistic views.

The idea of labour being intrinsically related to capital, labour productivity and labour values are subjects discussed to present day by socioeconomic and political thinkers and scholars like Adam Smith, David Ricardo, Karl Marx, Alvin Toffler, Daniel Bell and John Nasbitt, etc... The subject of labour was well said by president Abraham Lincoln's annual message to congress, December 3, 1861, which states:

"Labor is prior to, and independent of, capital. Capital is only the fruit of labor, and could never have existed if labor has not first existed. Labor is the superior of capital, and deserves much the higher consideration. Capital has its rights, which are worthy of protection of any other rights." (2)

The search for technology should be carefully weighed against the asocial consequences and its utilization should be adapted and not adopted depending on their effect on mankind. Solutions should be sought for not just to be expected until they ruin the social aspect of human life. These basic problems cannot be left to find solutions in and of themselves. These problems must be the concern of the world community and world governments where all aspects could be considered and agreement reached as the "Plimsoll Line" * agreement in the Loadline Convention was reached despite the many confrontation faced for International Safety purpose.

* The "Plimsoll Line" (mark) is the line or mark on a ship indicating the maximum depth to which level the ship should be safely loaded. Anything loaded above that level increases the probability of misfortune.
In finalizing the subject lets refer to a scholastic work, the Ascent of Man, by a prominent scholar, J. Bronowski who in his concluding works has stated;

"We are all afraid - for our confidence, for the future, for the World. That is the nature of the human imagination. Yet every man, every civilization, has gone forward because of its engagement with what it has set itself to do. The personal commitment of a man to his skill, the intellectual commitment and the emotional commitment working together as one, has made the Ascent of Man." (3)

What plans for the future? The future of the future! Will the future provide new areas of job opportunities or would the technological development continue to displace mankind? Let us be optimistic about the future like the Law of the Sea Convention with its profound ideas and modern philosophical outlook, "the common property of mankind, the common heritage principle" which seems to be the only way out in the computer age and even extending to the space age achievements. The World becoming small, the universe reachable, the other frontier left to be conquered would be the "human consciousness" to accept to work for the common benefit of mankind, a unified world at least in principle! The need for international cooperation and the working together of mankind for a common goal seems inevitable.

The individual as the core of the society and/or, the society "working together" as an international community is needed to fulfill the objective of mankind.

***
1.1 Historical Background:

When one begins to think about shipping in general, three things which most probably come in mind would be:-

- The oceans - the foreground,
- The vessels - the equipment used, and
- Men (the seafarer) - the element running it.

Although this paper would continue to emphasize on the last part let us start with the foreground. Three quarters of our planet is covered with water. If ancient man had known this he would have called our planet "Ocean" and not earth (4). The area covered by water is amazingly large. A renowned name in the maritime field, E. Gold puts it "The very vastness of the oceans is astounding. It is possible to be on a ship over 1,500 miles from the nearest land and at one point in midocean, to be over 3,500 miles from the nearest continent. The seas themselves contain 330 million cubic miles of water - 80 times as much as all land above sea level. Land's tallest peak, Mount Everest at 29,000 feet, could be sunk without trace in the sea's deepest depth, the Mariana Trench at 36,000 feet. Moreover, if all irregularities on the surface of the earth, both above and below sea level, were to be smoothed out, no land would show at all and the seas would cover the entire globe to a depth of 12,000 feet." (5)

The immense area was tried to be influenced from the first man on a piece of log to present day technologically advanced ships with specialized equipments and personnel venturing for a successful operation. When one goes back in the history of maritime activities the efforts of zealous seafarers who dared their lives against the merciless sea which did not tame easily but through centuries of hard trails and loss of many lives shines greatly in the establishment of shipping.

From the assumption that man most probably has evolved from the sea to the various needs attached to why man went to sea, hunting, fishing, transport purpose, fight enemies, better life, curiosity, etc.
Seafaring has been found to be one of the oldest profession which probably pre-dates all other forms of labour which has contributed a great deal in the making of modern history by transporting both knowledge and experience from one part of the world to the other developing trade both in times of war and peace.

The earliest development in unrecorded history seems that trade has developed between the Indus people and the Sumerians, in India and Babylon, in the late 2000-3000 B.C. Recorded history begins with the Egyptians who are said to have invented the sailing ship about 8,000 years ago. (6) The Egyptians have developed shipping on a wider basis and became commercial leaders of the Mediterranean during this period until succeeded by the Phonecians. The Rhodians were also important power at the same time and close allies of the Romans. The Egyptians, Phonecians, Judeans, Greeks, Persians, Etruscans, Rhodians, Romans and finally the Arabs had played significant roles in the development of shipping from the second to the eleventh centuries in the Mediterranean Sea area.

Norway was also a sea power in the North during this period:

"In the long historical perspective the tradition of seafaring begins in Viking times with the great journeys of the saga heroes to Iceland, Greenland, and Vinland (America). The Norsemen in their long ships were familiar with all the coasts of Europe from Scotland to the Holyland. They set out not merely as raiders, but also as traders offering fish and furs for sale. From the eleventh to the twelfth century Norway was a thriving sea power in the North." (7)

Italy, Germany and the Netherlands were very important powers during the first crusade from the eleventh to the fourteenth century until the Portuguese, Dutch and Spanish began to be dominant in the fifteenth and sixteenth centuries. The British emerge as sea power at the end of the seventeenth century and eighteenth century Europe was dominated by the British and Dutch. (8)
With the development of trade and commercial transactions in the area, it was necessary to develop certain working conditions for the safety of vessels, the people running them and the goods to be transported. Certain laws were passed in the seventh and eighth centuries which came to be known as the Rhodian Sea Law. The Romans copied their Maritime Laws from this as they were close allies. The next widely accepted body of sea laws was the "Consolat de Mar" or "Consulate of the Sea" which was originally compiled in Barcelona in the 13th century. Another important development of Maritime Law beyond the Mediterranean was the "Rolls of Oleron" dating from the twelfth century became the nucleus of the maritime laws of Continental Europe. The rules were closely followed in the Laws of Wisby Headquarters of the Hanseatic League until 1361. In Continental Europe, loss of uniformity in the Maritime Law began with the late Renaissance and accelerated with the use of nationalism in the seventeenth century where national laws began to develop, in Sweden 1667, France 1681 and Denmark 1683. France further developed the Ordinances together with its commercial laws as the Code de Commerce. The 17th century was the beginning of a new power over the sea, the British Merchant ships with well established navy began to emerge with Admiralty Courts.

The purpose of mentioning these laws is to see the working conditions of the seafarers during this period. From this laws we can learn that the so called "new" concept of ship-board management is not a new development because the master was not allowed to perform any function without advising his crew. The Laws of Oleron, 1300 A.D., "Art. II requires the participation of the crew in decision making which raises both his sense of responsibility and loyalty and thus accordingly improving their productivity." The right of the crew to participate in decision making brings about the duty of sharing the liability in case any risk arises. Hence, according to the Laws of Oleron when the ship is working in port the crew may not leave without the Master's consent but if she is moored and the crew determines that all's well, some may leave without his consent. In ancient Maritime Laws the crew seem to work together with the Master due to lack of easy communication with shipowners as well as with the cargo owners so sharing both responsibility and liabilities.
The Hanseatic League, a federation of 81 communities on the Baltic and North Seas, promulgated in Lubeck in 1597, the Laws of the Hanse Towns which also refer to the "consent of the crew". "It also states in its 'Art. XII', to contradict the master is punishable by fine, and the master has the right to strike the mariner and only with his fist or open hand, and if the master strikes him more than one blow, the mariner may defend himself." If we compare these laws with the ones which followed later the seafarers were really well protected by these laws.

The "Consulado del Mar" Barcelona, 1494 another set of laws stating the rights of the crew and the master in chapter 16 states "The mariner is obliged to obey the master, and if the master is enraged at him, the mariner should keep out of his sight, or hide in the prow of the ship. If the master follows him, he should fly to some other space from him, and if he still follows him, then the mariner may stand upon his defence, demanding witnesses how he was pursued by the master; for the master ought not to pass into the prow after him." (10)

The ancient laws provided adequate working conditions although things were not the same as in the papers. Labour law standards have been identified as far back as the Laws of Hammurabi (Babylon), rules of labour management relations in the Laws of Manu (India) and Latin American authors point to the Laws of the Indies of the Conquistadors. In old Nordic Laws traces of labour legislation and even maritime labour legislations were found. "In the Law of King Mangus, the Law-Mender 12th century, declares that as labourers were very difficult to obtain because everybody wanted to go to the market town to do trading, it was prohibited for persons with less than a certain amount of property to join ships to go trading. The prohibition was in force only in the season when land owners needed the labour force most, between Easter and Michaelmas, that means the end of September." (11) These are signs of social development with the increase of trade and social interactions the need for labour force began to appear.

As stated a little earlier, the development of national laws during
the Renaissance and the rise of nationalism that followed has brought different systems of labour conditions and some separating labour from their Maritime Laws and some adjoining their Maritime Code to their commercial codes which led to an era of irregular labour administrations and the earliest development of seafarers' rights were almost totally abolished. A good example could be "The Nadir in 1947 when a supreme court decision said that the 13th Amendment abolishing slavery did not apply to seamen" (12) in the United States. It could be further said that living standards, medication, sanitary conditions and life expectancy were extremely low for there were no governing laws or standard working conditions on board ships. The ships were run exclusively for commercial purposes with strenuous hard labour of the seafarers. Due to these inhuman conditions the ships were sometimes called "Coffin Ships", "Black Ships" and "Slave Ships". Although worse conditions existed under other flags, the British certainly did not lead the world in this respect. Apart from the low wages and appalling living conditions the death rate of British seamen was exceedingly high until well into the 20th century. (13) The present day labour law as it is known is essentially the child of successive industrial revolutions from the 18th century onwards. (14)

Seafarers were and are always reserve armies for the ship as well as for national defence in case of war. The strength and power of any state could be measured by its naval supremacy, i.e. the size of its fleet and its ability to man it efficiently. This could be witnessed by the naval supremacy of the United Kingdom during the 18th and 19th centuries. The ancient seafarers recruitment was for the strong, able bodied who can face hunger or any confrontation in the difficult times, that can await from the so called "Acts of God" to interference from individuals, groups or even governments. Acts of piracy have started as early as 400 BC, during the Phonecians, Rodians and Greek maritime supremacy. Rhodes had developed certain laws which were accepted by the Greeks who later went to war to suppress piracy as well as eliminating any interference with the navigational rights and freedom of the Rhodian vessels and having control over its adjacent writers thus establishing fairly the beginning of the idea of "Freedom of the Seas". (15)
dangers of piracy has been a big problem during the beginning of the 17th century, "In the period between 1609 and 1616 Turkish pirates operating out of Algiers seized a total of 466 merchant vessels in the Mediterranean with about 1000 seamen on board. These were losses comparable to the heavy convoy losses of the two world wars." (16)

History has shown us that the first development of merchant fleets and trade relations with other lands led to the seizure of the area for economic dominance which led to wars and loss of many lives for no one is willing to leave his place for free but through naval dominance of the region by the other. "The earliest colonies emerged in the Mediterranean area as early as 900 B.C. as soon as the Phoenicians took prominence from the Egyptians and colonized Cyprus with which they had previous trading relations. They settled in Spain in 700 B.C., founded Carthage in North Africa and made trading colony down the Atlantic Coast of Morocco..." (17)

Seafarers were reserve armies in every attempt made to occupy an area apart from the preparation to counterface the continual hazard from pirates during the period. Maritime powers have lost many of their seafarers in the search for dominance of certain areas as well as international trade. If we look at the maritime history of the world from 17th to 20th century we can witness that the Dutch at the height of its power had ousted the Spanish and the Portuguese almost everywhere (1625-1649). The English merchants complained the Dutch dominated their trade which resulted in three bloody wars, 1652-74 under Cromwell, 2nd Anglo-Dutch War 1665-67 and 3rd 1672-78, where the Dutch were forced to fight on land opposed by France as well which was the end of the Dutch as a Maritime power but thorough loss of many lives on both sides. The British supremacy began. (18)

If we go back to recent past history we can witness how the British Empire at the height of its military supremacy colonized almost half of the World as well as its trade. "But by the end of the Napoleonic Wars in 1815, although England had lost the thirteen American colonies, its overseas holdings had increased to include Canada and Jamaica in the
in the Americas, Gibraltar, Minorca and Malta in the Mediterranean, the Cape colony in Africa; and all of India, Australia and New Zealand. This considerable expansion was purely the result of sea power in its widest sense. Between 1686 and 1788, English owned shipping increased from 340,000 tons to 1,055,000 tons, a direct reflection of new far-flung trade routes and colonial interests." (19) The colonies began to supply an important factor of productive labour. This enhanced slavery which added to the economy and military might of the British which enabled them to have control over international trade. The colonies supplied cheap and able bodied seamen for the sailing ships and later for steamships which were run by coal and strenuous hard work. Cheap labour for the colonial farms have helped a lot in the accumulation of capital in the mother countries. This has been clearly analyzed by R.O. Goss as:

"... the theory of international trade as I have outlined it is that factors of production are in fact internationally mobile. It is not merely that such industrial outputs as finished goods and services are traded internationally; the inputs are traded as well. This has been true of labour ever since the 15th century development of oceanic sailing vessels enabled the Portuguese, the Spanish, the Dutch and the British to explore new lands..... The point of this is that the ships did not simply provide the means of international trade; they also transported people to work, to govern and to provide new ideas. Nowhere is this seen more clearly than in the ultimate consequences of the 18th century triangular trade, in which European ships—many of them British—carried simple, attractive manufactured goods outwards to West Africa, then slaves across the 'middle passage' to such Caribbean Islands as Jamaica, Hispaniola and Cuba and, finally sugar back to Europe..., and for my own country, it led to profits large enough to finance much of the world's first sustained industrial revolution." (20)

This was a period of exploitation for seafarers since there were no protective laws regarding the working conditions, living conditions, and payments as well. There was segregation of colour in the kind of work provided. On the other hand shipping business and commerce and 18th
century Europe grew increasingly prosperous with high profits. The British monopolistic shipping expanded with large national trading companies such as the East and West Indies Co's, having exclusive rights with far off continents with total mastery of the seas. "Shipping business and commerce with the East Indies were at their peak during the second half of the eighteenth century the Dutch and British East Indiamen could make profits up to 350 percent on a voyage which lasted two years." (21) "The Ship 'Mount Vernon' of Salem, U.S.A., earned $100,000 on a single round trip to China in 1799. Another American vessel made a 700 percent profit on a return voyage from Sumatra with a cargo of pepper." (22).

The 19th century phased out British Monopolistic Shipping with the emergence of new shipping nations and especially; the challenge by the United States to the British dominance by introducing new technological advance in ships and the notion of free trade. With the repeal of the navigation act in 1849 and the principle of freedom of the seas, the Norwegians came into seen as power through their excellent seamanship and purchase of second hand vessels which were made available through new innovations in shipping. "Norwegians entered the timber trade from Canada and the White Sea to England. They sailed the Great Lakes. Their ships carried more and more British coal and American grain. Norwegian tonnage was multiplied by five in the thirty years to 1880. Crews increased from nineteen thousand to sixty thousand men, and capital accumulated." (23)

New shipping regulations developed with the repeal of the Navigation Act in Britain and the joining of new nations in the maritime transport and trade. "An act for improving the conditions of Masters, mates and seamen and maintaining discipline in the merchant service. Among other things established may be described as a National Maritime Board in Britain, while the keeping of a log book was made compulsory and certificates of competency were introduced for masters and senior officers... Samuel Plimsoll in 1871 presented his first proposal regarding the safety, seaworthiness and maximum loading of vessels." (24)

The beginning of the 20th century shipping developed more but changed
in character. Trading companies were replaced by limited liability companies, charter tramp companies and partnership began to develop. "In Norway, it was common at the beginning of the 20th century to form limited liability companies but this was done, so to speak, in the spirit of the shipping partnership." (25) The management of this shipping as well changed. "Before the advent of the telegraph the master was the actual commercial manager of the enterprise and the man who 'next to God ruled the ship'. According to the law and as the commercial manager in charge of the vessel the master occupied an extremely powerful position and he was paid accordingly...... The shipowners of the new area assumed many of the master's responsibilities and were able to do so because the telegraph had substantially improved the possibilities of communication. The business of the vessel could be conducted from the office ashore and the master's commercial duties were restricted to ensuring that the vessel was operated at the lowest possible cost and the greatest efficiency. The transoceanic telegraph calles reduced the master's right of decision and turned London into the natural shipbroking centre of the world." (26)

It was period of rapid change and wireless telegraphy was introduced shortly before the First World War. The First World War had a major impact on future developments of the world politically as well as technically. Shipowners lived in a time of continuous, rapid and revolutionising technological and commercial innovations. The First and Second World Wars were a great loss in maritime property as well as in human lives. Let us see what happened in three significant maritime countries of the time: Norway, United States, and United Kingdom. "In the First World War, Norway, although neutral lost one half of her fleet and over two thousand one hundred seamen. Once again Norway lost half of her ships and nearly four thousand seamen lost their lives. Norway emerged from the Second World War with a worn and battered fleet and battle-weary crews." (27)

The Americans were not very much involved in the First World War and had few vessels but during the Second World War, a war to end a war; "But the
price was 7579 American seamen's lives and 733 American ships" (28) were lost.

The British also lost a considerable amount in property as well as lives in both World Wars. In the First World War, 1914-18, 12,000 seamen and in Second World War, 1939-45, 24,000 seamen, a total of 36,000 seamen were lost in this two wars together with half of its fleet. The name of the seamen and the ships that were involved are well written in a big par' wall in London, Ten Trinity Square in the park built in their rememberance is encraved:

"In the memorial towers built with names of ships and seafarers involved, whose names are honoured on the Walls of the Garden. Gave their lives for their country and have no grave but the sea."

The capture usually meant the loss of ship and goods for the owners and death or slavery for those who had misfortune to be captured due to no existing or binding international legal system. It was a sign of the world's greater sophistication in trade, as well as war that this part of the law of the sea would become more developed reaching its climax by World War I and soon decline during the 'all out war' aspect of World War II, during which the bearest principles laid down earlier were observed. (29)

In recent history, Sunday 4 April - June 1982, the "Operation Corporate"-the Falkland Islands invasion by Argentina and the British response with 50 merchant ships and crew (all British) other than the navy (army); where "merchant ships eventually outnumbered warships" is one which we cannot pass without mentioning when talking about seafarers involvement in wartime. (30)

After World War II allies were very anxious to protect thier market interest. The
International Labour Organization was established in 1919 by the treaty of Versailles Peace Conference just at the end of World War I. The 1940's demanded for free enterprise which lead to the need of international cooperation to help war torn Europe by United States, the Marshall Aid and working together of the World Community. In 1948, IMCO, the Intergovernmental Maritime Consultative Organization was drafted to regulate questions of International Maritime Safety and came into force on 1958 and changed its name recently in 1982 to IMO (International Maritime Organization) with more responsibilities. The OEEC (Organization of European Economic Commission) co-ordinated the Marshall Aid but essentially assumed quite different tasks with a sub-committee, (MTC) Maritime Transport Committee. The League of Nations was transformed into the United Nations (UN). International Monetary Fund (IMF) and General Agreement on Traffic and Trade (GATT), developed. With establishment of this international organizations present day modern history of maritime activities began. (31)
1.2 Definitions:

The need to define terms arises from the need to avoid in many instances words that give rise to misunderstanding and misinterpretation. The vast coverage of shipping activities, in the various fields of ship-operation, under different working conditions and due to its changing conditions create misunderstanding as to the real meaning of the word in various areas. If we take as an example the word "seamen" could take various trends in different countries working areas and may include dockers, ship-building labour, fishermen, off-shore drilling labourers according to the national law of the country. This same word is in debate in the US if according to the Jones Act does include off-shore drilling labour (32) while in Norway the Seamen's Act declares that they are seamen. (33) These different conceptions in different countries create misunderstanding or misinterpretation of the word "seamen" (UK) (34) and may include sailors and mariners. These people who are involved in some kind of work on or near the sea argue to get the title "seamen" not because they like the term but to get the different advantages attached to it. If we take another example the need to define the term "labour" arises from the problem that many people consider only manual labour or hard work as labour but not intellectual work. For this purpose, it is necessary to define some of the words to avoid confusion and to give some a limited meaning and scope in this paper. This paper as well prefers (UN) International Organizations definitions as far as possible:

1.2.1 Labour:

Physical or mental exertion, esp. in obtaining the means of subsistence, the performance of work, toil; work to be done, a task, esp. a task requiring great effort; travail. (35)

1.2.2 Labour Economics:

Is the study of the labour as an element in the process of production. The labour force compromises all those who work for
gain, whether as employees, employers, or as self-employed, and it includes the unemployed who are seeking jobs. It involves the study of the factors affecting the efficiency of these workers, their deployment between different industries and occupations and the determination of their pay. (36)

1.2.3 Labour Law:

Is the term used to describe the varied body of law applied to such matters as employment, remuneration, conditions of work, trade unions and labour management relations. In its most comprehensive sense it also includes old age and disability insurance.... In addition to the individual contractual relationships that are growing out of the traditional employment situation, it deals with the statutory requirements and collective contractual relationship that are increasingly important in mass production societies, the legal relationships between organized economic interests and the state, and the various rights and obligations related to some type of social services. (37)

1.2.4 Productivity (Labour):

The amount of production in relation to the labour employed. Efforts are constantly being made to increase the productivity of labour by increasing its efficiency through education and training, by improving capital and better organization. (38)

1.2.5 Seafarer:

Art. 1/a - the term "seafarer" includes every person employed on board or in the service of any sea-going vessel, other than a ship of war, which is registered in a territory for which this convention is in force. (39)
1.2.6 **Seamen:**

**Act. 2/b** - the term "seamen" includes every person employed or engaged in any capacity on board any vessel and entered the ships articles. It excludes masters, pilots and pupils on training ships and duly indentured apprentices, naval ratings, and other persons in the permanent service of a government. (40)

1.2.7 **Automation:**

... installing equipment designed to improve the performance of their ships, to reduce costs and in particular, to reduce the size of the crew that is carried. A considerable literature has grown up about the technical, operational and safety aspects of this, which, whether it involves feedback processes or not, is generally referred to in the shipping world as automation. (41)

The definitions given here would be the direct meaning of the words whenever they appear in the text and no further explanation would be needed. Whenever necessary cross-reference would be made to avoid repetition or explanation. The need for defining these words as stated earlier would be to avoid traditional, cultural, regional or workplace meaning that arise through everyday usage and to give generally agreed terms of worldwide usage.
Footnotes to Chapter I:


05. IBID.


15. E. Gold, ID. pp. 6-8.


17. E. Gold, ID. p. 3.

18. TBID, pp. 49-50.

19. ID, p. 72.


22. ID. 19.


25. ID. p. 64.

26. ID. p. 69.


29. E. Gold, ID. pp. 55-56.


37. IBID. p. 570.


40. ID. pp. 21-22.

CHAPTER II

SHIPPING POLICY AND MARITIME LABOUR
Shipping is a major factor of economic life of a country. The policy to govern this industry should be given considerable attention because of its wider coverage of international relations in the various fields of International Law - private or public. This policy as part of the transport policy has great significance in the economic activities i.e. "balance of trade" and "balance of payments" of a country. In a narrower sense, "shipping policy may be defined as a totality of economic, legal and administrative measures by means of which the state influences the position of its national fleet in the national economy and in the international freight market" (1). In a broader sense, it relates to the military, financial and maritime policies of a nation since ship overseas operation cover various activities in the national or foreign waters of the world which are being negotiated internationally with further understanding of their content and advance in technology.

The shipping policy and/or maritime policy of a nation which are somehow regulated by the maritime legislation of the state through procedural application in the maritime administrative authorities as part of the legal norms covering the complex maritime activities such as:

1. The Maritime Code or Merchant Shipping Act which governs the legal relationship incident to maritime shipping mainly the private law relationships of commercial maritime shipping and public law relationships of certain administrative matters concerning sea going vessels, i.e., nationality, registration of ships, measurement, safety of navigation, documents, etc. as well as conflict of law issues.

2. The use of the sea for the purpose of exploitation of the national resources of the marine space and the construction of various man-made devices which are deprived of the basic features of a sea-going vessel (floating automatic data collecting stations, air cushion vehicles, drilling platforms, underwater constructions and tanks, etc.) are new areas seeking adequate legal regulations.
3. The regulation of maritime labour on sea-going vessels on foreign or national lines including all fishing vessels are also areas of concern which may or may not be included in codes.

4. The Sphere of the Maritime Administrative Law, a very extensive regulation is mainly outside the Maritime Code; to name some:

- Provisions on maritime administration authorities.
- Provisions defining requirements for performance of navigation.
- Provisions on sea fisheries and on conservation of the living resources of the sea.
- Provisions on the protection of marine environment.
- Provisions on port development.

5. The reception of internationally agreed solutions as contained in international conventions which are more uniform on world-wide scale and their application to their national laws as pursued by UN organs such as IMO, ILO, UNCTAD, UNICTRAL, which are based on the principle of peaceful co-existence and cooperation include conventions in the following fields:

- Private (substantive) Maritime Law
- Maritime Labour Law
- Maritime Administrative Law
- Vessel and Safety of Navigation
- Protection of the Marine Environment
- Miscellaneous
Law of the Sea

Fisheries & conservation of the living resources of the sea.

International Maritime Organizations (2)

The very wide areas of activities entangled in maritime sectors should be covered in the maritime legislations or policies to avoid loop-holes and inconsistencies in the legal system or in the maritime administrative law system of the country. The maritime law should be distinctly shown from the shipping law, and should cover other areas of law advancement in the maritime field which arise from international co-operation in the standard setting process in the international forum. The maritime operational areas being areas of common interest, countries should be flexible enough to accept cooperative measures to pursue their ends and for international safety purpose.

The maritime or/and shipping policies of state administrations should look as well to the safety and working conditions of the seafarers involved in this area since it is a risk inherent occupation and sometimes further away from the areas where they could enforce some of their limited rights. Apart from the violence of the sea to the unsafe vessels operated due to lack of control which take many lives, ships and seafarers are auxiliary military reserve which should be protected not only seeing the commercial benefits expected but considering the humanitarian aspects as well, which is always well said than done. The US Merchant Marine Act 1936, Section 101 will be a good example as to the content and coverage of a policy declaration:-
Title I - Declaration of Policy

Section 101:

It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine;

a. Sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of such domestic and foreign water-borne commerce at all times.

b. Capable of serving as a naval and military auxiliares in time of war or national emergency.

c. Owned and operated under the United States flag by citizens of the United States in so far as may be practicable.

d. Composed of the best-equipped, safest, and most suitable types of vessels, constructed in the United States and manned with a trained and efficient citizen personnel, and,

e. Supplemented by efficient facilities for shipbuilding and ship repair. It is hereby declared to be the policy of the United States to foster the development and encourage the maintenance of such a merchant marine. (3)

One can see from this policy how far the seafarers' are important to the national economy and defence matters. The Registration of ships - a significant factor in ship operation - and their effect on the labour conditions because of open registries, lack of control, the duties of the flag states and port state controls to lessen this problem would be areas of further discussions.
2.1 The Registration of Ships and Labour:

The registration of ships on the national register gives the right to fly the flag of a state giving both nationality and right of ownership and mortgages as proof of title to the ship thus creating a legal bond between the ship and the flag state. The requirements for registration and the formalities to be fulfilled are usually prescribed in the Maritime Code of Merchant Shipping Act or Merchant Shipping Law of the state. Subsidiary legislations and procedural requirements to be fulfilled are done by the maritime administrative bodies and a certificate of registry is issued. Transfer of ownership should follow the same procedure. Other related matters such as change of ownership, mortgages, change of master, new certificates, custody and use of certificate should be fulfilled according to subsidiary legislations. These requirements which are contained in the maritime laws of the state and the procedures to be followed should be ensured by the state in the fulfillment of its treaty obligations under International Law. The principle of the exclusive jurisdiction of the flag state over ships on the high seas should have a nationality, and in order to give it nationality it should be registered in a nation state. The principles of International Law which are relevant to the question of registration of ships are contained in:

- Conference on the law of the sea, 29 April 1958, Art. 4, 5 and 10. *


The International treaty agreements reached in 1982, Articles 91 to 94, which should be given due consideration are stated here below:

* See pages 51 - 52
** See Annex I
Article 91

Nationality of Ships

1. Every state shall fix the conditions for the grant of its nationality to ships, for the Registration of ships in its territory, and for the right to fly its flag. Ships have the nationality of the state whose flag they are entitled to fly. There must exist a genuine link between the state and the ship.

2. Every state shall issue to ships which it has granted the right to fly its flag documents to that effect.

Article 92

Status of Ships

1. Ships shall sail under the flag of one state only and save in exceptional cases expressly provided for in International Treaties or in this convention, shall be subject to its exclusive jurisdiction on the high seas. A ship may not change its flag during a voyage or while in a port of call, save in case of a real transfer ownership or change of registry.

2. A ship which sails under the flags of two or more states, using them according to convenience, may not claim any of the nationalities in question in respect to any other state, and may be assimilated to a ship without nationality.

Article 93

Ships Flying the Flag of the United Nations, Its Specialized Agencies and the International Atomic Energy Agency

The preceding articles do not prejudice the question of ships employed
on the official services of the United Nations, its specialized agencies at the International Atomic Energy Agency, flying the flag of the Organization.

**Article 94**

**Duties of the Flag State**

1. Every state shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag.

2. In particular every state shall:
   a. Maintain a register of ships containing the names and particulars of ships flying its flag, except those which are excluded from generally accepted International Regulations on account of their small size, and
   b. Assume jurisdiction under its internal law over each ship flying its flag and its master, officers and crew in respect of administrative, technical and social matters concerning the ship.

3. Every state shall take such measures for ships flying its flag as are necessary to ensure safety at sea with regard, inter alia to:
   a. The construction, equipment and seaworthiness of ships.
   b. The manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments.
   c. The use of signals, the maintenance of communications and the prevention of collisions.

4. Such measures shall include those necessary to ensure:
a. That each ship, before registration and thereafter at appropriate intervals, is surveyed by a qualified surveyor of ships, and has on board such charts, nautical publications and navigational equipment and instruments as all appropriate for the safe navigation of the ship.

b. That each ship is in charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship.

c. That the master, officers and, to the extent appropriate, the crew are fully conversant with, and required to observe the applicable International Regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction, and control of marine pollution, and the maintenance of communications by radio.

5. In taking the measures called for in Paragraph 3 and 4, each state is required to conform to generally accepted International Regulations, procedures and practices and to take any steps which may be necessary to secure their observance.

6. A state which has clear grounds to believe that proper jurisdiction and control with respect to a ship have not been exercised may report the facts to the Flag State. Upon receiving such a report, the Flag State shall investigate the matter and, if appropriate, take any action necessary to remedy the situation.

7. Each state shall cause an inquiry to be held by or before a suitably qualified person or persons into every marine casualty or incident of navigation on the high seas involving a ship flying its flag and causing loss of life or serious injury to nationals of another state.
or to the marine environment. The Flag State and the other state shall co-operate in the conduct of any inquiry held by the other state into any such marine casualty or incident of navigation. (4)

These four major articles of International Law concerning the Registration of Ships precisely indicate the significance of registration, bringing obligations both to the shipowner and the flag state and especially Art. 94, Duties of the Flag State, giving emphasis to the constructional and administrative safety matters giving specific attention to the training, qualification and ability of the crew to ensure the international safety standards and the proper jurisdiction and control of the Flag State towards inquiry of any problems and taking the necessary actions to remedy the situation. The registration of ships in a State becomes thus obligatory under the rule of International Law. The rules and conditions subject to which a ship is registered in a state are governed by the National Maritime Code of that state. Obviously, these provisions of the National Law relating to registration of ships are those to be implemented, ensured and enforced by the Maritime Safety Administration as part of its main functions. The essential primary provisions being:

a. Qualifications for ownership
b. Obligation to register
c. Procedure for registration
d. Certificate of registry
e. Transfers and transmission
f. Mortgages
g. Name of the ship
h. Registration of alteration and registration anew
i. National character of flag, and
j. Attendant miscellaneous matters. (5)
The Maritime/Shipping Policy of the state towards registration of ships and the qualification of ownership should be duly dealt with since shipping is an important industry to the National Economy and an important part of international relations of the state. The qualifications for ownership, in most maritime countries stipulate that their ships must be owned by their respective nationals or companies/corporations fully owned (or with majority participation) by their nationals. This is not without reason but due to the high contribution of shipping to the national economy. Possible solutions should be looked for to avoid the flagging out of ships registered on the national register taking into consideration the high investment made in the purchase of ships and the highly competitive character of shipping markets. The policies should be flexible enough to see to the needs of the industry and somehow participate if necessary in some assistance such as low interest rate loans, bank guarantee, conditional tax system, training of crew and labour conditions to meet the required international safety standards and thus enabling their shipping industry to be competitive enough in the market whether protectionist or liberal since these have become nothing more than a slogan.

However, there are some countries which do not insist on such strict conditions and which grant registration on relatively easy terms. Some or most shipowners prefer to be out of the scene of government regulations and working conditions due to basic human character or the complex character of shipping and trade conditions would like to work it out by themselves seeking other registries with little or no control. In the cases that a ship may be registered in one country and flying its flag, her (beneficial) owners may belong to another country(ies) and may have beneficial interest in the whole or the major portion of the ship, the managing company in another country and crew of different countries creating a complex inter-relationship which could be governed by little or no laws which came to be known as open registries, flag of convenience, flag of refugee, flag of necessity, etc. according to the side one takes which would be our following subject.
2.1.1 The Open Registry Situation and Labour:

"I may disagree with what you are writing, but I will never deny you the right to say or write it; for a man convinced against his will is of the same opinion still; my loyalties are very few and they die very hard." Voltair.

The issue of flag of convenience (FOC) or "Open Registry" as could most agreeably be said is not a new phenomenon to International Shipping. It has existed for a long period though for different purposes mostly economic and to avoid certain responsibilities. The complexities started lately, in the beginning of this century, with the question of nationality of ships and their registration, the duties and obligations attached and with more advance of International Trade. The complex situation involving manifold social, economic and technical interests, some of them conflicting had been difficult to pursue a policy or regulation based on a single generally acceptable principle for over half a century until recently where an agreement was reached though despite the basic question of International Law of the "genuine link" with the flag state and the question of "phasing-out" such system raised by developing countries through hard imposition which could be considered as an act International Maritime Fraud.

The complex issue's definition and some characteristics, followed by its historical development, problems entailed and the international reaction towards it would be shown.

What is Flag of Convenience and its basic characteristics?

Although there exist different definitions of FOC there are two equivalent definitions given by a person who had thoroughly studied the subject, B.A. Boczek,
1. A Flag of Convenience can be defined as a flag of any country allowing the registration of foreign owned and foreign controlled vessels under conditions which, for whatever reasons, are convenient and opportune for the persons who are registering the vessels. (6)

2. A Flag of Convenience can be defined as the flag of such countries whose laws allow and indeed make it easy for ships owned by foreign nationals or companies to fly these flags in contrast to the practice in the maritime countries where the right to fly the national flag is subject to stringent conditions and involves far reaching obligations. (7)

The subject being broad and having different definitions and interpretations according to the countries for and against it the Rochdale Committee in 1970 has identified some common characteristics to such flags, features being:

1. The country of registry allows ownership and/or control of its merchant vessels by non-citizens;

2. Access to the registry is easy... (and) ... transfer from the registry at the owner's option is not restricted;

3. Taxes on the income from the ships are not levied locally or are low. A registry fee and an annual fee, based on tonnage, are normally the only charges made...

4. The country of registry is a small power with no national requirement under any foreseeable circumstances for all the shipping registered,....;

5. Manning of ships by non-nationals is freely permitted; and
6. The country of registry has neither the power nor the administrative machinery effectively to impose any government regulations; nor has the country the wish or the power to control the companies themselves. (8)

From the above definitions given and the following characteristics we can act the general feeling of what the open registries are and the most significant countries according to UNCTAD being Liberia, Panama, Honduras, Costa Rica, and Lebanon covering 100.9 million GRT, i.e. 26.3 percent of the world total (29.0 percent in terms of dwt.) Liberia and Panama alone total 27.5 percent of the world deadweight tonnage as on January 1st, 1984. Among the many reasons for the unusual growth of FOC the principal one is economic. Not only registration and annual tonnage fees are low, taxes on profit light, but the owners have much lower operating costs, particularly those related to crews. The arguments raised against FOC are low safety standards, inadequate crews, etc, the main reason for their existence and expansion is purely economic. From the late 1970's on UNCTAD has been leading a vast campaign against this practice and even aimed at phasing-out this impediment to shipping industry which grew out of shipping liberalism (or perhaps anarchy?). The threat presented by FOC fleet both to the weak fleets of developing countries and to the established maritime operators is the very essence of the whole controversy. (9)

Certain problems have arisen from this lax of foreign registration of vessels on the social consequences of the seafarers, the international freight market, safety-conditions in maritime shipping and the economic as well as the political stability of some countries. The problems stemming from FOCs are:-

a. The low level of crew cost leading to abnormally low cost of operation encouraging the expansion of FOC and responsible for collapse of freight rates.
b. The social conditions of seafarers being so low since all internationally agreed and national laws are not applicable in foreign flags due to less developed maritime legislation and administration and weak or non-existent trade unions;

- Possibility of reduced manning & integrated service
- Discriminatory conditions of employment
- Advantage of exchange rate fluctuations

c. Annual fee, registration, fee being low and rare inspections leading to sub-standard situations and danger to maritime shipping and safety conditions esp. concerning tankers (fuel, chemical...).

d. Tax advantages (property tax, trade tax, capital tax, income tax) low or non-existent.

e. Security problem in case of need - as the US"effective control" of beneficially ownerships requirement in the event of a national emergency to be arranged.

f. Shipping's contribution to the national economy or gross national product, the volume of investment and the balance of payments become limited, etc.

All these advantages at the expense of foreign flags lack of control have created unfair competition to both developing countries and traditional maritime countries which have lead to further oppositions. The cause and effect of the problems created by FOC have been discussed over a long period of time and have been documented by inter-governmental and non-governmental organizations including UNCTAD, OECD, ILO, ITF, International Chamber of Shipping, International Shipping Federation, etc. will be further explained after seeing its historical development and the situation of problems
attached to it like the registration issue and labour conditions.

The changing of flags is not a new phenomenon in Shipping History. It shows that open registeries existed in olden times as well for different purposes although for some protective measure from government policies (or group influences) which dominated the shipping scene of the period. In the sixteenth century many English merchants sailed under the Spanish flag in order to evade the monopolistic Spanish regulations governing the lucrative trade with the West Indies. In the seventeenth century, the Newfoundland "boat fisherman" who faced deportation by the authorities of their home country, England, which feared their competition in fishing, sailed under the French Flag. At the end of the nineteenth century, British traveler owners who registered their vessels under the Norwegian flag to evade the British Legislation that restricted travelling activities in Moray Firth. During time of war shipowners who were nationals of a belligerent states, had to resort to the use of neutral flag in order to avoid capture. During the War of 1812 part of Massachusettes fleet took out Portuguese papers as protection against possible capture by the British. In 1922 the United American Line had to transfer two of its liners to Panamanian registry because alcholic beverages could not be sold or transported aboard American owned ships. the neutrality laws and regulations enacted by the United States at the beginning of the Second World War in an attempt to keep American flag vessels from entangling the United States from European war zone led many vessels, especially tankers to neutral Panamanian flag and voyaged to Britain in 1939-1942 despite this law because wars had often proved to be profitable to merchant shipping. A large number of the shipowners transferred their vessels to the country that offered them the most liberal registration possibilities and virtual freedom from taxation as well as other advantages.

A new stage which highly contributed to the development of this system is the development of corporate ownership which internationalized capital and allowed registration under foreign flags
differentiating the nationality of a ship from the nationality of the actual owner despite governments' effort to control the system.

The transferring companies because of war began to realize their advantages in this new registers. Apart from the nominal taxation or registration fee to charge labor advantages encouraged more transfers to Honduran and Panamanian registries. The operating costs of American flag vessels began to rise under union pressure and shipowners shifted to Panamanian flags to avoid being obliged to employ expensive American union crews and officers, and to be able to substitute for them the cheap labor of non-union foreign crews. By 1949 the number of vessels registered under the Panamanian colors reached 462 (3,978,000 gross tons) as the fourth Maritime Nation, surpassed in number of ships only by the United States, the United Kingdom and Norway. This same year became the turning point in recent history of the flags of convenience by Liberia joining the competition for registry. It appeared in Lloyd's Register of Shipping and became the most attractive convenience flag in 1957 stood third in shipping statistics, behind only the United States and the United Kingdom overtaking in volume of tonnage the fleets of such countries as the Netherlands, Italy, Japan, and Panama itself. The Honduran fleet, which in 1939 recorded 82,000 gross tons reached its peak in 1950 with 529,000 gross tons of shipping. American Maritime Unions attempted to organize the crews of this runaway vessels which resulted in the transfer of many Panlibhon vessels to Greek flag. The rise of these fleets faced opposition both from national and international levels from groups which were harmed by their existence. The anti-Panlibhon camp consists from the seamen's union who are concerned about the lower labor standards aboard the Panlibhon ships and particularly the American Unions about loss of job opportunities from the flight of the American flag and shipowners in Europe supported by their governments, find that the vessels operating under the virtually tax-free flags
of convenience presenting very serious competition. (10)

Opposition from both sides led to further investigation where in 1946 the International Transport Workers' Federation (ITWF) asked the ILO to carry out an investigation on this subject and to place it before the Joint Maritime Commission. The Commission agreed that in certain circumstances the transfer of vessels might have detrimental effects on seafarers' conditions and requested the ILO to keep this question under continuing study. In 1948 the ITWF threatened to boycott ships it considered to be substandard under Panlibhon flags where with government participation the governing body suggested measures on the encouragement of collective negotiations and positive government action to provide better protection for seafarers sailing under the Panama flag which indeed showed some progress in collective agreements negotiation. In 1954 the ITWF again asked the ILO to take action on the question of seafarers in relation to flags of convenience including flag transfers. By agreement with the Governing Body, the Joint Maritime Commission again examined the entire question at its 18th Session in 1955 and placed on the agenda of the 41st (Maritime) session of the ILO Conference in 1958. (11) The workers' group of the Maritime Session proposed that the conference should adopt a recommendation which would place certain obligations on the member states. The proposal was agreed and the conference made reference to:

- The Social Security (seafarers) Convention, 1946 (No. 70)
- The Seafarers Engagement (Foreign Vessels) Recommendations, 1958 (No. 107)
- The Social Conditions and Safety (seafarers) Recommendations, 1958 (No. 108) and recommended the following provisions should be applied.
Appeal was also made to the United Nations Conference on the Law of the Sea that was held in the same building, the same day, April 29, 1958, and influenced the adoption of the "genuine link" clause by the pressure of both the Seamen's Union and shipowning interests. The provisions of the convention on the High Seas regarding this issue were:

1. The right of every state to sail ships under its flag. (Article 4)

2. The nationality of the ship, that "there must exist a genuine link between the state and the ship, in particular, the state must effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag". (Article 5/1), and

3. The obligation that every state shall take such measures for ships under its flags as are necessary to ensure safety at sea with regard, inter alia, to the manning of ships and labour conditions for crews, taking into account applicable labour instruments. (Article 10 'b') (12)

This became the legal basis for arguments against the practice registering under Panlibhon flags. At the 41st Session of the ILO Conference strong anti-flag of convenience feelings of international labour supported by the governments and shipowners of the traditional maritime countries began to be seen. Seamen's Unions together with ITWF made a world wide selective boycott of ships flying flags of convenience not signing collective agreements with an ITWF affiliate. Participation from one of the leading maritime countries Seamen's Union, the National Maritime Union (NMU) of US shown great protection, stating "A four day boycott against runaways in 1958, sponsored by the ITF, tied up runaway ships in ports around the world, 160 of them in US ports alone. This has persuaded most runaway operations to seek ITF 'custodial' agreements providing minimum
guarantees for their crews. These do not however, eliminate the threat to US Seamen and do not in any way affect the threat to US Security. Strongly, this device has been slavishly protected over the past fifteen years by agencies of the US government, State Department, Defense Department of Justice, Maritime Administration, even the White House. In spite of such recurses, NMU has had a leading role in the battle of US Maritime unions and of the ITF to protect the seamen on these ships and to end the official US protection of this profiteering device. The record of this continuing battle forms a proud chapter in the Maritime Union history. It forms another shameful chapter in the long record of convenience between powerful corporations and politicians at the expense of workers." (13)

Further questions were raised by ITWF London Conference in January 1959, the main targets being American shipowners of the Panlibhon fleets. ITWF together with NMU and SIU the major unions began to fight by assigning jurisdiction to national union whose representatives brought up the idea by US representatives stating the nationality of the parent company proves the nationality of the subsidiary and attempting to reestablish their jurisdictional rights on the basis of the nationality of the crew became opposing the genuine link concept which they support and failed. The NMU and the SIU, two major American unions established a united front in order to fight the runaway ships and began to bargain to crews controlled by Panlibhon ships in order to assure those seamen just and fair treatment, to improve and protect their wages, hours of work and working conditions which resulted on a strike on June 15, 1961 idling about 250 vessels of the US and halted after 18 days by the 80 day injunction under the Taft-Hartley Law invoked by president Kennedy. These laws supported by the Seafarers' section of the ITWF which in its Geneva meeting in September 1961 adopted a resolution the term of which covering the use of any flag to evade wage and working standards of the country in which the actual control of the shipping operation is
vested and to evade organizing by unions of that country which lead to an important question of International Law - whether a state is entitled to control labour relations on board ships which are beneficially owned by its nationals but are registered under foreign flags.

The opposition of the traditional European Maritime Nations from fear of competition in the world shipping market by the virtually tax-free modern fleets of Panlibhon flags reached its climax in the 1958 Geneva Conference on the Law of the Sea with the concept of "genuine link" and was further discussed in London in January 1959, IMCO inaugural session in London and Washington, June 1959 about shipping policies. The OEEC through its maritime transport committee follows trends in the field of maritime transport made three reports regarding the rise of FOC:

1. The 1954 report, saw flag discrimination as the worst enemy of international, and flags of convenience were considered the second factor worsening the situation in International Maritime Transport.

2. The 1957 report flags of convenience were treated among the "basic problems confronting shipping", but still second to flag discrimination and delays to turn-around of shipping in ports.

3. The 1958 report, the registration of vessels under the flags of convenience was placed as the first of the "basic problems confronting shipping" more important even than flag discrimination.

The OEEC study, in general, regarded FOC as one of the principal
threats to the European shipping industry, standing second only to the problem of flag discrimination and excessive subsides by foreign governments. The complex problems arising from the rapid growth of tonnage registered under this flag although having economic sources, remains a serious problem in international shipping and trade relations which may provoke dangerous repercussions in the political and military sphere and need further studies (14). It devoted some attention to the requirement of genuine link between the ship and the state of registry but finally reached that no specific action in international level could be advocated.

"The Introduction of the concept of nationality seems to be neither necessary nor devoid of danger!" R. Pinto French delegate in 1956. (15)

The "nationality of ships", the state of registration and the flag they fly, especially in flag of convenience ships has been controversial issue of various municipal legislations and International Law. The basic question of foreign registration arises from nationality of ship subjecting it to the law of the country to which it belongs may be one of the factors at the assertion of states authority to the persons and things aboard the ship both under municipal and international law. The principle of international law that the states have conclusive unilateral competence to grant nationality to merchant vessels, national or foreign, is recognized by Art. 5 of the Convention on the High Seas of 1958 has a wide background in international practice. Article 5/1 states "ships have the nationality of the state whose flag they are entitled to fly".

Several interpretations were given by important authorities in International Law, ILC and traditional doctrines; which are given followingly, I. Oppenhiem, important authority in International
Law (3rd Edition 422 Sec. 261) states "Since a state may grant its nationality to a merchant ship and the flag evidences nationality, the authority given by a state for a ship to fly its flag ought to be construed as constituting a grant of its nationality by the state to the ship. But states are permitted under international law to authorize vessels which are the property of foreigners to fly its flag." International Law Commission documents does not find any limitation in the states rights in this respect since it says that "International Law confines itself to requiring the compulsory attribution of a nationality to a ship, all other matters being left to the flag state. The conditions governing the grant of nationality and penalties to be applied in the event of nonfulfillment are determined by the domestic law of the state concerned." The traditional doctrine proclaims that a "state is absolutely independent in framing the rules concerning the claim of vessels to its flag" that each state has "the undisputed right... to set up such prerequisites for the assumption of its nationality as its concept of national welfare dictates." (17)

However, the universal practice of states, both on international and national levels, shows that registration usually accompanied by appropriate documents issued by the competent authority, is the only test of a ship's nationality. The real proof of a ship's nationality lies in its registration in the flag state, which fact is recorded in the documents carried on board the ship. The validity of documents and certificates as a mode of establishing the nationality of vessels has found its confirmation not only in countless bilateral treaties, but also in multilateral conventions in which the test of the ship's nationality is laid down. The international conventions dealing with safety carry great obligations between the states and the ships which is established by registration. The Loadline Convention, 1930 London, Article 3 (a) states:
"A ship is regarded as belonging to a country if it is registered by the government of that country."

The convention on Safety of Life at Sea, Signed July 10, 1948 London lays down in Article II that "ships to which the present convention applies are ships registered in countries, the government of which are contracting governments.

The conventions concluded under the auspices of the International Labour Conference:

- Simplification of the Inspection of Emigrants on Board Ships (1926), Article 3.
  "The country whose flag the vessel flies."

- Convention on the Repatriation of Seamen (1926), Article 1, and

- The convention on Seamen's Articles of Agreement (1926) stated that:
  "This Convention shall apply to all seagoing vessels registered in the country of any member ratifying this convention, and to the owners, masters and seamen of such vessels."

- The phrase "all (any) vessels registered in a territory for which this convention is in force" can be found in Article 1 of each of the conventions adopted in 1936.

ILO's convention adopted in 1936 have attempted to set international labour standards in maritime labour, have consistently adhered to the formulation of registry as criterion of the ship's nationality. The use of registration as a connecting factor in maritime matters. (18)

Great effort from the international scene was made by UNCTAD since
establishment in 1964 and from then has been leading a vast campaign against the practice of open registries. The main reason was that their existence has adversely affected the development of shipping in developing countries and prevents them from enjoying a fair share of shipping activities resulting from their seaborne trade. In 1978 UNCTAD addressed the question of "genuine link" which got a unanimous support from both the developed traditional maritime countries as well as from the developing countries. In May/June 1981 a resolution was adopted by majority vote (res. 43 'S-111') calling for establishment of an International Preparatory Group (IPG), to propose a set of basic principles concerning the conditions upon which vessels should be accepted on national shipping registers and preparing documents for the adoption of an international agreement. Consequently the General Assembly, in its resolution 37/209 of 20 December 1982 decided a Plenipotentiary Conference early in 1984 to be preceded by a preparatory committee in November 1983 to work on an international agreement on condition for registration of vessels. The subject has raised by a controversy between the protagonists and opponents since one third of the world fleet is registered in FOC countries and the vast commercial interest of a number of powerful developed market economy countries faced by problematic nature of open registry. The opposition increased from both sides where developed countries wanted to close the agenda while the developing countries including those who supply labour to registry fleet pursuing the tightening the conditions of registration of ships even asked for the "phasing out" of this system. After further negotiations the situation began to change by the hard pressing of the developed market economy countries and private lobbies and commercial organizations involved in the FOC operation attempting to defeat moves to restrict the system and played a major role in supporting and influencing positions of their governments in the negotiation which ended up with an International Convention on conditions for registration of ships on 7th February 1986 which will come into force 12 months after the date on which not less than 40 states, the combined tonnage amounts to at least 25% of world tonnage, have become contracting parties to it in accordance with Article 18.

* See Annex I on Registration of ships.
FOC has ended up being a necessary evil to international shipping despite the opposition faced both by traditional maritime countries where it has created unfair competition and developing countries where it has become an impediment in the development of their shipping and balance of trade which have led to some kind of protectionism and demand for a new international maritime order which is still being pursued by UNCTAD. The alleged absence of "genuine link" between the ship and flag state and apparent inability of flag state proper and direct control over it ships, lack of credibility, ficticious ownership all attract criticism from labour unions to state administration and private bodies on the international levels.

The Articles 6-11 ** of this convention on the registration of ships, 1986 especially have faced various opposition and comments from many countries as well as from international organs like International Transport Workers Federation and the International Chamber of Commerce.

The acceptance of such a convention on the international forum (as an internationally binding treaty) with the main issue of "genuine link" missing may be described as the hickory limb philosophy of International Law and Order as is expressed in the old poem:

"Mother dear, may I learn to swim? 
"yes, my darling daughter. 
Hang your clothes on a hickory limb; 
But don't go near the water.

** See Annex 1.
2.1.2 Port State Control vis-a-vis Flag State Control:

The conditions for registration of ships for national fleets or foreign flags where registration and the giving of the flag of a country brings with it the nationality of the ship thus creating a legal bond between the ship and the flag state. The flag state by giving its flag and accordingly nationality and the necessary documents like the certificate of registry would be bound to fulfill certain nationality as well as internationally required obligations. These are manifested in the International Conventions:

I. Conference on the Law of the Sea,
29 April 1958 - Articles 4, 5 and 10.

Article 4:

Every state, whether coastal or not, has the right to sail ships under its flag on the high seas.

Article 5:

1. Each state shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag they are entitled to fly. There must exist a genuine link between the state and the ship, in particular, the state must effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag.

2. Each state shall issue to ships to which it has granted
the right to fly its flag documents to that effect.

**Article 10:**

1. Every state shall take such matters for ships under its flag as are necessary to ensure safety at sea with regard inter alia to:

   a. The use of signals, the maintenance of communications and the prevention of collisions.

   b. The manning of ships and labour conditions for crews taking into account the applicable international labour instruments.

   c. The construction, equipment, and seaworthiness of ships.

2. In taking such measures each state is required to perform to generally accepted international standards and to take any step which may be necessary to ensure their observance. (19)


Registration of ships especially Article 94 - Duties of Flag State which is properly stated.


* See pages 31-34
** See Annex I
All these international treaty agreements impose certain conditions on the Registration of Ships and the responsibility of the flag state to enforce this minimum safety requirements through their established Maritime/Shipping Legislations, Maritime Administration and Subsidiary Legislations which have absorbed these international requirements. The incompetence or weakness of the flag state to establish a well organized maritime legislation and administrative offices for the implementation of international agreements concerning maritime transport and for the application of rules and standards concerning ships under its jurisdiction and control has lead to inefficient ships as are sometimes called sub-standards which are dangerous to lives of the crew, property, and the marine environment, and unfair competition in (freight market) international shipping. The incompetence of some flag states to fulfill this international obligations and leading to substandard ships, especially aboard the so called flag of convenience ships which with the effect of flagging-out the working conditions of seafarers have brought discussion on the international level at ILO as far as 1933 through the International Transport Workers Federation. On the other hand, the growth of shipping traffic, the number of marine casualties with losses of ships grew not because of ship fault only but due to the application of unsuitable safety standards. With this development IMCO (Inter-Governmental Maritime Consultative Organization) took initiatives to improve existing standards for the safety at sea and to develop new ones.

The continued increase of marine casualties from the stranding off the Scilly Islands of Torrey Canyon in 1967, the breaking apart on the rocks of Brittany of the tanker Amoco Cadiz spilling 230,000 tonnes of crude oil and an causing environmental disaster never before experienced in Europe, in 1978, The Eleni V, and the Christos Bitas tanker casualties drastically intensified the situation and investigation showed this could
have been prevented if appropriate safety standards had been observed. It was in particular, after the Amoco Cadiz casualty that the European countries realized that preventive action against risks to the safety of seafarers and their ships, to their life and welfare, and to the marine environment was more promising, less costly, and definitely more advisable in the interests of the protection of human lives and the marine environment than was the salvage of ships in distress, the rescue of shipwrecked sailors and the fight against oil pollution with hindsight. Preventive action against substandard ships took top priority and was defined as to avoid misunderstanding.

"Substandard Ship"

A ship shall be deemed to be "substandard" if and when she has such deficiencies as are clearly hazardous to safety, health, or the environment on account of the non-compliance with relevant technical, social, or other safety standards applicable to the ship or her crew. (20)

The reasons for this phenomenon being lack of operational control by the shipowning company, lack of training of the officers and/or crew, supervision on the part of the flag state and mostly old age of the ship. This is due to lack of control of the flag state whose primary responsibility to enforce the effective implementation of the relevant safety standards.

Following these disasters the representatives of the maritime authorities of the eight North Sea Coastal States met and signed at the Hague a "memorandum of understanding" between certain Maritime Authorities on the Maintenance of Standards of Merchant Ships on 2 March 1978 which entered into force on 1 July 1978 with the main objective to maintain a general surveillance on seagoing cargo and passenger ships, whatever their nationality, calling at their ports in order to ensure that the requirements of ILO Convention No. 147, the IMO Convention for the Safety of Life at Sea and
the Loadline Convention were met and that on board ships no clearly hazardous conditions to safety or health existed. The legal basis for action were left to their National Legislations and the competence of the authority concerned. ILO Convention No. 147 was found relevant and attached to the Memorandum. The action provided for by the Memorandum were:

- **Uniform Control Procedure:**
  Select ships at random for inspection unless there is any complaint from any members of the crew.

- **Information System:**
  Notify flag state or nearest maritime, diplomatic or consular representative in case of deficiencies.

- **Action against Substandard Ships:**
  Take steps to ensure the rectification of any deficiencies, if need be detained to the ship.

- **Committee of Experts:**
  Discuss the deficiency report.

- **Annex to the Memorandum:**
  ILO Convention No. 147 found relevant.

- **Guide-lines or Port Control:**
  In the North Sea Region was adopted by which the exercise of the Surveyors Control of relevant standards was to be harmonised but were never legally binding.

Further meetings were held in:


The 1982 Paris "Memorandum of Understanding" on Port State Control has considerably extended the scope and area of application of the Memorandum. It specifies that 25% of foreign flag merchant ships staying in their ports such be inspected and must verify the compliance of those ships with the technical and social minimum standards laid down in the relevant international conventions, namely:


- The International Convention for the Safety of Life at Sea, 1974, and the 1978 protocol thereto - SOLAS 74 and SOLAS Protocol 78;


- The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 - STCW.

- The Convention on the International Regulations for Preventing Collisions at Sea, 1972 - COLREG 72; and

- The Merchant Shipping (Minimum Standards) Convention, 1976 ILO convention No. 147.
The inspection of ships under the Memorandum should be governed by the "guide-lines for surveyors" which refer to the following IMO resolution:

- Resolution A.466 (XII) embodying "procedures for the Control of Ships",

- Resolution A.481 (XII) embodying "Principle of Safe Manning together with its two annexes entitled Contents of Minimum Safe Manning Document (Annex 1) and Guidelines for the Application of Principles of Safe Manning (Annex 2)"

The application of this control system has greatly helped in the control of substandard ships and the further implementation resulting in the elimination of such ships. Future developments with further ministerial conference on Maritime Safety it is highly desirable to join the application of the Memorandum, thus transforming the regional control mechanism into a supraregional and eventually a world-wide one with uniform control procedures wherever it is applied. Another development conceivable lies with IMO and ILO, reaching decision to lay down on the basis of the 1982 Paris Memorandum, rules and regulations for Port State Control of a binding character and of world-wide application. (21)

The Seamen's Church Institute - Center for Seafarers' Rights has called a conference on Port State Control, from April 2-4, 1986 in New York for public consideration of this timely and urgent issue. The annex, ILO convention No. 147 as well was briefly discussed and its application to US Legislation was recommended.

In the inspection process under the Memorandum of Understanding from July 1983-July 1985 where 25% of all ships would be inspected in total there were 10,044 inspections carried out on 7665 ships of 112 different flag states. During 1984-1985, 428 ships were detained or delayed due to serious deficiencies. Deficiencies in life
saving appliances, fire fighting appliances and navigational equipment are the most common.

Table 1

<table>
<thead>
<tr>
<th>Flag</th>
<th>Number of Inspections</th>
<th>Number of Detention / Delays</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyprus</td>
<td>364</td>
<td>49</td>
<td>13.5</td>
</tr>
<tr>
<td>Panama</td>
<td>719</td>
<td>78</td>
<td>10.8</td>
</tr>
<tr>
<td>Spain</td>
<td>199</td>
<td>15</td>
<td>7.5</td>
</tr>
<tr>
<td>Greece</td>
<td>517</td>
<td>33</td>
<td>6.4</td>
</tr>
<tr>
<td>All Flags</td>
<td>10044</td>
<td>428</td>
<td>5.58</td>
</tr>
</tbody>
</table>

5.58% of all ships inspected were detained or delayed. (22)

"... in the United Kingdom we inspected 4696 vessels of 96 different flags during the two years from first July 1982, finding some 2173 vessels with defect, and of these vessels inspected, some 62 were so bad that in the interests of safety of life at sea they have detained, their principal defects being in line with the order found collectively by the 14 member states, together with an additional fault of under-manning in many cases." (23)

The number of detention or delays of sub-standard ships especially FOC ships has decreased year after year and thus has witnessed that port state controls are effective means of control and should be
encouraged to develop worldwide.

The port state control has become an ancillary to flag state control thus verifying double check - one or the other - thus contributing highly for international safety purpose, i.e. the protection of life and property as well as environment and abolishing unfair competition from substandard or unseaworthy ships. The Nautical Institute and the Centre of Maritime Policy and Law, the University of Wales Institute of Science and Technology on its conclusions and recommendations of the conference held on 5-6 June 1985 at St. David's Hall Cardiff

Question 3 and answer is one which one cannot pass without mentioning in discussing Port-State Controls' importance.

"Q3. Enforcement: What more effective measures can be introduced to uphold and enforce the legal rights of seafarers engaged in international trade?

A. It was agreed that it can be difficult to enforce through legal proceedings, the legal rights of some of today's seafarers. Where the seafarer is employed in deprived circumstances it was considered desirable to enforce minimum standards by independent means, whilst leaving the subject of wages to negotiation and ordinary contractual enforcement by law.

The forum concluded that it is unlikely that any one course of action will cover all eventualities, because, for example, the seafarer can be subject to black-listing or his employer 'disappear',

It was agreed that the primary responsibility of enforcing rights should rest with the flag state which can best provide for example, repatriation in the event of company
liquidation. As a supplementary measure, consideration might be given to including specified items for investigation through port state inspections.

It was agreed that port state inspections initiated in Europe under a Memorandum of Understanding should be introduced worldwide to improve standards of ship safety.

The ideal of welfare officers was explored and it was agreed that it would be desirable for seamen to have "an authority" with whom to lodge serious complaints in major ports throughout the world." (24)
2.2 Labour Unions' Role:

The rights of seafarers' were unknown until late in the beginning of this century. Seafarers of the past suffered a lot of hardships from the harsh conditions of work and low wages, unlimited hours of work, coarse food, narrow quarters for sleep, no limits to the right of the master and physical punishment as part of the working procedure where common practices apart from the hard labour engaged in running the ships. If we take as example the American ships, seafarers had no or very limited rights until 1895 when the various groups united to form the International Seamen's Union (ISU) under the American Federation of Labour which gave seamen for the first time a voice by which they could hope to reach law-makers and government officials and perhaps achieve for seamen the status of free men. Andrew Furuseth, the first president of ISU, arrested for having led a strike declared:

"You can throw me in jail, but you can't give me narrower place than, as a seaman, I have always lived in; or coarser food than I've always eaten, or make me lonelier than I've always been."

His effort led to the Seamen's Act of 1915, best known as the "Magna Carta of the Sea". The act limited working hours for most seamen to 56 per week, guaranteed minimum living standards, abolished imprisonment for desertion, gave seamen the right to draw half of wages due in ports of call and bolstered the right of seamen to claim damages from shipowners for injuries caused by the shipowners negligence. (25) The basic rights of seafarers, as we can see from this above, began to be recognized with collective action through unions, unless otherwise, the individual was a weak bargaining power by himself who would end up in prison or jobless.
The Iron Law of the Sea with the supreme master and his agents as the only law makers which lead to extreme form of exploitation ended or gave up with collectivization of seafarers in trade (labour) unions. Let us see the rights of the master as compared to his crew during the 18th century.

"A master usually made 4-5 voyages and the same number was the norm for a British East Indiaman - before it was replaced. On these voyages a master could earn 20,000 to 30,000 pounds by honest means and a good deal in addition through smuggling. There are said to have been occasions when masters earned 30,000 pounds in a single voyage when the smuggling was successfully achieved. A master received a monthly salary of only 10 pounds but he could make a further 20,000 to 12,000 pounds per voyage from passenger fares, officer cadets' fees and the use of "personal" cargo space. A mate received 5 pounds and a sailor 2.5 pounds a month in wages." (26)

Labour unions are association of workers in an industry which enables them to act together to negotiate with employers some basic rights as wages, hours and conditions of work, pension, welfare, etc., to make possible collective bargaining. This developed after the industrial revolution where large number of workers began to work together in industries and industrial cities began to bring collective demands to municipal or state administration, strike being their weapon of last resort in case of failure and unions established to represent them in state level. The most common form of representation being through a properly constituted labour union where the management should respect the right of free association and allow the worker to join the union of his choice. These basic rights, the right of free association and collective bargaining have become internationally agreed treaty law conventions by the International Labour Organization as international labour standards to all workers:-
1. Convention No. 87:

Freedom of Association and Protection of the Right to Organize Convention, 1948. (27)

2. Convention No. 98:

Right to Organize and Collective Bargaining Convention, 1949. (28)

These international conventions always refer to the National Policies of the state. Appropriate measures to the national conditions, to encourage and promote the full development and utilisation of machinery for voluntary negotiation between employers and employers' organizations and workers' organizations, with a view to the regulation of terms and conditions of employment by means of collective agreements is pursued.

Although originally the objectives of labour unions were confined to economic consideration, the agreement of wage levels, hours or work, etc., today the principal objectives are the protection of member's interests and the responsibility for regulating relations between seafarers and employers include:

a. The terms and conditions of employment - contract enforcement.

b. The settlement of disputes.

c. Welfare and amenity facilities.

d. Compensation and benefits in the event of accidents.

e. The establishment of pension schemes.
f. Upgrading and retraining.

g. Medical facilities.

h. Publications.

i. Legal advice and assistance.

j. Research and find solutions as well as creating incentives, etc.

It is important the representative should be suitably qualified and fully conversant with the responsibility and powers delegated to him. Procedures for consultation and negotiation should be established and the system of negotiation developed based on the principle of collective bargaining.

"Collective bargaining is a process of rule making. These rules are of two kinds: Substantive rules relating to pay, hours, and other conditions; and procedural rules which govern the way substantive rules are made and interpreted." (29)

The principle of collective bargaining requires the establishment of a formal negotiation and conciliation procedure for regulating relations between employees and unions. Both employers and employee prefer this system because each individual is a weak bargaining position and employers do not want to spend time with each individual. This may be conducted through seafarers representatives or councils the constitution and objectives including equal participation, joint committees, a conciliation procedure and strictly define the responsibilities and powers of representatives.

The negotiating machinery and the labour-management relation should be developed to increase productivity since industrial relations are
human relations and its success depends on the confidence developed between the management and the workers and the ability to discuss frankly problems of material interest. The establishment of formal procedures illustrated above are no guarantee for harmonious employer/employee relationships but provide the apparatus for bringing both sides together.

Labour unions have greatly contributed in the establishment of the legal rights of seafarers by fighting collectively for the basic rights abused by profit oriented shipowners. Having found an international agency like the ITF workers are achieving their rights and extending their relationship (union) world wide are fighting maritime frauds in shipping. The ITF together with its branch unions throughout the world is fighting FOC vessels even sometimes delegating its powers to some unions *. The union follows up unfair practices on aboard ships such minimum manning, training of crew and reach better agreements with the management.

* See page 43 - FOC vessels.
The manning of vessels has become a controversial issue in shipping with the development of advanced technological equipment reducing the manpower requirements and inducing reduced manning to the so called cost effective manning level. The manning of vessels is a fundamental point in ship operation since labour (crew) cost compromises a major portion in the operation cost of running ships. As it is always said that the success of a shipping company depends on its manning as well as efficient shore personnel, shipowners and shipping companies are always trying to meet these ends. One significant factor being government policy towards its manning standards which should be carefully assessed and weighed in making laws determining the efficiency and safety of ships, crew qualifications and the competitive position of the ship in the International Market. National legislation determining the minimum crew a ship is allowed to sail with has become a serious issue in ship operation because of the high labour cost entailed with it. Another important issue involving government other than the national as well as the international obligation towards the safety of ships crew and the maritime environment is labour unions role regarding manning conditions. Labour unions usually opposed to new innovations are sometimes major impediments to shipping business which is continuously changing to meet market demands and has to be met with efficiency. The strong hands of unions opposed to technological advancement and automation since imply reduced manning which is very important to cost reduction to ships to remain competitive in the world market influenced by many competitors lead to new divergencies in the registration and operation of ships. The need to stay competitive forces the shipowners to flag-out seeking for cheaper labour cost, avoid high taxation and strong labour union hands.

Governments to avoid this running away of national fleet to other
flags should be flexible enough to retain these important sources of national income and be prepared to accept new manning developments due to high technology and cost-efficient ships. There had been continuous development since the 1960's in new innovations to change the traditional manning and organizational practices in ship operations as a result of social and economic reasons. If we start with the employment of crews, there are four ways to arrange crews for ships as Downward puts it:

- Direct employment of personnel by the shipping company.
- Employment of personnel through a national organization.
- Employment of personnel through a union.
- Employment of crew through an agency or a combination of any of these.

Some companies have little choice of the way they recruit, engage, or employ their staff, either because of the laws of the country or registry, or union or national industrial influence, i.e. a federation (30). The manning of ships whether employed directly by the shipping company or indirectly through government organization or other means, the basic rights and working conditions onboard ships remain the same. The main requirements being the skills required as to the competency of the seafarers, i.e. the number and categories and qualification of seafarers required to sail to be set up through appropriate means like the National Maritime Board* acting in between government, shipowners and unions to reach the agreed level taking into consideration the cost factor as well as the social consequences. This has led to many confrontations and researches in high wage labour areas long term effort to reduce manning costs which has shown significant development in the technical as well as social changes in ship operations; The principal areas changes being:

- The design of ships (technology, and equipment) (31)

See pages 79-81.
The design of ships are greatly changing according to the demand of trade, to fit the cargoes, in an economical & safe holding capacities. The technical innovations in working spaces which have facilitated crew reductions have enabled more space for recreation, comfort, privacy, etc. to the remaining crews improving the overall quality of accommodations and seafaring life and by reducing loneliness and boredom improve yield gains in productivity, safety and moral. The new designed ships for operation with very small crews to suit shipowners requirements for the future use most advanced automated equipment available with related electronic and computer control, fault finding, correction and alarm techniques have been found safe and efficient and reducing human errors with constitute almost half of all accidents. The main areas of technical improvement are:

a. **Unattended Engine Rooms:** Engine room automation consists of remote control of main propulsion from the bridge, in conjunction with remote sensing of operating conditions and alarm capability eliminate the need for round the clock watchkeeping in engine spaces.

b. **Maintenance:** Changes in maintenance, the use of epoxy paints and special coatings which require less maintenance and planned maintenance systems in engine areas have more fundamental effect on shipboard manning's organization.

c. **Bridge:** Manning adjustments on deck and engine rooms due to
automation and use of microprocessors into position-finding and collision-avoidance devices have increased traditional navigational practices.

d. Mooring and Anchoring: Through careful design the Japanese have lessened the requirements of brute strength in the handling of the lines and the size of the mooring party.

e. Cargo Operations: Microprocessors have improved the safety and efficiency of cargo operations. These developments extend to loading, ballasting and heel corrections (i.e. load calculators, hull stress monitors and heeling sensors). The manpower requirements and time spent for opening and closing hatches have been reduced greatly due to automation.

f. Communications: Improved shipboard communications, including remote input devices, displays, and alarms, have been integral to a number of innovations that have been described. Information exchange between crew members have been enhanced by greater use of telephones, public addresses and paging systems and walkie-talkies. The use of satellite systems have made possible, high quality voice, telex, computer ship-to-shore communications and direct communication with families and centralized shoreside management. (32)

The design of the ship, technological developments and better equipments through new innovations in the superstructure of ships have made possible reduction in manning which are subject to government and union negotiations to put them into practice. The concerned government bodies (Maritime Administration) should weigh the impact of this technological advances on the social consequences the follow considering as well the competitive position of the ships in the international market. Possible means should be sought together with the labour unions to transfer to other areas like constructive maintenance works, or negotiate to allocate, retrain or pension obsolete labour having regard to their possible interest or choice through negotiation if the technological advances are to be accepted.
These new technical innovations which have changed the structure of ships and organization transfer more responsibilities to certified officers and require trained seamen through less in number because there is very much less work of a purely manual nature in a modern labour efficient ship.

The new innovations or technological advances which reduce manning requirements allow greater flexibility in the operational activity of ships. The traditional three department type with strict demarcation between departments which are interested only in their own tasks have changed with the reduction of manual work in all departments abolishing some jobs due to new innovations leading to new working systems. In the 1960's departmental integration through general purpose (GP) crew started where no departmental distinction exists and ratings (engine and deck) share operations, maintenance and repair responsibilities and work together. The IDF, Interdepartmental Flexibility, developed during the same period. The ratings were allowed to work in other departments at works compatible with their normal work for agreed number of hours each month. Work reduction in all departments due to new innovations allowed for interdepartmental flexibility. This was followed with dual-purpose semi-integrated officers with the objective beyond manning reduction is to redistribute the bridge watchkeeping and technical maintenance and repair functions among more officers. The French started this system with officers equally expert in deck and engine skills, which was followed by the multiple-skill concept of Martix Manning which differs from the dual purpose scheme in that, a martix crew is composed of individuals, each with specific speciality and varying levels of competence in a secondary skill with the basic purpose of greater versatility. This was tested by Norwegians in the early 1970's (Hoegh Multime), the Dutch (Shell in 1978 and Nedlloyd in 1981) and Japanese as well. The different systems exercised in different areas to increase productivity both in structural changes in technical and organization did not change much the hierarchy of the master and officers except in
areas of responsibility and accountability.

The reduction in manning due to new innovations aboard ships reducing work load invited some work from shore to ship bringing more responsibility and share in the Administration of ships and breaking the centralized shore administration. This decentralization which results in reducing shore personnel and transferring management responsibilities from the head office to ships to improve the job content of ships officers, and improving the effectiveness of the shipboard organization. The shipboard management team* which consists of the Master, Senior Officers and Senior Ratings plans jointly for the organization and operation of the ship leading to effective manning. The responsibility of team depends upon the choice of the owner and with more responsibility and new engagement the need for training arises if they are involved in all the management, planning, budgetting, cost control, etc. (33). The organization of crew in new system and the abolition of the old system needs training to adapt to the new system.

2.3.1 Training of Crew:

"I was told and I forgot;
I saw and I remembered;
I did and I understood." (34) - Chinese Proverb.

As it is said that ships are as good as the people who man them, the quality of the crew highly depends on the level of training. Education - long-term training, and short-term training - are necessary to maintain the minimum standard and qualification of the seafarers and certificates of competency required by national laws and/or international regulations.

Training is necessary to maintain the standards of safety

* See pp. 144-150.
and efficiency of the operation of ships which are sometimes referred to as safe-manning principles (of safety) and effective-manning. According to Downward: "Most training is associated with safety, directly or indirectly. The direct safety training is through courses on such matters as fire-fighting, tanker operation, the carriage of hazardous cargoes, accident prevention and navigation and ship building. Courses associated with crew management are indirectly related to safety because they show the ways to motivate staff towards operating ships efficiently, and safety and efficiency go hand in hand." (35)

Training is a matter of policy which should be given due consideration at state and company level. A policy decision is necessary because courses are expensive and need institutes to take care of in the long and short term training. The short term training could be arranged at company or industry level but long term training require government involvement since costs are high. Who pays for training? Government, shipping company or seafarer, or both? Or reduction in pay supported by shipping company are matters of policy and agreement to union or industrial level. Government interest in maintaining its seapower remain absolute and this training could be seen as alternates in case of emergencies and could be arranged together with the navy for pre-sea training or to improve standards. The Royal Navy of the UK uses this system "...like the Merchant Navy, the Royal Navy is in just the position now... The Navy applies two principles to both officers' and ratings' training." (36)

Shipowners on the other hand are also interested in training their crews since well trained, disciplined and safety conscious crews reduce the chance of accidents and loss. The problem lies in that they have no guarantee that once the seafarer is trained could leave for better wages without fulfilling the required objective of the shipowner. The
philosophy of training without taking the economic consideration is sometimes hard for shipowners. Training could be discontinued at bad times but have the potential of raising the productivity of the operations and is a kind of investment the rate of yield could be estimated. According to Downward: "The cost effectiveness of training is not easy to prove and is best shown in reduced insurance premiums in a company with a good safety record." (37) The shipowner could have reduction from insurance with training the crew "But the area over which he has the greatest influence from the point of view of insurance is the crew, as the greatest single cause of accidents is «human error».

Although this factor can never be eliminated, it can be considerably reduced by careful selection of the crew, considering their experience and qualifications, and their further development through training and motivation." (38)

Shipowners sometimes provide training courses through use of video cassettes on board ships by showing anti-pollution techniques, fire fighting, etc. and language courses to avoid language barriers. Refresher courses are also in syllabus for senior officers to new innovations aboard ships or change of organization such as upon introduction of the ship-board management system where the key members of crew need to be specially trained with new responsibilities.

Training has played an important role in the process of change since most innovations have entailed training in technical skills. A number of countries have revised rating and officer training schemes to support manning innovations. Norway has expanded its "Ships' Mechanic" training to fill the demand for such ratings. West Germany has modified its national training program for ratings of only for General Purposes (GPs). Japan has revised its national training and certification scheme for officers to bring it into accord with the STCW and also to support the trend toward semi-integrated officers. The most substantial changes in training have been those for ratings because manning
innovations affect ratings more than officers. Dual competency has brought about major changes in officer training schemes. Officers are also required to receive training in Management and meeting techniques, so as to be more competent in handling situations resulting from the implementation of shipboard Management/Martix Organizations. The move towards decentralization and a self-contained ship has created much more complex training for future officers. (39) The future is looking for a new type of seafarer with the concept of the Ship Operational Team (SOT) and Ship Management Team (SMT). The ship operational team being those involved in the day to day physical activities of running the ship, at sea and in port, while the ship management team involves a group of senior crew members on the control of the ship as a commercial economic unit. The requirements of the ship of the future as we can see require "the philosophy of working together as a team" becomes the object of future training.

International agreements have also been reached on the subject of training, qualification and certification of seafarers for international safety purpose, i.e. the protection of the ship, crew and the marine environment.

The ILO Convention 147 (Merchant Shipping (minimum standards) Convention, 1976, best known as the umbrella convention, requires member state to have effective legislation on safe manning standards, hours of work, seafarers competency and social security; and sets employment standard (equals it to those contained in a range of 120 instruments) covering minimum age, medical care examination, accident prevention, crew accommodation, repatriation, social security and training.

The International Maritime Organization general assembly has
adopted 22 resolutions relating to Maritime Training. The most relevant of these IMO resolutions is A.481 (XII) on Principles of Safe Manning, 1981 recommends all Administrations to issue their registered ships with a document specifying the minimum number and grades of qualified seafaring personnel required to be carried from the safety standpoint and giving guidance to safe manning of ships. The most important convention concerning training, certification and qualification of seafarers passed by IMO is the STCW, 1978 Convention would discussed followingly:

The International Labour Organization has also passed several conventions and recommendations concerning the training of seafarers:

- The Officers Competency Certificates Convention, 1936 (No. 53)
- The Certification of Able Seamen Convention, 1946 (No. 74)
- The Certification of Ships Cooks Convention, 1946 (No. 69)
- The Vocational Training (Seafarers) Recommendation, 1946 and 1970 (No. 137)

Some of these instruments have, in whole or in part, been together with ILO association. The ILO, Convention 147, which is considered the most comprehensive international convention sometimes referred to as the "Umbrella" Conven-

* See Annex 2.
tion requires member states to have effective legislation on safe manning, etc.

2.3.2 The STCW, 1978 Convention:

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 is the first ever maritime convention laying down globally acceptable minimum standards of training, certification and watchkeeping for seafarers with the main objective of promoting safety of life, property at sea and the protection of the marine environment. The minimum standards and requirements to be fulfilled are expressed in terms of Regulations and the appendixes to them which are mandatory to all parties to the convention. The Convention has entered into force from April 1984 onwards. The Convention has two attachments, the first part, dealing with legal matters which are mandatory and the second part containing twenty-three Resolutions which are not mandatory but adopted to form the attachment mostly related to training matters. The mandatory Regulations and their appendixes are contained in six chapters.


II. Deck Department - Reg. II/1-II/8.

III. Engine Department - Reg. III/1 - III/6.

IV. Radio Department - Reg. IV/1-IV/3.

V. Special Requirements - Reg. V/1-V/3.

VI. Proficiency in Survival Craft - Reg. VI/1.

This mandatory minimum requirements lay down conditions
for certification of masters, chief mates, chief engineer officers, second-engineers, radio officers, officers in charge of Navigational Watch and engineer officers in charge of watch. The requirements for certification include the candidate to pass exam, subjects listed in the appendix attached to the relevant regulation. (40)

IMO with its twin objectives of "Safer Ships and Clean Oceans" has passed this convention to ensure that merchant vessels will operate safely and efficiently with maximum protection of the environment against pollution, the crew and maritime property.

The mandatory provisions are set to ensure the level of knowledge and understanding specially in the Engine Department, particularly the requirements for certification as second and chief engineer officers, where the expertise is always needed to ensure safety. The Engine Department contains six regulations and appendixes to them, summarized as the following:

Reg. III/1 Basic principles to be observed in keeping an engineering watch.

Reg. III/2 Mandatory minimum requirements for certification of chief and second engineer officers of ships powered by main propulsion machinery of 3000 KW or more.

Reg. III/3 Mandatory minimum requirements for certification of chief and second engineer officers of ships powered by main propulsion machinery between 750 KW and 3000 KW propulsion power.

Reg. III/4 Mandatory minimum requirements for certification of engineer officers in charge of a watch in a
traditionally manned engine room or Designated Duty Engineer Officers in a periodically unmanned engine room where the propulsion power is 750 KW or more.

Reg. III/5 Mandatory minimum requirements to ensure the continued proficiency and updating of knowledge for engineer officers.

Reg. III/6 Mandatory minimum requirements for ratings forming part of an engine room watch. (41)

The need for training institute properly equipped and integrated with an appropriate sea training to meet the theoretical and practical elements is advocated by IMO technical section and supported whenever appropriate or possible. The main areas of theoretical and practical requirements being:

- For the machinery installation and other auxiliary equipment and systems.

- Operating principles and practices of installed equipments.

- Safe and efficient operation of plant of advanced technological installation.

- Pollution control systems.

- Damage control, the procedures and actions which must be taken for the protection of life and the minimizing of damage to the ship and its cargo. (42)

The STCW, 1978 Convention has been recognized as one of the greatest and best conventions that has got world-wide
acceptance and ensuring safety and efficient operation.

2.3.3 National Maritime Board:

The complex structure of ship operation involving various interested parties i.e. government, ship-owner, seamen's union, agents (different kinds) cargo owners, brokers, ship building and repair yards, etc. and the various kinds of trades involving different kind of ships, different kind of employees as a servant of International Trade, and the highly competitive nature of shipping involving various risks and costs create incompatible interests between shipowners and seamen's union, creates the need for an arbitrating body to resolve or reconcile this interest. Government having direct or indirect interest (tax vs. employment) could not be a good arbitrator and so has led to provide an essential framework within which these parties can negotiate on a bilateral level such as a National Maritime Board (NMB). This body looks to the interest of both parties basing itself in the National Legislation as well as to the Internationally agreed regulations without taking side on matters regarding seamen's wages, conditions of service and related terms entered into the Articles of Agreement with the ship master settlement of grievances and disputes and above all in the periodical negotiation of collective agreements.*

This necessary body exists under different names and with different functions in various countries but for the sake of this paper we will limit ourselves to the National Maritime Boards of the United Kingdom(43) and India (44). The NMB was established in the United Kingdom in the second half of the nineteenth century:

"The second half of the nineteenth century was a period

* See pages 64-65
when much was achieved in improving the seaworthiness of and general conditions on board ships. Following the British parliament's repeal of its Navigation Acts in 1849 it introduced "an act for improving the conditions of masters, mates and seamen and maintaining discipline in the merchant service." Among other things this established what may be described as a national maritime board in Britain, while the keeping of a log-book was made compulsory and certificates of competency were introduced for masters and senior officers." (45)

and in India after several kind of changes in 14 June 1957. The objective of the NMB in both countries is almost similar in essence. If we take the Indian version, it states "with a view to securing closer cooperation and providing joint negotiating machinery between the British, Indian and other shipowners and Indian seafarers, the National Maritime Board shall be constituted for the purpose of:

a. The prevention of and adjustment of differences between shipowners and seafarers.

b. The establishment, revision and maintenance of suitable rate (rates) of wages and approved conditions of service.

c. The consideration of such other matters of common interest as may be mutually agreed upon from time to time.

Board membership is comprised of an equal number of representatives from each side and its total strength is determined mutually from time to time. The shipowners' decision as to which body is representative of seamen is final and binding on both sides. (46)
The NMB has been successful in both countries in fulfilling its obligations and have succeeded in creating a favourable working condition for both parties by providing a forum of understanding of each others problems. The existence of NMB has been found necessary in settling disputes and collective agreements negotiations and in keeping harmony in the shipping industry. In closing this part, let us refer to a famous name in shipping, Alan E. Branch, who briefly describes the extent of regions covered by the board in UK as follows:

"The NMB is a forum for negotiations between shipowners and seafarers on matters affecting pay, hours of duty, manning, leave and travelling allowances. It is composed of six panels, each representing a seagoing department with its own particular problems and requirements, that is to say masters, navigating officers, radio officers, catering staff and finally sailors and motormen. Each panel has twenty-four members drawn equally from shipowners and employees, with a chairman from each side. Negotiations on matters within the Boards' field of competence may be conducted by any of the panels, whose decisions are binding. The NMB is administered by a permanent independent staff and is financed by a proportionate levy on shipowners and seafarers. The organization and negotiation of seafarers' conditions of employment are similar in other maritime countries and reflect IMCO and ILO Conventions." (47)

Hence, the shipping policy towards the registration of ships, national or foreign, the idea of control of ships both by the flag state or port state, the manning and training of crew should be supported by adequate maritime legislation and administration fulfilling the national as well as international obligations to secure safe and efficient operation of ships and being flexible enough to accept new innovations to keep the business viable without affecting the social conditions of the seafarers involved in this area.
Footnotes for Chapter II:


05. IBID. p. 61.

06. EEC Shipping Policy, Flags of Convenience, EEC, Brussels 1979, p. 134.

07. IBID.


17. A. Boczek, ID. pp. 102 - 104.

18. IBID. pp. 105-115.


24. IBID. pp. 142-3.


31. IBID. p. 118.


33. IBID. pp. 34-39.


38. IBID. p. 80.


42. IBID. pp. 3-4.


CHAPTER III

MARITIME SAFETY ADMINISTRATION
AND LABOUR
The Parable of the Dangerous Cliff

Twas a dangerous cliff, as they freely confessed,
   Though to walk near its crest was so pleasant;
But over its terrible edge there had slipped
   A duke, and full many a peasant.
The people said something would have to be done
   But their projects did not at all tally.
Some said, "Put a fence round the edge of the cliff";
   Some, "An ambulance down in the Valley".

The lament of the crowd was profound and was loud,
   As their hearts overflowed with their pity;
But the cry of the ambulance carried the day
   As it spread through the neighbouring city.
A collection was made, to accumulate aid,
   And the dwellers in highway and alley,
Gave dollars or cents - not to furnish a fence -
   But "An ambulance down in the Valley".

"For the cliff is all right if you're careful," they said;
   And if folks ever slip and are dropping,
It isn't the slipping that hurts them so much
   As the shock down below when they're stopping".
So for years (we have heard), as these mishaps occurred,
   Quick forth would the rescuers sally,
To pick up the victims who fall from the cliff,
   With the ambulance down in the Valley.

Said one, in his plea, "It's a marvel to me
   That you'd given so much greater attention
To repairing results than to curing the cause;
   You had much better aim at prevention."
For the mischief, of course, should be stopped at its source,
    Come neighbours and friends, let us rally.
It is far better sense to rely on a fence
    Than an ambulance down in the Valley".

"He is wrong in his head", the majority said;
    "He would end all our earnest endeavour.
He's a man who would shirk this responsible work,
    But we will support it for ever.
Aren't we picking up all, just as fast as they fall,
    And giving them care liberally?
A superfluous fence is of no consequence,
    If the ambulance works in the Valley".

The story looks queer as we've written it here,
    But things oft occur that are stranger.
More humane, we assert, than to succour the hurt,
    Is the plan of removing the danger.
The very best plan is to safeguard the man,
    And attend to the thing rationally;
To build up the fence and try to dispense
    With the ambulance down in the Valley.
Better still Cut down the hill!

Anor
Safety is the object of any good administrative function which ship-owners, ship operators, governments and the world community as a whole take great interest in. The safety of vessels, crew as well as the marine environment became the concern of governments and the international community due to the various accidents and loss of many lives occurring one after the other during a short time period. In the United States, for example, in 1832, fourteen percent of the steam vessels in operation were destroyed by explosions, and more than 1000 persons were killed. In 1838, congress created the Steamboat Inspection Services, to have the hulls and boilers inspected although an average of 700 lives per year as the result of marine casualties continued. In 1866, a fire explosion about the steamer SULTANA resulted in the loss of 1300 persons. (2) In 1912, the famous disaster of the TITANIC, with a loss of over 1600 lives appeared (3) followed by the MORRO CASTLE which went up in flames in 1934 with a loss of 121 lives which was a tragic symbol. (4) The TITANIC disaster raised many questions about maritime safety standards that the United Kingdom decided to hold an international conference to discuss new safety regulations of which the SOLAS convention resulted and was adopted on 20 January 1914 (5). These and many other accidents in different parts of the world required an international safety standard to save lives and maritime property which led to the establishment of Intergovernmental Maritime Consultative Organization (now IMO *) in 1958 with the main responsibilities in the field of maritime safety. The International Maritime Organization (IMO) with its main objective of facilitating cooperation among governments on technical matters in order to achieve standards and procedures for maritime safety and efficiency of ship-operation has promoted the adoption of over 30 conventions, a large number of codes and recommendations on various matters related to safety and prevention of pollution. (6)

Maritime Administration and Maritime Safety Administration are two faces of the same coin and are very difficult to distinguish from one another since they overlap very frequently. In some countries they are seen as one and the same since the purpose of any administrative function is to provide safe and smooth operation. The distinction is not that visible

* See pages 155-160
since good administration can be seen as a safety measure. The Maritime Administrations set up the infrastructure and the legislative procedure for the safe administration of the ship, crew, cargo and the marine environment, including as well ports, maritime installations, harbour, etc. The maritime administrations follow-up as well the proper usage of the national legislations and their subsidiary legislations and enforce them for international safety purposes. The Maritime Safety includes all those matters relating to the ship and its equipment, officers and crew which aim at ensuring the safe transit of human-beings and cargoes from one place to the other having international character. The most vital functions of the Maritime Safety Administration, as stated by a well recognized name in the maritime field, Professor Vanchiswar PS; are those intended to ensure the Safety of Life at Sea, the Safety of Navigation and the Protection of the Marine Environment. Such functions take the form of:-

1. Various types of periodical survey/inspections of ships in accordance with the relevant rules/regulations conforming to international standards (conventions) and national requirements, and the issuance, if justified, of one or more of the following certificates to each ship:-

   a. Passenger Ship Safety Certificate
   b. Cargo Ship Safety Equipment Certificate
   d. Cargo Ship Safety Radiotelegraphy/Radio-telephony Certificate
   e. Load Line Certificate
   f. Tonnage Certificate
   g. International Oil Pollution Prevention Certificate
   h. International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk
   i. Local Cargo Ship Safety Certificate (for non-convention ships under 500 GRT)
   j. Exemption Certificate, where necessary.

2. Intermediate surveys/inspections of ships so as to verify that the ships and their equipment continued to be so maintained as to warrant the continued holding of the appropriate certificate/s.
3. Inspections pertaining to Port State Control of foreign ships.

4. Inspections and detention of unseaworthy/Unsafe ships.

5. Approval of various plans for new ships under construction.

6. Encouraging the development and manufacture of marine equipment indigenously, and approval of such equipment.

7. Co-ordinating the work of those Classification Societies to whom statutory functions have been delegated as regards surveys of national ships.

8. Maintenance of technical records of national ships.

9. Dealing with requests for "exemptions" from any statutory requirements.

10. Organising and conducting various examinations for the purpose of granting certificates of competency/proficiency to seafarers.

11. Dealing with matters pertaining to "manning" of ships.

12. Conducting inquiries/investigations into shipping casualties.


15. Ensuring safety of fishing vessels and other small craft.

16. Advising on technical matters in general in order to enable the aforesaid multifarious and highly skilled functions to be carried
out there is the essential need for duly qualified and trained surveyors, examiners and accident investigators to be appointed. (7)

The Maritime Safety Administration may be divided into three major sections: Operational, Constructional, and Cargo Safety.
3.1 Operational Safety:

This section refers to the daily operation of ships and the manpower involved in all activities which are reasonably expected to be carried out by it in order to:

- ensure safety of navigation;

- prevent maritime accidents, thus protecting human life, property and the marine environment;

- minimise the effects on human life, property and on the marine environment when such accidents occur; and

- render assistance and eventually rescue persons found in distress at sea. (8)

The international organizations, IMO and ILO, have passed many international agreements concerning safety of which:

a. The STCW, 1978 IMO Convention, and

b. The Merchant Shipping (minimum standards) - ILO Convention No. 147*, 1976

are the two main conventions referring to operational safety concerning the human element. These two conventions refer to the crews rather than to ships since it was established that the majority of accidents are due to human error rather than failure of equipments. The STCW, 1978 Convention requires that all ships to be efficiently manned with the minimum standards set by this convention to ensure safety of life and the protection of the marine environment from pollution while the ILO Convention 147, Minimum Standard Convention goes beyond the crew level requiring the states which ratify the convention:

* See Annex III.
1. To regulate and exercise effective control over safety standards, including competency, hours of work and manning, appropriate social security measures and shipboard conditions of employment and living arrangements. Art. 2.

2. A port authority of a ratifying state to inspect upon complaint ship suspected of violating internationally accepted standards and to take action to conditions clearly hazardous to health and safety, even if the ship belongs to a non-member state. Art. 4, and;

3. Is open only to countries which are parties to IMO's international safety instruments, such as:-


3.2 Technical Safety: (Constructional)

This section refers to the safety measures to be undertaken during the Design, Construction and Equipments of Ships. The many accidents happening due to ship equipment incompatibility resulting in loss of many lives, property and the pollution of the marine environment required for the setting of safety standards and procedures where new safety regulation, Safety of Life at Sea (SOLAS), was proposed and adopted in London with 13 countries represented in 20 January 1914*, revised in 1929, with two annexes, and 1948, until the IMO was established the same year. IMO established in 1948 as a permanent international body capable of adopting legislation on all matters related to maritime safety. IMO began the formulation of standards and procedures for maritime safety and

* See page 89.
pollution prevention aimed at eliminating maritime accidents or casualties. These standards and procedures include:-

a. Safety standards for the design, construction and equipment of merchant ships (including subdivision, stability, structural fire protection, machinery and electrical installations, life-saving appliances and navigational equipment),

b. Standards and procedures for the safe handling and storage of dangerous goods and bulk cargoes,

c. Procedures for safe navigation of ships, such as routing schemes, navigational watchkeeping, radio communication systems and

d. Standards for the qualification and certification of seafarers. (9)

The main IMO instruments to ensure the constructional safety measures lie in the International Convention on Load Lines 1966 and the International Convention for the Safety of Life at Sea, as revised in 1974 and modified in 1978. (10) The Load Line Convention set rules for a secure freeboard which enables the ship to stay afloat with adequate reserve buoyancy keeping the deck reasonably dry and eliminating flooding. It provides protection of crew under Reg. 25 as to the strength of deck-houses for accommodation and guard rails or life lines for effective protection of crew if there is no convenient passage on or below the deck of the ship. The SOLAS Convention, considered the cornerstone of maritime safety provides internationally acceptable minimum standards for the design, construction, equipment and operation of ships. These are done through the following steps:-

3.2.1 Survey and Inspection:

Once the plans are approved by government or any responsible body, the survey and inspection of the vessel starts at the shipyard were surveyors study the plan and inspectors conduct
inspections on site to insure that only approved equipment is installed, that proper construction materials are used and that all segments of the vessel are built in accordance with approved plans. Review and inspection is made upon construction by all interested parties, government, insurance, shipowner inspectors and classification societies as well. Once the ship is afloat periodic survey and inspections shall be carried out by officers of the country in which the ship is registered. The government of each country may entrust the inspection and survey either to surveyors nominated for the purpose or to organizations recognized by it. In every case the government concerned fully guarantees the completeness and efficiency of the inspection and survey. The SOLAS 1974 Convention, Chapter I, Part B, Surveys and Certificates, Regulation 6-20 explains this area. In general, survey and certification cover the following:

a. Matters concerning the assignment of Load Line and Stability.

b. Matters concerning the application of 1974 SOLAS and 1978 Protocol relating thereto:
   - Passenger Ships Safety Certificate
   - Safety Construction Certificate
   - Safety Equipment Certificate
   - Grain Loading
   - Carriage of Dangerous Goods

c. Matters concerning Accident Prevention, Health and Hygiene
   - Crew Accommodation
   - Medical Examination
   - Food and Catering
   - Accident Prevention
   - Lifting Appliances and Loading Equipment

d. Matters relating to The Marpol Convention as modified by the 1978 Protocol.
e. Minimum manning standards and certification.

Survey and inspection are very important tools of Law enforce­ment and ensure safety of ships, crew and the marine environment. Governments should take due care for the proper survey and ins­pection of ships registered under its flag by nominating capable personnel or ensuring to recognized organizations since ultimate responsibility lies with them. Some kind of punishment, recti­fication and detention, coercive measures in case of negligence or other compulsory fines should be accompanied to ensure proper usage of the system.

3.2.2 Construction Fire Prevention:

Fire is one of the causes for maritime accidents, loss of lives, property and pollution of the marine environment. A good example would be the MORRO CASTLE * which took the life of 121 people in 1934. This has led to many conferences which ended up with im­provement of certain sensitive compartments and equipments in different parts of the vessels. The SOLAS Convention, 1974, Chapter II-2, Construction - Fire Protection, Fire Detection and Fire Extinction Section has six parts with 85 regulations for different kind of ships. The basic principles as stated in Chapter II-2, Regulation 2, the purpose of this chapter is to require the fullest practicable degree of fire protection, fire detection and fire extinction in ships. The following basic prin­ciples underlie the regulations in this Chapter and are embodied in the regulations as appropriate, having regard to the type of ships and the potential fire hazard involved:–

a. Division of ship into main vertical zones by thermal and structural boundries.

b. Separation of accommodation spaces from the remainder of the ship by thermal and structural boundries.

* See page 89.
c. Restricted use of combustible materials.

d. Detection of any fire in the zone of origin.

e. Containment and extinction of any fire in the space of origin.

f. Protection of means of escape or access for fire fighting.

g. Ready availability of fire-extinguishing appliances.

h. Minimization of possibility of ignition of inflammable cargo vapor.

As we can understand from above mentioned points, the regulations provide for structural changes and the necessary equipments for fire fighting purposes. The convention provides different regulations for passenger, cargo, and tanker ships taking into consideration the degree of risk involved. Although these protective measures incur cost on shipowners and are sometimes faced with opposition the final result of safety of cargo and ship and certain reduction from insurances encoragement their installment especially in new ships.

3.2.3 **Life Safety Appliances:**

Life-saving appliances are required on board ships to secure safety in case of accidents. These safety requirements are set in the SOLAS 1974 convention, Chapter III with 38 Regulations attached to it, stating from the equipment required upto the personnel to execute it. These life safety appliances requirements apply to new ships engaged in international voyages but not to existing ships which were built before the coming into force of the SOLAS, 1960 who are required substantial compliance. The application is divided into three parts taking into consideration the number of people on board and
the risk involved:

Part A - Applies to both Passenger Ships and Cargo Ships.
Part B - Applies to Passenger Ships in particular.
Part C - Applies to Cargo Ships only.

These safety appliances constitute in general, lifeboats, liferafts, buoyant apparatus, motor lifeboats, mechanically propelled lifeboats, portable radio apparatus for survival craft, searchlights, inflatable liferafts, rigid liferafts, life jackets, line-throwing appliances, ships' distress signals, master list and emergency procedure, certificated lifeboatmen, Davits and Launching arrangements, emergency lighting, etc. According to Regulation 4 of this convention "Ready Availability of Lifeboats, Liferafts, and Buoyant Apparatus":

a. The general principle governing the provision of lifeboats, liferafts and buoyant apparatus in a ship to which this chapter applies, is that they shall be readily available in case of emergency.

b. All the life-saving appliances shall be kept in working order and available for immediate use before the ship leaves port and at all times during the voyage.

These regulations provide adequate safety appliances for the crew as well as passengers in case of emergencies but must always be checked during inspections to ensure that they are in working condition. Other IMO Convention which can be seen in relation to Chapter III of SOLAS 1974 are the:

- Convention on Maritime Search and Rescue, 1974;

- IMO Merchant Ship Search and Rescue Manual, (MERSAR) 1980, and

Although this convention and two manuals are included in the Navigation Section are very important guidelines for the Life at Sea. Further details are given in the following section.

3.2.4 Safety of Navigation:

Navigational safety begins once the ship is on the sea starting with its own navigational instruments like the radar, radio, direction finding apparatus, gyro-compass, echo sounding device, etc., and other aids to navigation like the lighthouse, lightships, tenders and buoys which continued to develop to challenge nature and success has been the measure of technological achievement. Platforms which replaced lightships and ocean stations are no more needed with technological advanced equipments since radar satellites and buoys now provide weather data more cheaply and aircraft reliability has significantly improved. During the 20th century, electronics were adopted to aid to navigation. Platforms and lighthouses in heavily travelled areas emitted radio beams to guide shipping. A radio navigational system LORAN (Long Range Navigation) with accuracy to about 15 miles at its extreme range of almost 500 miles, was developed during World War II. Today, LORAN-C with accuracy 1000 feet at 1000 mile range is in operation and may be used in rescuing, surveying, mapping as well as aiding navigation. (11)

Electronic aids to navigation using radar, computer, television, and voice communications and Vessel Traffic Services (VTS) in busy traffic ports areas have greatly improved navigational safety. Technological advance in this area has greatly influenced navigational safety, search and rescue system and environmental protection. The various accidents resulting with loss of many lives and maritime property have brought the need for an international organization like IMO, with the objective of safety at sea, prevention of pollution from ships and technical cooperation among the over 100 member governments. This international
An organization has passed several conventions, codes and recommendations of which, Chapter V of the International Convention for the Safety of Life at Sea, 1974 is particularly devoted to safety of navigation specifying measures for the prevention of certain accidents. The Chapter provides 21 regulations relevant to Safety of Navigation. These regulations are as follows:-

1. Application, to all ships except ships of war and those on the Great Lakes of North America.

2. Master of all ships to report dangers to navigation by all appropriate methods and contracting governments to disseminate this information.

3. Pass information required in Danger Messages as prescribed.

4. Contracting governments to encourage collection of data from ships and issue weather bulletins.

5. Provide Ice Patrol Services during ice season.


7. Speed near Ice - Report, moderate speed or alter course.

8. Routing - Purpose separating of traffic, opposing streams through traffic lines, recommended for ships concerned, IMO as mediator and avoid fishing banks Lat. 43° N and regions endangered by ice.


10. Distress Messages - Obligations and procedures.

11. Signalling lamps for ships of 150 gross tonnage on international voyages.
13. Manning - shall be sufficiently and efficiently manned.
15. Search and Rescue - Government undertake to ensure coast watching and rescue of persons in distress at sea round its coasts.
16. Life Saving Signals.
17. Pilot Ladders and Mechanical Pilot Hoists.
18. VHF Radio - Telephone Stations.

The two main reasons for losses of and damages to ships which result from a lack of safety on navigation are collisions and groundings. Collision with another vessel, mostly due to restricted visibility, excessive speed or misuse of radar, could be very costly because it may result in severe damage to hull and equipment, delay, pollution (oil, chemical, etc.), death or serious injuries, crew cost, salvage cargo damage, wreck removal, etc. even conflict leading to international tribunals. Although collision regulations date from the Rhodian Law, Laws of Oleron, Laws of Wisby (Baltic) and Consolato del Mare (Mediterranean) recent development was made by the two international
conferences held in Washington and Brussels and the SOLAS Convention of 1929 which came with two annexes, one of which revised the International Regulations for Preventing Collisions at Sea, which was further revised in 1948 and 1960 together with SOLAS until finally the COLREG, 1972 was adopted by IMO. (12) The International Maritime Organization since its establishment has passed several relevant conventions, codes and recommendations to ensure safety of navigation. These are well stated by a well-known maritime expert, N. Singh, who sub-divides the subject into four major areas and allocates the related agreements and recommendations:

1. **Collision Prevention:**
   - IMCO recommendations concerning collision regulations.

2. **Navigational Aids:**

   Buoyage and Lighting of Coasts:
   - Agreement concerning Manned Lightships not on their Stations, Lisbon, October 23, 1930.
   - Recommendations on Lighthouse Characteristics and Radio-Beacons, October 23, 1930.

   Cape Spartel Light:
   - Protocol between the United States of America, Belgium, Spain, France, Italy, The Netherlands, Portugal, The

Red Sea Lighthouses:


North Atlantic Ocean Weather Stations:


3. Maritime Communications:


4. Telecommunications:


The International Maritime Organization is making coordinated
effort with other UN organs like IALA, ICAO, WMU, to further develop new innovations and satellite and radio communication systems to ensure safety of navigation. It is currently engaged in developing the Future Maritime Distress and Safety System (FMDSS), a system which will take full advantage of the technological developments in the communications field, notably the introduction of satellite technology. (14) Other organizations involved in satellite communication and in Search and Rescue are:

- **INMARSAT** - International Maritime Satellite Organization based on advanced space and electronic technology, these communications provide the maritime community with long-awaited possibility of significantly improving operation and Safety of Ships at Sea. (15)*

- **SARSAT** - Search and Rescue Satellite - Aided Tracking - Partners USA, France, Canada, USSR (COSPAS) - Corporate in Search and Rescue, Satellite Communication through use of: EPIRB (Emergency Position Indicating Radio Beacon) ELT (Emergency Locating Transmitter) for ground distress signal at MHZ 406, 121.5/243 during operation. (16) **

The Chapter V SOLAS 1974, fully establishes the necessary foundations for safety of navigation which are evolving year after year with evolution in ships and technological advancement. The IMO, Sub-committee on Safety of Navigation works on and envisages amendments with the next ten years together with other international organs on areas of:

- SOLAS 1974, Chapter V
- 1972 Collision Regulations
- 1977 Torremolinos Fishing Vessel Convention - Chapter X

* Pages 196-198
** IBID
- 1979 SAR Convention with Global Maritime SAR Plan
- Merchant Ship Search and Rescue Manual (MERSAR)
- IMO Search and Rescue Manual (IMO SAR)
- Ships Routing
- Operational Performance Standards for Shipborne Navigational Equipments.
- Standard Marine Navigational Vocabulary (Res. A.380 - X)
- Ocean Data Acquisition Systems (ODAS) International Oceanographic Commission. (17)

These technological advancements have contributed a lot to the safety of life and maritime property at large making navigation much more safer than it was before.

3.3 Cargo Safety:

The main purpose of acquiring a ship is to transport goods (cargo) from where they are surplus to the place where they are needed for certain consideration provided for the service i.e. according to the requirement of trade. The design and construction of the vessels is also influenced by the cargoes that are to be transported. The many requirements that are set up in the contract of carriage of goods, creating duties and obligations of the parties arise or emanate from the question of safety - safety of cargo or the safety of capital involved in the general operation of the trade creating bilateral or multilateral obligations on the International Forum. The handling of the cargoes from the premise of the seller to the premise of the buyer in a safe and proper manner avoiding loss or damage of goods is the fundamental requirement that has to be met by the parties involved but is not an easy thing as it sounds. The complex situation is in an evolutionary process changing both the operation of ships as well as the ports to provide for a safe and efficient system. The containerization process is one of the outcomes developed to avoid loss, pilferage and damage to cargoes. The carriage of goods in a safe and proper manner to maintain reasonable cost of transport of goods which finally becomes burden of consumers, had been and still is subject of discussions on the international level. The carriage of goods by sea aims at securing measures
of compromise on:

- The safe stowage of and carriage of bulk cargoes,

- The safe handling and carriage of dangerous goods (parts of which constitute the packing, marking and labelling, storage and handling in ports, and

- The safe handling and transport of containers. (18)

The International Maritime Organization has introduced several conventions recommendations, codes, and guidelines aiming at covering "Cargo Safety". These include:

1. The International Convention for Safe Containers, 1972 (CSC) with the main objectives of:-
   - Maintain high level of safety in transport and handling of containers.
   - Facilitate International Movements of Containers.

2. SOLAS Convention, 1974 Chapter VI - Carriage of Grain and Resolution A. 264 (VIII) IMO Grain Rules, with detailed requirements for:
   - Trimming
   - Intact Stability
   - Loading and Securing
   - Authorization and Grain Loading Information
   - Equivalents and Exemptions


4. The International Maritime Dangerous Goods Code
5. The Bulk Chemical and the Gas Carrier Code.


8. IMO/ILO Guidelines for training in the packing of cargo in Freight Containers.


IMO, through its sub-committee on Containers and Cargoes tries to facilitate the carriage of goods by sea by providing working procedures in handling of different category of cargoes in a safe and appropriate manner.

In summarizing the subject of Safety Administration in the various fields of Operational, technical and cargo safety one can say that all developments are from the point of view of cost efficiency and safety. The Operational Safety seeking for sufficient and efficient manning through the implementation of the STCW, 1978 Convention contributes in reducing human errors in ship operation to a great extent. The Constructional Safety provides standards for the design, construction and equipment starting with proper implementation of plans, survey and inspection, constructional fire prevention, life safety appliances and Navigational Safety assures that the vessel is properly made of the required materials, and having all the required equipment for safe navigation. The Cargo Safety which is both operational and constructional, emanates from the proper handling of cargoes and protective measures in handling gases and chemicals. In general, one can say that the operational, constructional and cargo safety measures contribute a tremendous amount to the safety of the crew, maritime property and the maritime environment. The Maritime Safety Administration should work in close relationship with the International Maritime Organization to ensure safety in all fields of operation.
Footnotes to Chapter III:


08. Capt. Gur Saran Singh, ID. pp. 3-4

09. IBID pp. 2-3.

10. ID. p. 4.


14. Safety at Sea, ID. p. 32.


16. SARSAT, National Aeronautics and Space Administration (NASA), USA, pp. 1-16.


19. STAN MORRISON, IMO and Safety, IBID.
CHAPTER IV

THE ECONOMICS OF SHIP - OPERATION & LABOUR
Shipping is service for the carriage of goods by sea requiring certain inputs. The challenge to the shipowner, charterer or the management is to combine this inputs in such a way that he can provide efficient, effective and yet competitive service in the international market. Having regard to safety, statutory obligations and service standards and taking careful evaluation of the wide range of elements influencing ship operation the major necessary inputs consist mainly of fuel cost, capital cost and crew cost as can be seen from the following table. The economics of manning (crew), capital and fuel through efficient management determines the level of operation of the ship.

<table>
<thead>
<tr>
<th>Items</th>
<th>Percentage of Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Oil</td>
<td>29.6</td>
</tr>
<tr>
<td>Lubricating Oil</td>
<td>0.9</td>
</tr>
<tr>
<td>Engine Maintenance</td>
<td>1.2</td>
</tr>
<tr>
<td>Hull Maintenance</td>
<td>3.9</td>
</tr>
<tr>
<td>Crew Costs</td>
<td>24.2</td>
</tr>
<tr>
<td>General Administration</td>
<td>0.4</td>
</tr>
<tr>
<td>Insurance</td>
<td>7.6</td>
</tr>
<tr>
<td>Capital Cost (Depreciation, interest, etc.)</td>
<td>28.2</td>
</tr>
</tbody>
</table>

This table gives an analysis of a voyage estimate based on 1980 prices for a typical 60,000 DWT modern bulk carrier with a 16 knot service speed. (1)

The subject of cost is a crucial element of economic analysis in shipping. Fuel, capital and crew cost being major areas would be given more clarification.

Fuel cost consisting of almost 30 percent of the operation cost is being
given crucial consideration through researches to make them more economical by looking for better devices in the hull design and machineries to produce the optimum speed with the most favourable fuel consumption level.

The other important cost area being the capital investments that are to be made consisting also almost 30 percent of the operation cost are being met in some countries by subsidies of some kind, like low rate of interest on loans, construction and operating subsides, tax system, etc.

The manning (crew) cost making 12-25 percent of the total consists is the area which shipowners are devoting increasing attention in order to achieve lowest crew through application of advanced technological products and change in construction methods.* The cost structure here depending on the existing crew structure, ship-board organization, national legislation, manning scales, trade unions and role of public and private international organizations' influence in the area. The crew cost being one of the main single cost items basically depends on three factors:

1. Ship size and manning scales for particular types of ships.
2. Nationality of the crew.
3. Pay conditions (rates of basic wages, leave pay, overtime, etc.)

And are generally divided into three groups:

1. Wages:
   Basic pay, overtime, special work payments, leave pay, social security, bonuses, etc.

2. Travel Costs:
   Fares, per diem, subsistence allowance, baggage, etc.

* Subject discussed in Chapter 2 (2.3).
3. Other Costs:
Medical expenses, trade union dues, training, clothing, etc. (2)

The size of manning costs is determined primarily by the size and nationality of the crew rather than by the size of the ship. The opposition from trade unions and sometimes government bodies are factors to be taken into consideration for any change to be made.

4.1 The Economics of Labour and Ship Operation:

"The economies of labour is concerned with the complex set of factors that affect the demand for and supply of different types of labour service, and the operation of different kinds of labour market. It deals with the role of labour services in the production process, and with the structure of pay in the economy where pay represents both a price and a distributive share." (3)

Labour as a factor of production plays an important role in shipping as in all other areas of production. The relation of labour to capital as a source of value or as the main generator of capital and the idea of labour being intrinsically related to capital, labour productivity and labour values are subjects discussed by classical economists and other scholars until today:

John Locke:
Considered it as "The sole source of value" (i.e. the only productive input)

Adam Smith:
"Stressed the importance of labour input in the production process as well as the effects of division of labour on economic progress."
David Ricardo:
"While not maintaining a strict, uncompromising labour theory of value, stressed more than Smith the importance of labour in production."

Karl Marx:
"The theory of value reached its culmination by Marx who attributed all value to labour. He viewed capital as not more than the stored-up productive power of labour."

Alfred Marshal and John Bates Clark:
"The current view of labour as factor of production considering the marginal supply and demand function and marginal productivity approach to the valuation of labour from the basis for analysis of more recent writers." (4)

New trend about Marx's labour theory of value is alleged by John Nasbitt's "a knowledge theory of value" which states "in an information economy, then value is increased, not by labour, but by knowledge. Marx's 'labour theory of value,' born at the beginning of the industrial economy, must be replaced with a new knowledge theory of value. In an information society, value is increased by knowledge, a different kind of labour than Marx has in mind. We have just to look at one of our major exports to realize the value of knowledge. In a day of shrinking U.S. Markets abroad, American companies have little trouble selling their know-how, their expertise, their management skills. In 1980 American companies earned $60 billion in overseas sales of services, 20 percent of world market share. Nevertheless, the notion that knowledge can create economic value is generally absent from most economic analysis, though there is some evidence that is now beginning to be taken into account." (5) My doubt to this new theory or allegation to Marx's Labour Theory of Value "We need to create a knowledge theory of value to replace obsolete labour theory of value" lies in that it seems as though Mr. John Nasbitt did not realize that both "information" and
"knowledge's" being product of labour. If thus information and knowledge are product of labour then the new knowledge theory of value is nothing different than the original one. If that is the case then, Marx's conception of the labour theory of value remains intact. The ideas forwarded by Mr. Nastbitt about information society are highly admirable except for this major misconception.

Let us support our conception of labour with well said words and the great sculptor Michelangelo's sonnets on the acts of creation:

"The hand is the cutting edge of the mind"
Henry Moore's knife-edge-two piece, 1961. (6)

"when that which is divine in us doth try
to shape a face, both brain and hand unite
to give, from a mere model frail and slight,
Life to the stone by art's free energy.

"Brain and hand unite": The material asserts itself through the hand, and thereby prefigures the shape of the work for the brain....

"The best of artists hath no thought to show
Which the rough stone in its superfluous shell
Doth not include: to break the marble spell
Is all the hand that serves the brain can do."

Michelangelo's head of Brutus, (7)
The Bargello Museum, Florence.

The role of labour in the production of shipping services is an important one except for its cost factors which are being fought

* See def. page 19.
by shipowners for further reduction. This effort to reduce the manpower is highly fought by labour unions and sometimes government policies to control unemployment problem which is referred to as being "unemployment of individuals is often more than just an economic problem." (8) On the other hand, shipowners have to be competitive in the international market to remain in the market. To balance these problems shipowners, trade unions, governments and international organizations are taking part for possible solutions while market situations are guiding the situation.

The economics of labour * largely depending on the market laws of demand and supply i.e., the demand for shipping services influencing the demand and supply of labour. The demand for seafaring labour is therefore a derived demand dependent on the market forces.

The economics of labour is concerned with the complex set of factors that affect the demand for and supply of different types of labour service and the operation of different kinds of labour market.

4.1.1 Demand for Seafarers:

The demand for seafaring labour is a derived demand influenced by many factors. The most important factors may be:

1. The size of the fleet by number of ships and by the size of each ship and horsepower.

2. The nationality of the ship's flag.

3. The structure of the fleet by type and trade.

* see def. page 19.
4. The trading area of the ship.

5. The age distribution of fleet by type of ships.

6. The technology used in each ship in running engine rooms, in navigating the ship, in cargo handling techniques, as a whole in the operational and maintenance sides.

7. The power and attitude of labour unions.

8. Manning systems applied by the shipping company.

9. The ratio of working time to paid leave time.

10. The turnover and wastage rates of sea labour force.

A mixture of all these factors can determine the demand side of sea labour in quantity and quality. (9) The manning scale of a country, the type of trade involved in, the type of ship (high technology) unions role and mostly market factors influence the demand of labour. The most important factor creating the demand is the price to be paid which whenever it is lower than other areas attracts more employers and this has been witnessed in the demand created for asian crew. This is well explained by the opening two sentences of Hick's (1963) Theory of Wages, "The theory of the determination of wages in a free market is simply a special case of the general theory of value. Wages are the price of labour; and thus, in the absence of control, they are determined, like all prices, by supply and demand." (10) Low-labour cost areas tend to attract more of shipowners attention and the market tend to follow the demand and supply trend unless intervened by the principal institutions in the labour market i.e. government policies, labour union, and employers association.
The demand for shipping labour varies in developed and developing countries. In developing countries apart from the conditions stated above as influencing the demand two main considerations should be stressed. These are:

1. Age, size of fleet and its relative structure.

2. The external demand coming from fleets of flags of convenience and from some developed countries fleets.

The developing countries being new comers to this sector compared to the traditionally maritime developed countries are investing more on developing shipping and their trained manpower to fulfill the demand created. This labour being much cheaper than most developed countries is attached by market to flag of convenience ships since labour is plenty this will not be a problem except for the qualified trained personnel which is rare here.

Developing countries fleets carry increasing amount number of crew in their ships compared to developed countries since have cheaper crew cost and sometimes used for training purposes or due to a less labour productivity. A good example of this is shown in Table 3 below:
Table 3: Annual Crew Costs for a 25,000 Bulk Carrier, 1980.

<table>
<thead>
<tr>
<th>Country</th>
<th>Crew Size</th>
<th>Annual Cost (in US $000's)</th>
<th>As percentage of Shipping Costs *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>31</td>
<td>555</td>
<td>48</td>
</tr>
<tr>
<td>Singapore</td>
<td>30</td>
<td>400</td>
<td>39</td>
</tr>
<tr>
<td>Developing Country</td>
<td>37</td>
<td>430</td>
<td>39</td>
</tr>
<tr>
<td>Norway</td>
<td>18</td>
<td>890</td>
<td>54</td>
</tr>
<tr>
<td>FR of Germany</td>
<td>28</td>
<td>1,510</td>
<td>64</td>
</tr>
<tr>
<td>Netherlands</td>
<td>33</td>
<td>1,240</td>
<td>54</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>25</td>
<td>2,100</td>
<td>57</td>
</tr>
</tbody>
</table>

* Shipping costs include crew costs, broadly defined maintenance and repairs, stores and lubricants, general expenses.

The demand for seafarers in developed countries is decreasing gradually because of the rapidly increasing labour costs. Efforts are being made in substantial investment in labour saving systems such as containerization, advance in computer and communications technology to reduce this demand. In the US, "The number of seamen and officers declined from about 52,000 to 21,000 or by almost 60 percent.... on the whole, then, there is little doubt that, in relative terms, labour input has been reduced substantially in all western fleets. While in DECD countries in 1967 had a total maritime employment of approximately 600,000 persons for a fleet of approximately 120 million gross tons, the corresponding figures for 1976 are about 526,000 persons and 206 million GRT" (11). The total number of Japanese crew employed in the Japanese merchant fleet correspondingly decreased from about 56,000 in 1970 to about 38,000 in 1980. (12) The developed countries are minimizing their manning scales to the extent that can be allowed by national and international
legislation and agreed upon by unions. Further experiments are taking place in this countries specially Japan, Norway, the Netherlands, and West Germany either within individual companies or on an industry wide bases so as to reduce more manning scales. Various oppositions are coming from trade unions and government legislations as well as from the International Transport Workers Federation (ITF) having adopted manning scales in 1983 which were based on policy document first submitted to the IMO a few years ago and which has since been partially adopted (presumably within IMO resolution A. 481) which lays down limited numerical guidelines but also provides for considerable flexibility. The manning scale to semi-automated ships are as follows:

Table 4 - ITF Safe Manning Levels

<table>
<thead>
<tr>
<th>Size (GRT)</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 - 499</td>
<td>9-10</td>
</tr>
<tr>
<td>500 - 1,599</td>
<td>11-16</td>
</tr>
<tr>
<td>1600 - 5,999</td>
<td>22-24</td>
</tr>
<tr>
<td>6000 - Plus</td>
<td>25-27</td>
</tr>
</tbody>
</table>

Table 5 - Revised Norwegian Manning Levels, March 1983.

<table>
<thead>
<tr>
<th>Size (GRT)</th>
<th>Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 - 300</td>
<td>5</td>
</tr>
<tr>
<td>300 - 500</td>
<td>7</td>
</tr>
<tr>
<td>500 - 1,200</td>
<td>9-10</td>
</tr>
<tr>
<td>1,200 - 2,000</td>
<td>10-12</td>
</tr>
<tr>
<td>2,000 - 7,000</td>
<td>15-16</td>
</tr>
<tr>
<td>7,000 - 20,000</td>
<td>17-18</td>
</tr>
<tr>
<td>20,000 - Plus</td>
<td>18-19</td>
</tr>
</tbody>
</table>

These levels require increased technology and crew competence.
Table 6 - The New Norwegian Manning Scales are as follows:

<table>
<thead>
<tr>
<th>Rank</th>
<th>2000 GRT Plus</th>
<th>7000 GRT Plus</th>
<th>20,000 Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mates</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Radio Officer</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Engineers</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electricians</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ship Mechanics</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Apprentice ships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanics</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Catering Officer</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Cook</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Catering Assts.</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15-16</strong></td>
<td><strong>17-18</strong></td>
<td><strong>18-19</strong></td>
</tr>
</tbody>
</table>

This table clearly show the demand for ship crew is decreasing gradually from crew 40-60 in the 1960's to crew of under 20 in the 1980's. (13) The reduced manning usually requires high level specialization as well as high crew cost but is stabilized since the number is small.

4.1.2 The Supply of Seafarers:

The supply of manpower is always dependent on the amount of demand which is influenced by the market. Due to the conditions of the supply and demand in the market of sea labour its market prices are fixed. Although developing countries have always a surplus of labour with low labour costs these are not always the conditions but effected by other factors as well. The supply of maritime labour is affected by two elements: Quantity and Quality.
1. The quantity is influenced by:

   a. Tradition of maritime activities, living near the sea or economically related to it and the standard of living.

   b. The number of people who accept and endure the unusual conditions of the sea life.

   c. Wages of Seafarers in relation to wages at shore.

   d. The reputation of seafaring in a country and the social values held in society, i.e. if regulation of the profession is low recruitment problem also arises.

   e. Mobility to jobs ashore, training/education, possibility of getting skills and qualification paving the way of getting back to shore at later stage and not to be trapped at sea.


2. The quality of sea-manpower supply of a country can be affected by:

   a. The general productivity of labour in a country could be affected by standard of living, nutrition and health conditions, which will have a combined effect on the working capacity which again reflects on the standard of living.

   b. Recruitment Policies: The right selection methods should be used by the industry and control exercised over them by giving certain
advantages. If top priority given in the recruitment attention should be given to make them meet the continuous changing situation in the shipping industry.

c. Maritime Training: has become an essential requirement to meet the continuously changing environment in shipping. The different standards for training the required personnel for shipping industry reflect different standards of efficiency. Developing countries complain from the lack of trained personnel, inadequate training facilities due to the high capital required for training facilities.

d. The Standard of Management and Supervision is an important element that influences the quality of labour supply. Good management in another factor or production influencing the efficient use of capital as well as the human resources. The system of supervision used having a great effect on the quality of performance.

e. Job Satisfaction: is an important factor for the quality of work to be performed. The seafarers satisfaction is realized when he gets outlet for his interests, abilities and values. The feeling of some minimal decision making and some sense of responsibility gives pride in his work and some attachment to his ship. Moral and material incentives for rewarding higher performance are factors which add to the job satisfaction of the seafarer. (14)

The supply of sea-labour is thus subject to various social conditions which are interdependent in determining the efficiency and productivity of ship operation. But these factors are influenced by the market situation for the
demand for this manpower to establish or to run the training facilities to meet the demand. Periods of recession, as the one we are facing now holds back the demand which in turn reflects on the training or production of this factor while periods of economic booms require immediate supply. The time lag between the two factors should be met with appropriate manpower planning in short and long term plans. The training of this manpower for alternative purposes by abolishing the traditional strict division of departments on board ships as is being implemented by the shipboard management system, the dual purpose crew and even enabling them to work on shore work areas is one to be given strict consideration in case of need arising from technicological advances on ship-operation.

4.1.3 Labour Productivity:

The productivity of the crew employed is an important factor in the efficient operation of the ship. High productivity could be achieved through efficient management which look to the satisfaction of the crew and systematic supervision which has a great effect on the quality of performance. The general productivity of the crew could be influenced by the living standard, nutrition, health, accommodation, etc. and qualities inherited or acquired by social environments such as, the to economize, interest in output for the sake of output, the spirit of teamwork, and other non-economic qualities. The productivity of the crew can be measured in terms of:

- Number of manning scales.
- Hard working ability of each member of the crew.
- Accidents occurring per year.
Delays in voyage performance due to ship internal causes.

Losses and damages to cargo carried on board.

Level of maintenance performed.

Rate of wastage of material used.

High range of turnover of sea manpower, etc.

The performance of the crew has a great effect in the productivity of the ship especially in liner ships where the tariff is fixed and competition is eliminated. Other factors influencing the performance of a ship or a fleet measured in terms of the number of voyages per year, or the length of stay in port or of volume and type of cargo transported, its appearance and reputation. A decay in the external appearance and internal cleanliness of a ship has far-reaching effects. The first impression that that grain inspectors and customs get when boarding the vessel are likely to determine the delay and expense that ship will suffer in their hands. High productivity depends upon level of wages and vice versa and upon level of leadership prevailing and the sense of loyalty to the ship and level of good communication between the crew members and between them and the shore management. For a developing country if satisfactory productivity is accompanied with relatively low wages, a strong competitive power can be achieved in shipping markets. (15) Labour productivity is an important factor that is tried to be met through advanced technology and automation.

4.2 The Economic Effects of "Automation" in Ship Operation:

The term "Automation" has a very wide aspect to cover in ship-operation. The technological progress on board ships to increase
the efficiency and to decrease the costs of operation may be referred to as automation. The improvement of the technical equipments could be for safety of the ship, technical advance or economic purposes. This development of ship's equipment, the mechanisation process in the placement of new innovations on ships through computerized or automatic control are also referred to as automation. From this wide coverage, various economic or operational benefits accruing from automation are:

- Greater efficiency in operation.

- Safer Control: instruments are better watchkeepers and reset quicker than human beings.

- Increased economy of operation - improved control and technical conditions will result in reduced bunkers and lubricating oil consumption, and lower repair and spare part bills.

- Less of hire - because of easier pre-observed machinery maintenance.

- Reduced crew complements - fewer watchkeepers, and

- Improved working conditions on board, especially for officers, better control rooms, air conditioning, moisture control, sound proofing and environment generally.

- Reduced physical stress on those responsible for complicated machinery.

- Conditions of life is improved due to small manning and less stress of manual work. (16)

- Improved service to customers.
The Disadvantages of Automation:

Some of the usual objections are:

- The special problems for the crew in a transition period, owing to a change in the organization.
- The demand for training and retraining.
- The risk of failure in the automatic system.
- Reduced human attention.
- Repetitive controlling nature of work could easily result in acute boredom.
- The disappearance of the commercial responsibility making the career of the sailor less attractive.
- No time for rest or relaxation because quicker turn-rounds and short calls in port involve constant tension. (17)

These difficulties are all real enough and they may cause serious problems if not dealt with adequately. The ILO Joint Maritime Commission had adopted a resolution requesting the Institute of Labour Studies to keep in mind the special position of the shipping industry in developing its work. The project, the first of its kind, was timely considering not only the development, and application to ships of most types, of sophisticated equipment and modern techniques designed to increase operating efficiency and/or the productivity of ship-personnel, but also the existence of uncertainty and apprehension regarding how automation and the changes it would necessitate and facilitate might affect the lives of seafarers. (18)
with the main aim of improving the productivity of the ship. This could be through installing automatic equipment for fuel economy or reducing the manpower onboard a ship. The degree of automation would be in proportion to the expected size and organization of the crew depending on the amount of capital invested and the technological advance, both economy and technology influencing the choice. Apart from the other advantages of safety and economy, crew reduction is a significant factor having a number of associated changes in capital or operating costs, in revenues or in all three. According to Boss, examples of savings in capital cost are:

- Crew accommodation,
- Crockery, cutlery and linen,
- Galley space and equipment.
- Stores space.

The changes in operating costs include savings of:

- Wages and overtime.
- Fringe benefits, including leave pay, repatriation, and medical costs.
- Food and food preparation.
- Fuel for cooking, heating, cooling and electricity.
- Fresh water.
- Maintenance of accommodation and life-saving gear.

A good example given illustrating this; would be:

"For example the saving of any one man in the deck department will probably have no effect on the number employed in the catering department; yet in a series of reductions in the deck crew there must come a time when the number of cooks and stewards can also be reduced. At such a point, therefore, the effect on operating and capital costs savings may be roughly doubled (if the first reduction is of a crew-member
whose costs are about the same as those of the consequentially saved member of the catering department)... Again the saving of weight and space associated with the elimination of accommodation, etc., may cause an improvement in the earning capacity of the ship." (19)

The reduction in crew due to the installation of capital equipment intended to increase the profitability and productivity. The shipboard management system (team) is a development to fit this system requiring general purpose crew as well as dual purpose officers.* Automation and high technological advances have enabled in a better accommodation and job satisfaction for the remaining crew due to their participation in work plan as well as execution and the shift in administration from shore to ship due to advance in the communication system. The possibility of having a "fully automated ship" is envisaged and technically possible except that it will require high capital and the infrastructure to accommodate it is not organized. This if made possible would endanger labour supplying countries future as well as all seafarers. Herbert Marcuse, in his studies on Advanced Industrial Society has stated on the impact of automation as follows:-

"Automation, once it became the process of material production, would revolutionize the whole society. The reification of human labour power, driven to perfection, would shatter the reified form by cutting the chain that ties the individual to the machinery - the mechanism through which his own labour enslaves him. Complete automation in the realm of society necessity would open the dimension of free time as the one in which man's private and societal existence would constitute itself. This would be the historical transcendence towards a new civilization." (20)

* See page 74.
Accordingly, one can say that shipping is a service requiring certain inputs. The challenge to the shipowner is to combine these inputs in such a way that he can provide efficient, effective and yet competitive service in the International Market. In a situation where he cannot influence freight rates and income he will try to minimize his costs. The capital cost and cost of capital being fixed, the shipowner gives more attention in the operating costs through advance in technology and automation which would influence both in the rising labour costs and fuel consumption, enhancing productivity of operation. Advance in technology and automation which have resulted in small manning have succeeded in changing the administration and operating of ships both ashore and at sea. Economic matters are determinate factors in ship operation influencing both the administration of ship and advance in technology.
Footnotes for Chapter IV:


7. IBID. p. 113.


14. IBID. pp. 140-147.

15. IBID. pp. 142-144.


17. IBID. p. 88.

18. IBID. p. 3.


CHAPTER V

SOCIAL ASPECTS OF SHIP - MANAGEMENT
Management is a factor of production indespensable to economic progress. Ship-management is no different than other businesses since the management principles apply to all. It has become common practice to use one of the other following definitions as the basic concept of management:

"Management is the effective use of resources to achieve the organization's objectives" or

"Management is the art of getting things done through people in organizations" (1)

The management working through people must make efficient use of this other important factor of production (the human factor) seeing to their basic rights, needs and job satisfaction. Every individual being different from the other for so many things like background, culture, belief, value, etc. determining his efficiency and productivity, the management should look to his intelligence, aptitudes and interest. The management should first of all make careful assessment in the selection and recruitment process to avoid people who came with high expectation and adventure, mystic and fantasy since could be bored easily and become loss of training costs. It should develop most effective communication system through formal organizational channel to avoid situations that can create excitement or insecurity like rumors, which will have effect on the efficiency and productivity of the ship. The organizational change from the traditional strictly dimarcated three department types to participation of all crew in shipboard management team through advancement in technology and reduced manning has improved the life and working conditions onboard ships and the participation of the crew in the work-planning process has helped in the job satisfaction of the crew and motivation creating harmonious environment for work.

5.1 The Human Behaviour in Shipping:

"Seafaring is not just another job; it is a way of life and, to date, there is insufficient evidence to determine
whether seafaring attracts people who have one or more of their personality dimensions significantly away from the mean of shore people in general." (2)

As clearly stated seafaring is not only a job but a way of life which has to be adjusted because it is different form of occupation requiring longer stay at sea away from families, friends and the usual shore life. The human behaviour is a function of the interaction between his individual characteristics and the environment. Since shipping has its own culture and environment that has to be learned, the individual should try to adjust to this new culture and environment. The traditional three departmental type with its hierarchial and strict demarcation line, interested in their own tasks have evolved and departmental integration has created a better environment. The Ship-board Management System requiring the participation of the crew in the work planning process has even improved the relationship even much better due to improved system of management and advance in technology. Although organizational improvement has reduced the social constraint, human needs for job satisfaction and motivation require more than good conditions of service, good working environment and security of employment. According to Mr. Maslow and McGregor who have attempted to summarize a view of the motivational nature of man; their central thesis is that "human needs are organized in a hierarchy with:

1. Basic needs for survival at the base - which are physiological needs;

2. Needs for security and for safety;

3. Needs for social interaction - for esteem and love;

When the lower level needs are reasonably well satisfied successively high level of needs become relatively more important motivators of behaviour" (3) Some of the goals associated with ego needs are achieved by extrinsic rewards such as money benefits, promotion, acceptance, status, recognition, etc. while others are achieved by intrinsic rewards which are significant in hobbies, acquiring skills of knowledge, political, religious or social organizations, artistic activities, etc. D.H. Moreby, regarding this subject states: "People are striving for status all the time. They should be striving for intrinsic status by perfecting their skill and craftsmanship, but judging the number of modern titles given to workers ashore many are striving for derived status. Derived status comes from the position a man holds. The master and each officer in a ship has derived status which comes from the rank he holds and not from his personal qualities." (4) The management should look as to ways to satisfy these human needs and yet directing their goals and efforts towards the goals of the organization.

Some seafarers become dissatisfied with their work because efforts are made to deprive them of what they expect. Some cannot adjust to the living environment onboard ships due to their higher expectation and self-esteem. The inability to assimilate with shipboard life due to marriage and family, attachments bring boredom and loss of motivation making some victims of alcoholism, drugs, etc. The personality norms of each individual is totally undefined. Studies made as to the reasons for planning to leave the sea in the United States shows that over 80% of the men surveyed plan to leave the sea within ten years, while 60 percent plan to leave within five years.... The major reasons (other than retirement) involved disruption of normal home life and marital disharmony. Of the married men, 40% stated that their wives resented merchant marine primarily because of the time spent at home. Once family problems are discounted, the next major reason for dissatisfaction involves the context of the job itself. Lack of job security, the poor quality of training of the people they worked with, overall poor attitudes and low morale, the status, decline
of the industry have deteriorated to the point that the job is no longer pleasurable or even bearable.

The reasons for going to sea and reasons for remaining at sea were also part of the study. The reasons for a young man to choose to go to sea are varied. Apart from the necessity for fulfilling their military obligations, in the US, the next most frequently cited reason for going to sea was the mystique and romance at sea, with opportunities for travel. The nature of seafaring job itself appeared to be somewhat less important as the catalytic reason for going to sea. In contrast to the reasons for going to sea, the reasons for remaining at sea are very specific. Respondents overwhelmingly cited money, benefits, lifestyle and retirement as their primary reasons. These are determinant factors to be seen during selection and recruitment because those who came with high expectations and mystique might not get the job interesting and the training cost would be a loss. Following is a table showing the ranking why seamen go to sea and those who remain at sea. (5)
### Table 7

**Rank Ordered Factors Influencing Decision to Go To Sea and Remain at Sea (Excluding Military Obligations)**

<table>
<thead>
<tr>
<th>Go to Sea</th>
<th>Remain at Sea</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Salaries to be earned.</td>
<td>2. Long vacation periods.</td>
</tr>
<tr>
<td>5. Saving large sums.</td>
<td>5. Saving large sums.</td>
</tr>
<tr>
<td>7. Long vacation periods.</td>
<td>7. Job security. (6)</td>
</tr>
</tbody>
</table>

The question of self-esteem and ego satisfaction among the seamen are being improved by modern advanced technology ships with small manning requirements with decentralized organization of the shipboard management team where participation in the work planning or decision making process and having better accommodation and recreational places in the same place have helped in the motivation and job satisfaction of the crew.
Human behaviour, communication problems, motivation of marine personnel and shipboard organization probably offer for more difficult and interesting examples of management problems than any other type of activity. (7)

5.2 Social Status of Seafarers:

The social status of seafarers is based on the conceptual outlook and historical placement of the profession by the society somehow established the social recognition of the profession, i.e., the status of the seafarers. The ancient mariner or sailor who was considered as an adventurer who had been to so many strange lands, faced troubles of the sea including fighting pirates and innovator of new customs was seen as the strongman of the past except for his vulgar attitudes, drunkards and running women are reflections of the traditional seamen. The media, television and movies have characterized him as an illiterate, smuggler, brute, treacherous, dishonest, etc. which gave a negative role towards the profession. The university of Southern Louisiana, Department of Sociology has made a through study of seamen with the title: "Sea Daddy: An Excursus Into An Endangered Social Species!", describing him as "Sea daddy, as the traditional seaman is called here, is an anachorism. Once he represented a vast majority of seamen; now he is a dying breed. He is all that remains of the drunken, spend it all, old salts who once manned American merchant vessels during the nineteenth and early twentieth centuries. This era is the source of many Americans' affection and nostalgia for the sea. This somewhat imagined and glorious part has been laboriously memorialized into a national identity. Although sea-daddy is disappearing, he nevertheless still characterizes the occupation and continues to umbrella public opinion." (8)

Although the occupation has changed greatly with the advancement
of ships design, construction and operational system and introduction of automation and the need for higher education and training the negative image still remains and has become the concern of modern seamen. A complete study was made by the above stated department on the typology of seamen through interviews and participation observation. The seamen are differentiated on the basis of two dimensions:

a. Response to occupational stigma, and
b. Primary identification.

There are three types of response to the stigma of the occupation: The seaman can embrace it (sea daddy); reject it (modern day seamen and the part-timer); or apply it to others, not oneself (the new seaman). The table clearly shows the identification of these seamen:

Table 8
Description of Lifestyles of Different Types

<table>
<thead>
<tr>
<th>Type I: Sea Daddy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Hangs in bars, fulfills the public image, positively identifies with the stigma, belongs to no organizations, No contact with relatives; Few Friends; All friends were seamen or &quot;skid row&quot; types.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type II: The New Seaman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typically a college graduate; Will not remain in occupation; Does not refer to himself as a seaman; Belongs to organizations; Sees</td>
</tr>
</tbody>
</table>
relatives often; None of his friends are seamen; Does not interact with other seamen
Union Hall has only a job-finding function.

Type III: The Part-Timer

Has another occupation through which he defines himself;
Some organization memberships; Sees relatives often; Most of his friends are not seamen;
Little "personal" interaction with other seamen, contact involved card playing or job information; Union Hall functions mainly for job-finding but retains some social function.

Type IV: The Modern Day Seaman:

"Hangs in" Union Hall; Belongs to no Organizations; Little contact with relatives; Few friends who are not seamen;
Refers to himself as a seaman. (9)

Advance in technology and organizational change to fit this new system of operation has led to the evolution of seamen types which are more educated people than before referred to as General Purpose Crew and Dual Purpose Officers to fit the Intradepartmental Flexibility has produced new seamen who can operate on shore based industries and ashore has raised the level or standard of seamen who are requiring
improved status, and which cannot be denied.

This social integration of the crew due to manning innovations have been accompanied throughout Europe by deemphasizing the traditional status difference between officers and ratings. Design changes in accommodation spaces, the Brostroms 16-man Ro-Ro's, have only one class of cabin. Ratings are also allowed to taking spouses on trips and play planning role in management. In Scandinavian and Dutch companies, it is common practice to have a single bar and mess room for both officers and ratings fitted with common recreational and dining facilities. A team effort in the operation has created sense of "espirit de corps". This have sometimes 'collide with cultural' values and traditional roles finally solved diminishing to a certain degree shipboard status differences. These have contributed a lot to the productivity of the team work. (10)

The long vacations are entitled to help them renewing their social integration and attachment with families while their identification with the ship seems to fade away since they could also be assigned in any one of the companies ships. The majority of seamen wish to retain their mythical identity which is an attracting force for new seamen, while at the same time improve their social status. "The traditional seamen culture will one day disappear but its influence will not. ...The old-time seaman may be a vanishing, but for the modern-day seaman, he will disappear none too soon, although the former will long remain as the public ideal of the seaman. Modern-day seaman looks forward to the day when the stereotype is publicly declared a relic." (11)

5.3 Management and Technology:

"If labour does not find a way to control technology,
The new concept of management came to shipping business recently with technological advance in ships and the growth and complication of International Trade. The past three decades has been periods of extreme changes in the kind of goods transported, kind of ships, management and operation of ships. The one man management ended with the emergence of the wireless communication and led to the traditional conventional system with strictly demarcated three departmental divisions. With the emergence of new technologies enabling lesser crews to operate brought the need for organizational change with permanent crew working as a team introducing the Shipboard Management System. This new concept of management requiring the participation of the crew in the decision making process further decentralized to lower levels of the organization, to individuals closest to the problem, creating job satisfaction and motivation leading to productivity of the crew. The further advances in ship technology creating specialized ships and specialized personnel demanded for further integration of job requiring multi (general) purpose crew and dual purpose officers and transferring the entire economic running of the vessel to the officers on board, with shore-based organization providing only back up services and thus creating a "floating" subsidiary company. The job satisfaction and job enrichment has led to high profitability of the subsidiary company.

5.3.1 The Shipboard Management Team:

The concept of Shipboard Management Team is not a "new" concept, as is being told in some European countries, but one evolving through some companies from ancient times according to Paul K. Chapman, Director of Center for Seafarers' Rights, Seaman's Church Institute, who
states, the Laws of Oleron, 1300 A.D., Art. II, required the participation of the crew in decision making:

"A fully loaded ship has laid at anchor for some days waiting for enough wind to bring it successfully past the harbor rocks and into the open sea. It needs a fair breeze to clear the shallows. One morning the wind freshens, and the master calls the entire crew and says, quote, 'Gentlemen, what think you this wind?' If any of them see that this is not settled, and advise him to stay until it is, and others on the contrary would have him make use of it as fair, he ought to follow the advice of the majority.... It is a general sea law that a master of a ship shall never sail out of a port, never weigh or drop anchor, cut masts of cable, or indeed do anything of consequence, let him be in whatever danger may happen, without the advice of the major part of his company.... He must call all together to consult." (13)

Consulting the crew was a common phenomenon in ancient Maritime Laws. The Laws of the Hanse Towns which were promulgated in Lubeck in 1597 by the Hanseatic League, a federation of 81 communities on the Baltic and North Seas also required the consent of the crew:

"Consider for example, the situation in which the crew is employed for one destination, but for some reason the ship's plans change and she changes course for another port, in effect, changing the terms of the contract. In this case, a majority vote of the crew determined what the wage adjustment should be." (14)
The rights of the seafarers and their participation in the decision making process began to disappear with the emergence of National Laws towards the 17th century.* The rights of seafarers were never raised or attached to the commercial, maritime or labour laws of the countries.

The shipboard Management Team as we know it today again reappeared in the third quarter of the 20th century with the aim of improving the design and utilization of ships, reducing fuel consumption, cutting the cost of maintenance, increasing crew productivity and exploitation of economies of scale with effective management. The introduction of the system in ship operation has shown good results and its application is inevitable specially in maritime countries where there is shortage of labour and crew salaries are high, creating a better working condition among the remaining few seafarers. This method of running, controlling and operating a vessel does bring all parts of the ship together to work to the best of the whole crews ability. Team work needs commitment of the shipboard team as well as shore management co-operation in achieving its goals.

The Shipboard Management Team shall consist of the Master, the Chief Engineer, and the Heads of Departments, The Chief Officer as the working head of the Engine Department, the Chief Petty Officer as the working supervisor of the workforce, the Cook/Steward, as the hotel services as his domain. All members of the crew should be encouraged to attend the meetings, unless for lack of space, to gain some knowlege of the complexities and problems involved in running a ship. As is common to all meetings,

* See pages 11 and 12.
there must be a co-ordinator or leader who should guide on how the meeting is conducted, controlled and helped so that a good cross-section of thoughts, ideas and opinions can be expressed on any one topic. Each member of the team should have the right to participate fully in all discussions and their views and opinions should be listened to before any arbitrary decisions are made. It helps a lot if one of the team members becomes the coordinator so that the master would have the chance to listen to all facts and opinions and base his final decision accordingly. Meetings should not be called just for the sake of having a meeting but only when there is something to discuss. They should be short and a proper agenda should be drawn-up in advance and a concise summary of the agenda should be kept by the team co-ordinator so that a decision can be made on the best solution or action to be taken. The team should have once or twice meetings during a long voyage to exchange first-hand information, to give a good insight to the problems, opportunities and conditions of their ship and to show that all members of the ship are considered to be a team. The different strengths that form a united group should be well known to avoid clashes and compatibility is very necessary. (15)

A number of ship operators are transferring some management responsibilities from the head office to the ships to improve the job content of ships officers, to improve the effectiveness of the shipboard organization, and in some cases to permit reductions in the staff of the shore support organization. In general, the Shipboard Management Team has authority over operating expenses and budget, personnel and maintenance. Although managers may establish performance and profit objectives for the ship, the role of the shore office is reoriented towards supporting rather than directing ships. Not only should this lead to better, economically sound decisions, but it is intended to produce greater job satisfaction on the part of the
managers, which translates into improved retention, motivation and overall performance. The advantages of this system are:-

1. The size of shore based organization is reduced and integrated planned maintenance, spare parts organization and purchasing procedures. As a result of this administrative costs have been reduced by about 50% in some companies.

2. Crew productivity can be achieved as a result of large increase in the work load.

3. The system of planned maintenance, spare parts organization and purchasing procedure shortens the time a vessel spends in dry dock on survey.

4. Cost-consciousness of the officers and crews leads to financial savings in all fields of the ship's expenditure.

5. The increased responsibility entrusted to the ship's personnel and the employment of permanent crew generate an "esprit de corps", strengthens the crew's commitment to the targets and makes for swift decision making within his defined areas.

6. The standard shipboard maintenance and services tends to be much higher as the permanent crew has an intimate knowledge of the ship and takes a pride in achieving the objectives.

7. Greater job satisfaction creates better industrial relations.
8. The improved profitability of the ship greatly facilitates the long term planning of investment and enables the company to go forward with confidence.

9. The general economical operation of the vessel helps keep rates competitive and this maximizes market share and revenue. (16)

The adoption of the Shipboard Management Team in most of the ships of the coming years is inevitable. New technological developments in the design and operation of ships with reduced fuel and labour costs and advanced easy communication systems with shore-ship relationship require the participation of the few remaining crew in the running of the ship contributing to their job satisfaction and consequently their productivity. The elimination of redundant personnel in some departments demands inter-departmental flexibilities through semi-integrated or dual purpose officers and multi-purpose crews to cover some remaining jobs reducing the number of the crews to eighteen in Norway, nine to fourteen in Japan and even three man vessels and in the future with the infrastructure to accommodate them made possible unmanned vessels are on the process of coming. (17)

The social aspect of ship-management covers a wider range of activities related to the human factor in the running of ships. Ship-operation being held further away from the established social relations, families, friends, etc. brings isolation, boredom and frustration if the person not prepared to adjust and backed up by good management seeing to the motivation and job-satisfaction of the crew. The new technological advances with improved design and accommodation have resulted in improved
social welfare of the crew (single cabins, recreation and messes, etc.) have led to the improvement of the organization as well contributing to the job satisfaction and job enrichment of the crew through their participation in the decision making process, although not originally meant to be for the same purpose but the reduction of the crew. As H. Moreby, recognized name in the maritime sector, especially regarding the Human Element, states "technological alternatives never truly evaluated in terms of human impact. In most cases, the alternatives are evaluated in terms of cost, ship economy and in the Economies of Scale." (18) The reduction in manning has brought the need for a skilled personnel and more training to update to the continuously changing vessels and more responsibilities coming from shore to ship personnel.

On the other hand, the side effects of this technologically advances ships lies in that more seafarers, especially unskilled and semi skilled personnel are losing their jobs. The question highly opposed by labour unions, the idea of reduced manning which from crew of hundreds is now reduced to eighteen and fourteen at present with still possibilities of reduction is highly contributing to the unemployed mass and even closing the chance of those who have the capacity to serve but never found a job and unprotected by any union due to advance in technology and replacement of their jobs by machines which can function more efficiently avoiding human errors which contributes almost 50% of all the accidents and abolishing the right of rights, the right to work as the Universal Declaration of Human Rights, Article 23 (19) declares, is creating a dilemma or rather a check-mate to the world community. What is to be done to bridge this gap remains the main question! It would be too pessimistic to say to stop or reduce technological advance but to plan the future society remains the only possibility and is being given more thoughts by post-industrial society researches.
Footnotes for Chapter V:


06. IBID.


09 IBID. p. 56.


14. IBID.


CHAPTER VI

INTERNATIONAL MARITIME STANDARDS & LABOUR
Shipping is an international activity involving several parties in the fulfillment of its operation. The carrying of goods or passengers from one region of the world to the other covering wider areas of state administrations with different political, economic and jurisdictional rights calls for the international cooperation and the set-up of reasonable working conditions despite these differences creating new frontiers of International Law on the Maritime Field.

The ship and its operation being highly capital intensive and covering wider jurisdictional areas and involving several parties or governments in rendering its services requires international cooperation and the setting up of international agreements or standards which are manifested through conventions and recommendations for the safe administration of this international business. The safety of the ship meaning the safety of the crew, goods and the marine environment are the concern of ship-owners, cargo-owners, insurances, governments and the world community at large to which this international standards are set to serve. Government or member states are required to ensure these safety matters through inspection of ships periodically, and the working conditions of the crew as well as their qualifications as set in the minimum standards agreed.

The economic viability of this competitive business has led to various changes in design and operation of ships, management and crewing scales through introduction of technological advances. These changes to suit the trade pattern and the profitability of the business have led to new innovations and advance in technical equipments. The specialized navigational aids, satellite communication, unattended (unmanned) engine rooms with increased efficiency and improved reliability inducing the question of reduced manning have become main concern of unions and governments. This incompatability of interests among the various interested groups and the question of safety in this international operation has developed needs for worldwide cooperation and the creation of international forums to establish standards on the international level. This as we can see followingly has set certain parameters for an international working order in a coherent way through international conventions, recommendations, codes, resolutions and guiding principles
brought about by governmental, and non-governmental organs of the United Nations or other specialized agencies and private bodies like the IMO, ILO, UNCTAD, WHO, ITF, and SCI.

6.1 The International Maritime Organization (IMO)

Formerly, the Inter-governmental Maritime Organization (IMCO) and since 1982 which changed its name to the International Maritime Organization (IMO) with more responsibilities was drafted in 1948 and came into force in 1958 by the increase of maritime accidents which led to loss of lives and pollution of the marine environment. It became a specialized agency of the United Nations solely concerned with Maritime Affairs. It is essentially regulatory in that it sets standards with the main objective:

1. To provide machinery for cooperation among governments in the field of governmental regulations and practices relating to the technical matters of all kinds affecting shipping engaged in international trade, to encourage the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships, and to deal with legal matters related to the purposes of the organization.

2. To provide for the consideration by the organization of any matters concerning shipping and the effect of shipping on the marine environment that may be referred to it by any organ or specialized agency of the United Nations; and

3. To provide for the exchange of information among governments on matters under consideration by the Organization. (1)

As we can see from this above, the principal objective is to promote cooperation among governments to regulate shipping.
Shipping being essential for national development and International trade, brings about the need for international coordination. This coordination is done by IMO to establish uniform rules and regulations to make shipping safe, efficient and pollution-free. This is done by bringing governments together to come to acceptable international agreements which they undertake to apply in their national laws. IMO cannot enforce regulations but has a crucial role in assisting governments to implement through:

1. Bringing governments together.

2. Giving information to countries about the implementation process.

3. Technical Cooperation Programme - assisting governments by providing skilled manpower and whenever possible financial and training facilities.

Apart from its objective of facilitating cooperation among governments or technical matters in order to achieve standards and producers for maritime safety and efficiency of operation, IMO has special responsibility for the "protection of the marine environment" from pollution. To pursue its aims IMO has promoted the adoption of over 30 conventions, a large number of codes and recommendations on various matters related to safety and prevention of pollution. The major IMO Conventions being:


2. International Regulations for Preventing Collisions at Sea, 1960.


IMO through its conventions and codes has greatly contributed to the development of international law and policy in the maritime field. Fourteen separate areas which IMO is giving emphasis on are:

01. Bulk Cargoes and Chemicals.

02. Carriage of Dangerous Goods.

03. Facilitation of Travel and Transport.

04. Fire Safety of Ships.

05. Life-Saving Appliances.

06. Marine Pollution.


08. Procedures for the control of Ships.

09. Radio Communications.

10. Search and Rescue.
14. Training and Certification. (3) *

IMO's existence on the maritime field is extremely necessary for the development of shipping and safety practices. IMO through its main six divisions and sub-divisions is continuously trying to up-date on all areas of safety and technical matters and fulfills its main functions which are extremely important to shipping; these are in general:-

- Prevention and control of marine pollution.
- Legal matters relating to shipping.
- Facilitation of maritime transport, and
- Execution of technical assistance programmes.

The IMO works in close relation with other UN specialized agencies and bodies, sometimes with joint committees inframing certain international standards. It has joint committees with ILO/FAO/WHO and UNCTAD. One of the most important IMO Conventions concerning operational safety, i.e., the human element in shipping, the STCW, 1978 Convention was drafted together with ILO participation. The other most important IMO Conventions which contribute to the constructional safety of ships, the SOLAS, 1974 and Loadlines 1966 Conventions have also certain parts condition for the protection of the crew and their accommodation. **

The IMO has been successful in achieving its objectives of "Safe Ships and Clean Oceans" through the implementation of its

* Pages 71-74 elaborate this area.

** Refer to pages 94-106.
conventions and recommendation and by giving its technical assistance whenever the need arises.

6.2 The International Labour Organization (ILO)

"The functions assigned to the International Labour Office by the constitution include the collection and distribution of information on all subjects relating to the international adjustment of conditions of industrial life and labour." (4)

The International Labour Organization's history of origin goes back to the first half of the nineteenth century;

"The principal originator of the idea of international labour legislation and precursor of the work of the International Labour Organization, was Daniel Le Grant (1783-1859), a French man who from 1840-1853 repeatedly appealed to several European governments for joint agreement on labour legislation as a means of eliminating merciless competition. He also worked on several projects for establishing international labour laws covering hours or work, a day of rest, night work, unhealthy or dangerous occupations and special rules for children." (5)

The question of better working and living conditions brought the motto "Labour is not a commodity" in 1914 Declaration of Philadelphia(6). The ILO, as we now know it was established in 1919 by the Treaty of Versailles Peace Conference, a foundation of social justice throughout the world just after the end of the first world war. In 1946, it became the first specialized agency associated with the United Nations, recognized as having special responsibility for social and labour questions. ILO efforts are directed essentially to
the protection of basic human rights, the improvement of living and working conditions, and the promotion of full employment. However, new problems continue to arise as a result of technological, economical and social change, and as a result it now also has to deal with matters such as multinational corporations and the working environment. ILO, an intergovernmental organization, unique within the UN System by being tripartite in structure, remains a standard setting body with emphasis on operational programmes and educational work. (7)

The activities of the ILO cover a wider range of activities but could be dealt with in the following main parts:

"- The formulation of international policies and programmes to help improve working and living conditions, enhance employment opportunities and promote basic human rights;

- The creation of international labour standards to serve as target for achievement for national authorities in putting these policies into action;

- The undertaking of international technical cooperation to help governments in making these policies effective in practice; and

- Research and publication activities to help advance all these efforts." (8)

The ILO has 151 member states with a budget of approximately $260 million as of January 1985, to cover the above mentioned activities and is a structured in three main bodies which enable it to accomplish its work.
1. **The International Labour Conference:**

Meets yearly in June, in Geneva composed of national delegations each including two government delegates, one employer and one worker delegate and a number of experts and advisers. Special maritime sessions are held at intervals of 8-12 years adopting international instruments which are applicable to seafarers. The next is expected to be held in 1987.

2. **The Governing Body:**

Like the conference is tripartite and comprises of 56 members, 28 representing government, 14 representing workers and 14 speaking for employers. It determines the agenda of the Conference and also directing the work of the International Labour Office and meets 3-4 times per year. One of the advisory committees is the Joint Maritime Commission, a bipartite body composed of 18 shipowners' members and 18 seafarers' member plus a representative from the employers' and Workers' groups of the ILO Governing Body. It is a very important sector concerning maritime affairs.

3. **The International Labour Office:**

Is the permanent secretariat of the organization, in Geneva, charged with the execution of the decisions of the conference and the Governing Body. It prepares the documents and reports which are essential background material for the conferences and specialized meetings of the organization; recruits and guides ILO's technical co-operation experts throughout the world, issues a broad range of specialized publicatins and periodicals; and works closely with labour and social affairs' ministries, employers organizations and trade union bodies.(9) The office is staffed at headquarters by approximately 1400
officials in addition, up to 1,500 people are working as ILO officials or as experts in more than 40 countries. (10)

The maritime activities of the ILO deal with four different industries: the shipping industry, the fishing industry, the port industry, and inland waterways transport. This paper emphasises, in particular, on those related to the shipping industry although the general objective of the ILO to enhance social and economic progress in all of these industries remains the same; and particularly for the workers concerned through:

i. The identification, definition and examination of labour and social problems and issues relating to these industries, and the development of adequate policies, programmes and measures to deal with them;

ii. Conducting a programme of maritime meetings in accordance with the plans and objectives decided by the Governing Body; and

iii. Promotion, initiation and co-ordination of ILO action dealing with the issues and problems of the maritime industries.

The means of action in the maritime field are similar to those of all ILO activities, i.e., research, studies, and technical reports, technical advisory services, standard setting, dissemination of information and technical cooperation. (11)

The ILO standard setting process in the shipping field depends largely on the recommendation of the Joint Maritime Commission. The first step for the Office is to prepare reports on the laws and practices relating to the subjects on the agenda of the commission based on a questionnaire sent out by ILO to member states because ILO standards are highly technical. Legal and technical experts study the reply of governments and adopt a standard and a list of points for discussion or proposed
conclusions to the Joint Maritime Commission who presents it to the Governing Body and if accepted the Office will again prepare the subject to be discussed by a Preparatory Technical Maritime Conference and finally by the Maritime Session of the Conference. If the draft text receives two-thirds of the votes it is formally adopted as an ILO Convention or Recommendation as decided by the Conference. (12) The Conference has adopted 32 conventions and 24 recommendations affecting most aspects of the conditions of employment, health, welfare and social security for seafarers and/or fishermen taking into consideration the special nature of conditions of work and of life at sea. These conventions and recommendations contributing largely in the development of Maritime Labour Laws* are outlined according to the areas they cover by a well-known name in the maritime field, Dr. Najendra Singh, as follows:-

1. Employment of Seamen:


- Convention concerning Seamen's Articles of Agreement (22 of 1926).


- Recommendation concerning the Organization of Training for Sea Service (77 of 1946).

- Recommendation concerning Vocational Training of Seafarers (137 of 1970).

* See def. page 20.

- Recommendation concerning the Continuity of Employment of Seafarers (154 of 1976).

- Convention fixing the Minimum Age for Admission of Children to Employment at Sea (7 of 1920).

- Convention fixing the Minimum Age for the Admission of Children to Employment at Sea (58 of 1936).

- Convention fixing the Minimum Age for the Admission of Young Persons to Employment as Trimmers or Stokers (15 of 1921).

- Convention concerning the Compulsory Medical Examination of Children and Young Persons Employed at Sea (16 of 1921).

- Convention concerning the Medical Examination of Seafarers (73 of 1946).

2. **Certificates of Qualification and Identity of Documents:**

- Convention concerning the Minimum Requirement of Professional Capacity for Masters and Officers on Board Merchant Ships (53 of 1936).

- Convention concerning the Certification of Able Seamen (74 of 1946).


- Convention concerning Certification of Ship's Cooks (69 of 1946).
3. Wages, Hours of Work and Manning:

- Convention concerning Hours of Work on Board Ship and Manning (57 of 1936).

- Recommendation concerning Hours of Work on Board Ship and Manning (49 of 1936).

- Recommendation concerning the Limitation of Hours of Work in the Fishing Industry (7 of 1920).

- Recommendation concerning the Limitation of Hours of Work in Inland Navigation (8 of 1920).

- Convention concerning Wages, Hours of Work on Board Ship and Manning (76 of 1946).

- Convention concerning Wages, Hours of Work on Board Ship and Manning (93 of 1949).


- Recommendation concerning Wages, Hours of Work on Board Ship and Manning (109 of 1958).

- Convention concerning Annual Holidays with Pay for Seamen (54 of 1936).

- Convention concerning Vacation Holidays with Pay for Seafarers (72 of 1946).


4. Social Security:

- Convention concerning the Liability of the Shipowner in case of Sickness, Injury or Death of Seamen (55 of 1936).

- Convention concerning Sickness Insurance for Seamen (56 of 1936).

- Convention concerning Social Security for Seafarers (70 of 1946).

- Recommendation concerning agreements relating to the Social Security of Seafarers (75 of 1946).

- Recommendation concerning Medical Care for Seafarers' Dependants (76 of 1946).

- Convention concerning Unemployment Indemnity in case of Loss or Foundering of the Ship (8 of 1920).

- Recommendation concerning Unemployment Insurance for Seamen (10 of 1920).

- Convention concerning Seafarers' Pensions (71 of 1946).

- Convention concerning the Repatriation of Seamen (23 of 1926).

- Recommendation concerning the Repatriation of Masters and Apprentices (27 of 1926).


5. **Welfare of Seafarers on Board Ships and in Ports:**

- Convention concerning Crew Accommodation on Board Ship (75 of 1946).
- Recommendation concerning the Provision to Crews by Shipowners of Bedding, Mess Utensils and Other Articles (78 of 1946).
- Convention concerning Food and Catering for Crews on Board Ship (68 of 1946).
- Recommendation concerning the Contents of Medicine Chests on Board Ship (105 of 1958).
- Recommendation concerning Medical Advice by Radio to Ships at Sea (106 of 1958).
- Recommendation concerning the Promotion of Seamen's Welfare in Ports (48 of 1936).

- Recommendation concerning the Protection of Young Seafarers (153 of 1976).

6. Miscellaneous:

- Convention concerning the Marking of the Weight on Heavy Packages Transported by Vessels (27 of 1929).

- Convention concerning the Protection against Accidents of Workers Employed in Loading or Unloading Ships (Revised 1932) (32 of 1932).

- Recommendation concerning Reciprocity as regards the Protection against Accidents of Workers Employed in or Unloading Ships (33 of 1929).

- Recommendation concerning the Consultation of Workers' and employers' Organizations in the Drawing up of employed in Loading or Unloading Ships (34 of 1929).

- Recommendation concerning the Establishment of National Seamen's Codes (9 of 1920).

- Recommendation concerning the General Principles for the Inspection of the Conditions of Work of Seamen (28 of 1926).


- Recommendations concerning the Improvement of Standards in Merchant Ships (155 of 1976).
7. Resolutions Adopted by the Fifty-Fifth Maritime Session of the ILO, Geneva, October 14-30, 1970:

- Ratifications and Adherences to ILO Maritime Conventions as on January 1, 1982.

8. Other Seamen's Conventions:

- Convention on Treatment of Venereal Diseases of Seamen, Brussels, December 1, 1924.


The ILO prepares texts containing these conventions and recommendations for the use of member states and the international committee which is known as the International Labour Code. The Code is a definition of minimum standards in those areas which concern ILO. To accomplish its tasks, the ILO uses three methods of work:

- Setting international standards and supervising their observance;

- Extending technical co-operation in the field to member state;

- Conducting research and collecting and disseminating information. (14)

The ILO in extending its technical cooperation assists member states to contemplate action in the observance of standards and provides technical aid in the fields of:

- Labour legislation, administration and conditions of employment.
- Maritime Manpower
- Vocational training and certificates
- Recruitment and placement of seafarers
- Occupational safety and health
- Welfare
- Social security, and
- Labour-management cooperation. (15)

The ILO works in close cooperation with other international organizations in the development of certain standards related to their field. This includes areas of health, food, safety, etc. in which coordinated work is needed with related UN organs such as IMO, WHO, UNCTAD, FAO. Some collaborated works could be:


- The Joint ILO/WHO Committee on the Health of Seafarers since creation in 1949 has made several recommendations of which a prominent one being International Medical Guide for Ships.


- IMO/ILO Guidelines for Training in the Packing of Cargo in Freight Containers related to safeguard from hazards faced by seafarers from cargoes carried in their ships.

ILO cooperates as well with governments and non-governmental international organizations in respect of special meetings and seminars with a view to improve both working conditions and improved efficiency in shipping operations. (16)
The ILO as a standard setting organization and through its technical cooperation is trying to influence the national legislation of countries by the application of some of the conventions and recommendations as basis. Labour unions use these standards for collective bargaining purpose and find themselves in a stronger position of implementing them in their collective agreements.

The ILO is trying to influence the national laws of some countries regarding the social security and employment condition of seafarers serving in ship flying flags other than those of their own countries. The serious problems connected with equality of treatment, the maintenance of acquired rights or rights in course of acquisition and the provision of benefits abroad are far from being solved in many countries. The ILO is trying to fill the existing gaps in social security like conventions 55, 56, 70, and 71 to be revised under one instrument of global coverage. The Appendixes to Convention No. 147/Rec. No. 155 in respect of social security are also to be considered in its future deliberations. (17)

The most fundamental ILO Conventions, Convention 147 of 1976, which aims to ensuring the observance in merchant ships of a wide range of standards is attached as on appendix for cross-reference of all chapters of this paper. (Annex III)

6.3 United Nations Conference on Trade and Development (UNCTAD)

With the emergence of newly independent states of the third world in the 1960's the worlds socio-economic and political trends began to change. The new independent states began to realize and question the impediments to their development. They wanted to participate in world trade and maritime transport because of the great interdependence between the two and since the major bulk commodities involved in world trade have
to be transported by sea, the developing countries waited to develop their merchant marine but were unable to make it due to the high capital intensive character of shipping, the highly tied-up market situations and due to lack of maritime tradition and experience in the field. The very large drain on their foreign exchange resources in the form of freights paid to foreign shipowners and a dangerously low capability to provide carriage for their foreign trade became problems which have to be overcome. The big gap between the developed and developing countries in the "balance of trade" and "balance of payments" had to be narrowed somehow. The United Nations began to assist the third world in its endeavor to develop by establishing technical assistance, fund and aid programmes which did not solve the main problems. In this connection it is appropriate to quote the "Head of FAO - Food and Agriculture Organisation Statement: "The future is trade, you can double, triple or quadruple the aid it will not do. Trade brings in 50 times more than aid." (18) Having realized this, the United Nations, decided to solve the problem by increasing their participation in World Trade by UN Resolution 1995 (XIX) of December 30, 1964, the United Nations Converence on Trade and Development (UNCTAD) was formed with the objective of formulating a set of broad principles and policies for international trade and economic growth designed to accelerate the economic advancement of developing countries. When UNCTAD I, met in Geneva 1964, the economic difficulties, trade inequalities, and living disparties of many of the developing states were for the first time set against the economic superiority, trade monopoly, and living affluence of the developed countries. (19)

The structure of UNCTAD has 157 member countries and is administered by a Secretary General. Policy guidelines are laid down at the full conference session, the Trade and Development Board has six main committees on commodities, manufacturers, invisibles and trade finance, shipping, the transfer of technology and economic cooperation among developing countries.
It has special committee on trade preferences. The Committee on Shipping is the main international form for resolving policy issues relating to participation in world shipping by developing and developed countries. (20)

In this same session a document entitled "Common Measures of Understanding" was adopted in which it was specifically stated that "the development of merchant marines in developing countries... is to be welcomed." (21)

The importance of shipping to developing countries trade was best explained on "Proceedings of the UNCTAD/ELA Training course on Shipping Management" 1981 which states: "Shipping investment contributes to the flow of income in developing countries; it also has indirect effects which are particularly significant in shipping, such as:-

1. Preventing of disruptions of shipping services during hostilities in which the country concerned is not directly involved.
2. Reduction of economic dependence.
3. Influencing of conference decisions.
4. Economic Integration.
5. Promotion of exports.
6. Diversification of employment.
7. Improvement of the Balance of Payment. (22)

The developing countries were not able to obtain these advantages
because of the intricately tied up business circles that existed under monopolies of the traditional system.

The developing countries' main grievances relating to shipping, as voiced at UNCTAD, fell into four broad areas:

1. The unilateral fixing of ocean freight rates.
2. Discriminatory shipping conference practices.
3. Inadequacy of shipping services (including the possible development of third world merchant mariners).
4. Inadequacy of existing international shipping legislation.

Further UNCTAD conferences were held, UNCTAD II in 1968 in New Dehli, UNCTAD III in Santiago Le Chile, in 1972, UNCTAD IV, in 1976, in Nairobi and UNCTAD V in Manila, 1979 without the environment of good will it was created within Geneva. This forum took the form of confrontation area between the rich and poor notions and thus became an area of discussion without solution (23).

Despite this confrontation, UNCTAD together with UNICTRAL (United Nations Commission on International Trade Law) has formulated, the Hamburg Rules on the Carriage of Goods by Sea, 1978; the Convention on Multimodal Transport of Goods, 1980; the Code of Conduct for Linear Conference which came into effect on October 6, 1983. In all its effort to protect interests of developing countries it is working on:

- Two insurance policies; hull and cargo.
- Matters of general average.
- Freight rates.
- Development of a "New International Maritime Order".
- Advise effects of the expansion of flag of convenience fleets and trial of phasing out this system. *
- Elimination of port congestion.
- Technical assistance to improve port efficiency.
- Transfer of technology.
- Maritime Fraud, including piracy, in 1984.
- Limitation of shipowners' liability.
- Sometimes goes beyond shipping operations:
  - Study terms of shipment - April, 1969.
- Registration of rights in respect of vessels under construction, and
- Arrest of vessels or other sanctions as appropriate.

UNCTAD's deliberations was a major accomplishment in that it had been able to break into what was greatly locked in, in private concern industry, cloaked in secrecy and began to change towards "internationalization" of the industry under commonly agreed principles of international private and public law.

UNCTAD VI, 1983 session has great significance it has contributed to defusing the existing tensions by reaffirming its faith in the

* Refer to Chapter II, 2.1.1.
supremacy of international negotiating processes for settling major points of dispute among states. By so doing it has discouraged the non-observance of international agreements and the subdivision of existing mechanisms in UNCTAD for the practical solution of problems that have achieved both an appreciable element of success and also pointed the way to further progress. (24) UNCTAD should try to be an area of working together rather than area of confrontation which will help it more in achieving its aims.

UNCTAD works also in close relation with other UN agencies, specialized agencies and intergovernmental and non-governmental organizations, as appropriate. A working relationship has been established between UNCTAD and the ILO, which regularly participate in meetings of the Committee on Shipping. (25)

6.4 World Health Organization (WHO)

"... The objective of WHO shall be the attainment by all people of the highest possible levels of health..." (25) The World Health Organization, a specialized agency, sees as well to the Health and Hygiene conditions of seafarers in close collaboration with other agencies of the United Nations. The joint ILO/WHO Committee on the Health of the Seafarers seek to how health services could be provided to seafarers, on board ships or as near as to the (major) ports. The Committee has identified diseases of the gastro intestinal tract, cardio-vascular diseases, skin disorders, mental disorders, tuberculosis, dental complaints and veneral diseases, was higher than that of other diseases and that accidents including drowning and marine casualties were among the principal causes of death among seamen. The committee has agreed to give advice to all governments to give attention to:

- ILO Recommendations 105 and 106; the contents of medicine
chests on board ships and medical advice by radio to ships at sea from near by ports.

- Medical examinations for all seamen as essential feature of their health services.

- Revised ships' medicine chests recommendations (No. 105) and IMCO's medical section of the International Code for signals of 1965 known as the International Medical Guide for ships published by WHO. (27)

- Medical First Aid Guide for use in accidents involving dangerous goods was published in 1973 with collaboration of ILO, IMO and WHO. *

WHO's further areas of studies include studies of the epidemiology and monitors the quality of coastal waters, supports projects of pollution control, and keeps under review questions regarding the health of seafarers. (28)

6.5 International Transport Workers Federation (ITF)

The International Transport Workers Federation was founded in London in 1896 at a meeting of representatives from a number of seafarers' and dockers' unions, its original name being the International Federation of Ship, Dock and River Workers. Two years later the present name was adopted and the organization, at first purely maritime, broadened to include all transport workers. In 1904 the organization moved its headquarters from London to Berlin and it grew steadily until the outbreak of the First World War when the total membership was

* See page 171 cooperation with ILO.
about one million and with affiliated membership in 1920 has reached three million. ITF scored remarkable success came with the formation of the International Labour Organization where it fitted admirably for its work. The headquarters came back to London 1939 from where it had been housed in Amsterdam since 1919. New industrial and geographical horizons had been revealed, membership has grown and influence increased to the point where the ITF is looked upon all over the world as the transport workers' international representative. (29)

As the constitution of the ITF Rule 1 sub. 2 clearly indicates the aims of the ITF shall be:

a. To promote universal recognition of conventions Nos. 87 and 98 of the International Labour Organization, concerning respectively Freedom of Association and Protection of the Right to Organize and to Bargain collectively and other relevant instruments of that organizations;

b. To support the work of the United Nations, its agencies, other intergovernmental and non-governmental organizations in those activities promoting peace based on social justice and economic progress;

c. To assist affiliated organizations to defend and promote internationally, the economic, social, occupational, educational and cultural interests of their members;

d. To assist affiliated organizations by developing research activities on problems and trends affecting their members, on working conditions, labour legislation, trade union organization and education, collective bargaining and other matters related to the achievement of the ITF's aims;
To assist workers in the transport and allied industries in the defence and promotion of their economic, social, occupational, educational and cultural interests.

The ITF has eight industrial sections with a special department known as the Special Seafarers' Department which looks after the rights and working conditions of (Safety Pay) seafarers in general and especially those under flags registered in foreign flags. It provides trade union representation for the crews of these vessels, particularly those of mixed nationalities, not eligible for membership of a national union. The campaign against the "runaway flag" menace is run by the ITF Committee for the promotion of Fair Practices in the Maritime Industry, composed of Seafarers' and Dockers' representatives from the major maritime countries. From this committee has come the ITF Collective Agreement, which lays down internationally acceptable minimum standards for pay and conditions of seafarers serving in flag of convenience ships. To facilitate the ready identification of flag of convenience ships with crew covered by either an ITF Collective Agreement or an ITF approved equivalent or superior national agreement the ITF secretarial issue the so called Blue Certificate. (30)

The ITF has greatly fought the development of Flag of Convenience ships* from the beginning and has supported the group of 77 in 1978 on the questions of "genuine link" and even "phasing-out" of this system which has created the disorderly development of world fleet. The ITF did not give support on the ratification of February 1986 Registration of ships convention because of the genuine link problem on manning and flag state and the labour supplying countries cheap labour and over supply problem itself. The ITF has given advice on manpower planning policies to governments to avoid this excess problem to Philipinnes, Taiwan, Indonesia, and Korea. The minimum wage

* Refer to Chapter II - 2.1.1.
question in developing and developed countries are quite different but both being members of ITF had created some misunderstanding in the calculation. The ITF is trying to take high pay areas and low pay areas and to reach on a relatively fair amount which has to be at least to the ILO minimum wage level but arguing why lower than this for flag of convenience ships? The labour market could not be left for free competition (demand and supply) because of over supply in some areas and the question of work with dignity is being discussed at ITF. The ITF is not against technological advance but sometimes opposes the idea of reduced manning in Flag of Convenience ships because of the overload of work on the remaining seafarers with minimum overtime payments. It supports the Memorandum of Understanding on Port State Control because it helps in the control of sub-standard ships which are dangerous both to human lives and the environment and control of the manning level both in quality and quantity basis. The attachment of the ILO Convention No. 147 to port state control requirement helps in the Social Standards as well.

The Seamen's Church Institute* as had forwarded the ratification of Port State Control ** by sponsoring a conference on April 2-4, 1986, in New York where ITF representative, Captain K. Mols Sorensen, of Denmark who is the Chairman of the Special Seafarers' Section, gave a speech on the importance of ILO No. 147 Convention. (31)

The ITF maintains close contact, with other inter-governmental and non-governmental organizations like the:

- International Labour Organization (ILO), esp. the Joint Maritime Commission and other ad. hoc. committees.

* See Chap. II sub. 2.1.2

** More clarification given on following sub-title.
In all these areas the Federation maintains close relations with other international trade union bodies and the ICFTU (International Confederation of Free Trade Unions). (32)

The ITF has succeeded in maintaining its aims:

a. Solidarity - among its unions.
b. Lobbying - in international organizations.
c. Information - provide to unions as to standards and provisions on legislation.

Through its press release keep its unions informed on recent developments negotiation tactics in collective agreements, etc. With its close relationship with governmental and non-governmental international agencies it has succeeded in participating in the standard setting processes. ITF's participation in fighting flag of convenience ships is one which we cannot pass without mentioning.
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6.6 Seamen's Church Institute - Center for Seafarers' Rights (SCI)

The Seamen's Church Institute was founded in 1834 with the main objective of improving the treatment of seafarers regardless of their race, religion or nation. Such concern was well-founded at the time when things were not well established to protect the seafarers from certain dealers who in some way or another tried to rob the seafarers of their hard earned wages in port areas where they had neither relatives nor friends. The Seamen's Branch of the Legal Aid Society was founded in 1898 by SCI to promote the national legislation that guaranteed the basic rights of all seafarers in the United States and to abolish the abuses suffered by seafarers due to lack of any laws or advocates for their protection. The Institute undertook all manner of cases for aggrieved seafarers; wage-cases, contract disputes, creditors claims, illegal manning fees and the life.

The institute has been training seafarers to improve their professional competence and assist them in advancing their careers. A full time training division was established in 1916 which now provides a comprehensive range of courses for seafarers seeking to obtain, upgrade or renew their licenses. It also offers specialized courses to meet new training needs as national and international requirements come into effect to provide safety in their working environment.

The Center for Seafarers' Rights was established in 1981 to match up the changing character of the seafaring industry where massive changes in employment practices have taken place while the human problems remain the same as in the 1830's. Since the majority, three quarters of today's world's estimated two million seafarers, are from developing countries which are protected neither by union contract nor by any union the Center advocates their basic human right and improving national or international legal protec-
tions, in order to increase justice and safety in the international work place of the sea. The Center provides a central source for research, education, information and assistance on the problems of seafarers' rights and bilingual pamphlets to keep them up-to-date in recent developments in this sector.

The Institute has cooperating officers through the world and an expanding network of communication relying on the seafaring agencies connected to the International Christian Maritime Association (ICMA) which includes the Apostleship of the sea, British Sailors Society, Dentsche Seamannsmission, International Council of Seamens' Agencies (ICOSA) and the Missions to Seamen. Maritime Chaplains in over 600 ports around the world maintain an effective network of cooperation. To pursue its aims the institute needs support from many quarters for financial and practical assistance which upto now used only the institute's limited resources and concerned individuals and foundations including the Trinity Grants Board, J.M. Kaplan Fund and Booth Ferris Foundation. (33).

The SCI is an ardent supporter of Port State Control. As early as 1981, the Director of the SCI, the Rev. James R. Whittemore, spoke in Geneva on the importance of Port State Control for the protection of the rights of seafarers. It also asks the adequate enforcements of ILO Convention 147 in MOU countries. The later has not only sought to bring public attention to the abuses which are found on some of the ships,* (34), but has worked with ship-owners, unions, government officials, chaplains, and the general public to establish a better system of enforcing the laws. Although the United States has not ratified ILO Convention No. 147 and consequently the Memorandum of Understanding (MOU) on Control of Ships/Port State Control/ The US Coast Guard cooperates effectively in the requirement of safety of the ship, crew or passengers aboard any ship in US ports (35). The US is on the process of

* Best explained in UWIST, The Legal Right of Seafarers.
of accepting both the MOU and ILO Conv. 147. (36)

The Seamen's Church Institute - Central for Seafarers Rights with its immense interest in the proper maintenance of seafarers' rights had sponsored to international conferences:

- A workshop in Miami, Florida in January 11-14, 1984 where one hundred delegates from 18 different nations representing ministries, unions, seamen's advocacy, center and the like participated at improving the working and living conditions of seamen aboard cruise ships especially two Greek cruise ships which were identified to have worse conditions S.S. Victoria and S.S. Britian's were examined and proper advice given which was improved by the owner. (37)

- A conference on Port State Control was called on April 2-4, 1986, (38) by the same, a private organization, highly contributing to attain the Legal Rights of Seafarers in all forms it can obtain.

The high protection the SCI is providing for third world seafarers in one which cannot be passed without mentioning (39). The SIU has close contact IMO, ILO* as well as with other specialized agencies of the UN and the International Transport Workers Federation.

In general, one can say that the purpose of these conventions and recommendations aimed at for the setting of international maritime standards on the international level creating safe transport and suitable working conditions is a great achievement for the world community. The only comparison that could be done would be a world without it! A world without order!

* Refer to pages 181 -182
Footnotes for Chapter VI:


03. IBID pp. 341-5.


07. IBID. pp. 4-5.


11. ILO, Seminar for Ascian Countries, ID. p. 16.


16. IBID, p. 22.

17. UWIST, The Legal rights of Seafarers, ID. p. 11.


22. IBID. p. 131.


30. IBID. pp. 6-8.


39. ID.
CHAPTER VII

NEW DIRECTIONS IN SHIPPING TECHNOLOGY
AND MARITIME LABOUR
New directions in shipping began to appear with the need for efficient production, increase in world trade and to speed up economic growth. The changing pattern of trade influencing the change in shipping services invited technology to take part in the shipping industry especially to help in cargo handling process. The loading and discharge of cargo manually took more time and labour with high cargo handling costs demanded for new techniques of operation which is both time saving and reducing in costs. The change in the kind of ships - sail, steam, diesel - led into change in the social organization of ships as well. Around 1850 when all merchant ships were sailing cargo vessels all seafarers were sailors all were skilled at handling ships under sail. The master assisted by the mates navigated the ship and the only recognisable division between people was between the officers and ratings. There were no departmental specialisms and divisions. In 1852 the UK government enacted laws under which masters and mates were to be examined for certificates of competency and steam engines introduced new types of seafarers (marine engineers and firemen), the total crew size grew and departmental division "deck" and "engine" appeared. The introduction of wireless telephone and telegraph just before World War II began communication with shore and ship owners starting new era of ship operation. The shipowner himself or members of his shore staff, sought out the cargo, negotiated freight rates (often through a ship broker), and simply instructed the shipmaster where to go, what to load and where to deliver it. As the mechanical and overall technical complexity of ships developed by 1950's and 60's engineer superintendents took charge of new buildings while marine superintendents took responsibility for matters concerning ship safety, manning and cargo and the loading and discharge of cargo was controlled directly by cargo superintendents (1) completely changing the ship-shore relationships.
Shipping being the servant of trade is changing with the demand for services and goods to be carried in a safe, efficient and economic manner, to fit the trade. The change in the kind of goods to be transported influencing the kind of ships to be built leading to technological advance and low costs even changing the management of shipping companies from a crew of hundreds and a supreme master with all decision making power to a staff of nine (even three) with nominal master who gets all orders from mother company miles away due to efficient communication system and the reduction in manning due to automation changing the traditional three departmental division into a small crew or team management system with multi purpose crew and dual purpose officers are products of present day technological advance; the future looking forward to the use of robots, satellite controlled and unmanned ships:-

7.1 Robotics in Shipping:

The robotics revolution is beginning to affect every aspect of production in all industries with development of high technology, especially automation and computerization. Industrial robots are advanced automation systems that utilize computers as an integral part of their control. They do not look or behave like human beings but they do the work of humans and are useful in a wide variety of industrial applications such as material handling, painting, welding, inspection and assembly. The term robot was invented by the Czech with Karel Capek in 1921 and means "forced labour". The first industrial robot was installed by Unimation Inc. in 1961 and since then thousands have been put to work in industry in the United States, Japan and Europe. They can do a human's work more effectively and for long hours without breaks or going on strike and know neither weariness nor boredom. From 1947 to 1965, with the
introduction of robotics in United States productivity increased by 3.4 percent while in Japan it increased at an average annual rate of about 7.3 percent during the same period. The better quality of products achieved by robot operations rather than the higher productivity, is sometimes regarded as the most important contribution of robots. The first robots replaced people in hazardous and dangerous tasks and in jobs that are regarded as unpleasant or unhealthy for people; in nuclear plants transporting reprocessed plutonium and spray painting to avoid toxic air. The advantages of industrial robots can be summarized as flexibility, high productivity, better quality of products, improved quality of human life by performing the undesirable jobs, (2) safety hazards by placing them for dangerous and monotonous jobs, cost effective in many cases, elimination of human error caused by fatigue and boredom and not to mention recruitment, selection, training, absentism, insurance, employee benefits, employee retirement income, vacation, etc. (3)

This extended advantages are inviting the use of robots in the maritime sector as well although their usage at present is very limited. The offshore oil drilling units make use of robots in strenuous hard work and continuous work areas since not favourable to human work and living condition and due to the continuously rising cost of labour. As Arne Sagen, Sø, best known name in new technology development states: "The dominant features of shipping industry in the twenty first century is the robotisation of shipbuilding, previously a labour-intensive activity. 'Supermodern' production technologies will make extensive use of advanced automation and industrial robots. Combined with computer-aided design, these will allow for the building of more cost effective ships." (4) In ship operations robots are used to make adjustments to all auxiliary machinery in line with changes in output of main machinery. Food preparation and service
robots are available and used on board some ships, but by and large these robot applications are only an extension of automation. With advance in technology both on ships and shore facilities in the future makes possible the use of robots like in all industries. Such robots of the future, equipped with effective monitoring and sensing capability, may be able to perform many additional functions on shipboard such as course-setting, damage control, ship docking/undocking and more. The advantage of robot application on board ship would not be in potential manning reduction and a lesser learning experience for human operators, but should also permit certain ship spaces to be greatly reduced in volume, accessibility and environmental quality. Apart from this ship operating costs are estimated to reduce by 20-30% because of more efficient and closely controlled ship systems performance, better vessel navigation and routing, reduced manning, improved reliability and safety, and larger carrying-capacity resulting from the reduction of spaces designed for human access or habitation. Although it is too early to predict the role of robots aboard ships of the future it will certainly have an impact on management and the over-all rational and method of shipping from an organizational, regulatory, operational, and economic point of view. (5)

One but great disadvantage of the robotics revolution is its effect on the employment condition in all fields of work. Employees and union representatives are concerned about the effect of robotics on employment security. It will affect all unskilled and semi-skilled manual workers as well as blue-collar jobs further eroding what has traditionally been the most heavily unionized category of employees with the concept of "business necessity", efficiency or safety consideration. The use of robots will flourish with the coming decade but the legal framework to accompany it is not
ready and might create greater misunderstandings with labour unions. The impact of all this would not be easier since it is eroding the basic existence or his sovereignty over work despite his intrinsic nature to work. (6) Jame Albus head of the robotics research lab at the National Bureau of Standards in Maryland has stated "The human race is now poised on the brink of a new industrial revolution that will at least equal, if not far exceed, the first industrial revolution in its impact on mankind." If that prediction holds true, then robotics will likely have a profound impact on the work force, personnel management and unions. Changes in collective bargaining and labor law are also possible as robotics technology grows in the United States. (7)

Dr. E.G. Frankel, a recognized name in the maritime field, further states "Robotics, probably more than any other technological development, will affect shipboard employment both by number and skill as well as shipboard social structure and lifestyles. Its application must therefore be approached with extreme but educated caution. The transition to shipping automation and growing use of robotics in shipping would occur. It provides challenges, opportunities and risks, but it demands effective measures to be taken now to assure that the experience does not result in unnecessary problems, economic and opportunity loss as well as human distress. It can help to upgrade the quality of shipping services and the skills of the people who man and run shipping. It can also cause irreparable losses. (8)

The robotics revolution is one to be given serious consideration. The use of robots in unhealthy and dangerous works guaranteeing safety is admirable. The handling over of all jobs to robots leaving man without work is dehumilating the very-existence of mankind. The search for technology
should be carefully weighed against the asocial consequences and its utilization should be adopted and not adopted depending on their effect on mankind. Careful assessment should be done not to ruin the social fabric of human life. As Alvin Toffler, renowned scholar in his famous book "Future Shock" in his last remark advises us "These pages will have served their purpose if, in some measure, they help to create the consciousness needed for man to undertake the control of change, the guidance of his evolution. For, by making imaginative use of change to channel change, we cannot only spare ourselves the trauma of future shock, we can reach out and humanize distant tomorrows." (9)

7.3 Satellite Communication in Shipping:

Shipping is a global industry, capital intensive, complex, highly competitive and risky business providing employment for millions of people both at sea and on land and involving various interested parties in the success of this venture. This international business transporting 95 percent of world trade over the unstable environment of the oceans accompanying great risks and which has led to the establishment of money-lenders (banks) and guarantors (insurances) needed a communication system to ensure the safety of the ship and cargo on first degree and safety of life and the environment on a secondary basis until recently with rising knowledge of the importance of the sea and value of human life. The question of safety is an important one in shipping demanding a communication system in case of accidents of distress and to contact with shipowners and cargo owners to run the business in a safe, economic and efficient manner. The introduction of the wireless telephone and telegraph system ending the era of one man decision making and the specialization of ships from the general cargo and passenger ships to tankers, bulk carriers, liquified natural gas and chemical carriers with high risk to the environment have led to greater safety requirements,
international cooperation and the development of efficient communication system.

The two international organizations, International Maritime Organization (IMO) and the International Maritime Satellite Organization (INMARSAT) are playing some important roles in the development of reliable communication system to ensure safety. IMO statistics on serious casualties, in tankers of over 10,000 DWT alone, show that almost 50,000 vessels were at risk between 1968 and 1980, and of them, 1049 were serious casualties in which 1593 lives were lost. The real damage to the sea cannot be precisely evaluated. The Toftrey Canyon incident was a case in point. The International Maritime Organization to improve safety at sea has passed the safety of life at sea convention in 1974 (SOLAS 1974) with the minimum conditions of stability, machinery, electrical installations on board*. With advance in technology and improved telecommunications and satellite communication systems and growth in world trade IMO intends to introduce by 1990 a comprehensive system to improve distress and safety communications and procedures which in conjunction with a coordinated search and rescue infrastructure, will incorporate recent technical developments and significantly improve the safety of life at sea in a system called Future Global Maritime Distress and Safety System (FGMDSS). The main objective of FGMDSS is to make the shore search and rescue (SAR) authorities, as well as ships in the vicinity of a ship in distress immediately aware of the distress incident and to initiate without delay the rescue operation and coordination, the planning of which involves a number of national and international bodies the system uses both satellite and terrestrial communications. Satellite communications will be provided by INMARSAT. A distress capability for alerting by Satellite Emergency Position Indicating Radio Beacon (EPIRB) will be provided by INMARSAT geostationary satellites as well as by

*  See Chapter III.
Polar-orbiting satellites while terrestrial communications will use frequencies in the MF, HF, and VHF bands as well as digital selective calling (DSC), radiotelephony and narrow-band direct printing (NBDP). (10)

The complex business of the shipping industry having wider coverage apart from its basic need of communication with it the public correspondence through telephone and telexs has two additional very important requirements - Safety communication and special services. The Safety communications are the ones discussed above while the special services are those related to the receipt or exchange of data for navigational, meteorological and position-determination purposes or to ship operation itself, that is for data on ports and voyages, cargo handling, personnel management, catering, maintenance, etc. Such requirements can only be satisfied through fast and reliable communications led to development of maritime satellite communications. IMO and Maritime Nations to improve safety at sea, 1975-76, convened an international conference to establish INMARSAT with seven main reasons:

a. To relieve congestion in the MF and HF bands;

b. To improve the reliability, quality and speed of communications;

c. To improve geographical coverage and the continuous availability of services;

d. To provide more reliable circuits and permit the automation of radiotelephone and teleprinter services;

e. To cater for services not possible in the MF and HF bands, such as high speed data transmission;
f. To provide for radiodetermination.

g. To improve distress, urgency and safety communications.

INMARSAT was established in July 1979 and began operations in February 1982, with the purpose of “to make provision for the space segment necessary for improving maritime communications, thereby assisting in improving distress and safety of life at sea communications, efficiency and management of ships, maritime public correspondence services and radiodetermination capabilities. (11). The principal advantages of Maritime Satellite communications over conventional radiotelegraphy and radiotelephony are:

1. Almost global coverage.

2. Instantaneous, high quality service, day and night, unaffected by weather or conospheric disturbances.

3. Improved emergency reporting, with priority access to INMARSAT satellites for distress alerts.

4. The interconnection of services with the worldwide public telecommunications networks.

5. A direct dial capability for voice and telex communications.

6. Privacy of communications.

7. Short, medium and long range communications using the same equipment.

8. Mostly automatic connection.
9. Telephone, telex, facsimile, data transmission and other specialized high speed services can allow real-time, ship-to-shore computer communications. (12)

This advanced communication systems developed through international cooperation for the safety of life, maritime property and environment should be further encouraged. International cooperation remains the solution to international problems. The new communication technology that is expected to be universally adopted by merchant fleets will greatly improve the seafarers' access to information and onshore information processing and affect the division of responsibility between ship and shore. Maritime Satellite communication systems—exchanging data between ship and shore, will enable operational decisions to be made and communicated in a highly effective manner is the extended program of future ships.

7.3 Future Ships:

Shipping is a capital intensive, highly competitive business operating in the International Market requiring efficiency and flexibility to meet market demands. To meet its competitive position in the International Market it has to see to its various factors determining its efficiency and costs. The capital investment being fixed the only area left for flexibility is the operation cost. The operating cost consisting of labour (major cost), insurance, social welfare, travel, administrative, fuel cost, etc., which are the only areas left for any flexibility the shipowner tries to make best use of these areas by investing in labour-saving and fuel economy ships to reduce his cost and thus to remain competitive in the market. This being the interest of governments, shipowners and unions several research institutes and development programmes are devoted to the improvement
of ship operation of the future in some countries with the main objective confronting the extensive challenges and to remain competitive by:

- Utilizing the labour force efficiently through improved organizational methods.

- Technological advances within the areas of vessel construction, maintenance, computer systems, labour saving tools, including fuel economization, increased efficiency and operational reliability.

- Giving particular interest on board safety and living conditions. A matter of great concern to shipping is to keep the recruitment, education and career prospects for seamen in step with the general social evolution.(13)

These researches are being held in several countries although major research programmes are held in the Federal Republic of Germany under project name "Schiff der Zukunft" - (Ship of the Future) which started in 1978, in Japan under project name "Intelligent Ship" which started in 1983 and in Norway under project name "Fremtidens Skipsdrift" - (Ship Operation of the Future) which started in 1981 and concluded at the end of 1985, are making various researches in manning reduction, fuel economy and new technological innovations to meet the future with efficient, sufficient economic ships with high technology and good management i.e. more automation, computerization, introduction of microprocessors and data technic, advanced communication, management and operation system with the main objective of remaining competitive in the international market. These researches are focused on ship design and ship equipment, hull design, machinery, ship safety, navigation, reliable propulsion, advanced automation and labour saving features machinery
failure diagnostic system, automation of ships' entry and departure of ports, advanced computer based automation using maritime satellite telematic concepts etc., to improve the overall efficiency of ships of the future.

According to Mr. Ulrich Gerbitz, Howaldtswerke - Deutche Werft Kiel yards in West Germany, senior engineer "The main aims of the 'ships of the Future' project were ultimately defined as fuel economy and reduced manning..... more than 270 possible technical innovations were examined and the list was whittled down to 78 that could reasonably be introduced into a high technology vessel at the present time. Of these, 42 features have been built into the two ships just launched. ... The most obvious modernistic features of the two ships of the future will be the communication centre, the ship operation centre and the board management centre, all bristling with the latest computer technology." (14)

As one can see from this above, the merchant vessels of the future will be technologically advanced, capital intensive and knowledge intensive with advanced communication systems making it easier for shor-ship connections which results in change in management as well. They will incorporate improved functional efficiency and reduced maintenance costs, drastically reduced fuel consumption, labour saving with advanced computer based automation. The sharing of roles between ship and office must be adaptable to modern operational modes with due regards to human, technical and economic factors. The impending commitment to efficiency and new expertise in shipping will rely on high quality, compatible communications in both public and maritime networks. Crews will have to be more highly qualified and reduced manning will alter their patterns of work. Arne Sagen, Research Manager of National Norwegian R & D shipping program, regarding crew matters states: "To keep the new capital intensive ships competitive with the traditional fleets, manning levels will
have to be drastically reduced. ... The impending 'fourth generation' of ship instrumentation will displace many of the traditional skills of seamanship." (15)

The ship of the future would require less but qualified people on board due to advance in technology and communication systems. Japanese crew has reduced from 40-50 in mid-sixties to 18 crew system, Norway 18-19 manning and in approved ships 14 manning is being carried, in Sweden, containerships with 16 crew members are on operation and less than this is under study. (16) Japanese research programme is aiming for 3 manned vessel (17) while experiments for completely unmanned ship has been successful in England. "Following a period of experimentation, a mainly satisfactory performance was achieved with only a few random electrical errors experienced. The original scheme needed but a few changes, notably in regard to automatic/manual changeover procedures for which a strict code of conduct was deemed imperative.... Future uses of the unmanned ship would be a floating sales device and as an unaccompanied operation in convoy with a mothership. Further forward in time, control functions of many sorts would be achieved via a giant satnav radome stabilised in space; classified experiments had already been carried out with this type of equipment", states Mr. B.P. Farady of Thorn EMI Electronics Defence Systems Division for the Royal Institution of Naval Architects, London Branch. When the economic condition allow and the infrastructure to accommodate these kind of ships have been set-up it has been found technically possible to use unmanned ships, and would be welcomed as many human errors are bypassed, personnel costs and thus operating costs are reduced and its competitiveness enhanced. This seems to endanger the seafaring profession in the future.

Hence, new directions in shipping technology have brought
complete change in the management and operation of ships endangering the traditional seafaring profession in the coming years. The capital intensive modern ships with advanced technological equipments ensuring safety through advanced communication systems; increasing productivity through computer based automation resulting in reduced manning and fuel economy and thus reducing the operating costs contributing to the competitive position of the ship in the international market. The ship-shore organizational pattern has also changed demanding high quality personnel, improving working condition on board (i.e. decentralized decision making, participative work planning, better safety methods) and enhancing high productivity. The ships of the future with robotics - an extension of the automation process and unmanned vessels with remote control systems have been found technically possible if the necessary infrastructure to accommodate them is provided and economic conditions allow endangering the human factor in shipping. Although the seafaring profession seems to be one of the first victims, all industrial labour will face the same faith with technological advance, automation and the robotic revolution taking over in the coming years. The social impact of automation, both bright and dark potentials, have been discussed thoroughly by Mr. Y. Masuda, post-industrial scholar who states:

- "A first principal social impact will be the increasing emancipation of man from labour for subsistence: this will have an immeasurable social and psychological effect on the future of mankind, a social impact which may be said to belong to the bright side of automation.

- ... a second social result, unemployment, will represent a negative side of automation.
A third social impact of automation is that of social restraint. This not only represents the darkest side of automation, but is also perhaps the most critical issue of applied computer-communications technology." (18)

The unemployment problem in shipping will be more significant in developing countries, specially who are now supplying or trying to cover the labour shortage in some developed countries already with high unemployment problems. The future seems to provide jobs only to the few skilled leaving the semi-skilled and unskilled mass without work since robots could replace them with more efficiency and productivity. The extension of activities in the big oceans of the world or even to the space age achievements would provide jobs to advanced technological products i.e. robots rather than human beings due to their efficiency, productivity and less costs. Technology will continue to advance rapidly requiring more skills and this has to be matched with adequate planning. Technology as one of the most important factors transforming society will continue its influence in the re-stratification of society but due care should be taken in its usage individually or cooperatively since could have antagonistic results. As Daniel Bell puts it "Technology, in a sense, is a game against nature, in which man's effort to wrest the secrets from nature comes up largely against the character of physical laws and man's ingenuity in mapping those hidden paths. But economic and social life is a game between persons in which forecasting has to deal with variable strategies, dispositions and expectations, as individuals seek, either cooperatively or antagonistically, to increase their individual advantage." (19) The solutions lie within the social bounds of reality. What should be done remains a question but some things are for sure, as Mr. Y. Masuda, post-industrial researcher suggests: "Population control will be essential means of saving mankind from endemic hunger and poverty....
which would be global by a world-wide population explosion. 
..... People, while individually pursuing their own futuralization needs through goal oriented action will participate and work together in one or more voluntary communities, and as members of a global community, will cooperate in solving the problems and crises that are common to all mankind. This is how I see the future information society ultimately functioning." (20) The working together of society for the common good through international cooperation seems inevitable.
Footnotes for Chapter VII:


11. IBID. p. 181.
12. IBID. pp. 182-3.


CHAPTER VIII

CONCLUSION
Seafaring is one of the oldest professions which has contributed a great deal to the making of modern day history and the development of civilization. Before the invention of the telecommunication systems, seafarers were the only means of communication with other societies, cultures or continents and have even led to the re-discovery of the Americas. They served the world both in times of war and peace sacrificing their lives and were always alternative military auxiliary of their nations.

Seapower had been and still is one of the factors contributing to the economic, political and military dominance of the weak by the stronger. Many nations rose and were overwhelmed by the emergence of other powers throughout world history. The Egyptians, Phoenicians, Judeans, Greeks, Persians, Etruscans, Rhodians, Romans, and finally Arabs were dominant seapowers to the 11th century on the Mediterranean Sea area. Italy, Germany and the Netherlands were important powers during the crusades of the 11th to 14th centuries until the Portuguese, Dutch and Spanish began to be dominant in the 15th and 16th centuries. The British emerged as a seapower in the last quarter of the 17th century and retained their naval supremacy to the second half of the 19th century extending their significance to the 20th century. New maritime nations emerged with the repeal of the British Navigation Acts in 1849. The Americans with their new innovations in shipping and the Norwegians with the purchase of second hand vessels and excellent seamanship appeared as new challenge in the international scene with the growingly accepted principal of freedom of the seas, inviting other nations to participate in this lucrative business modern maritime history began.

Trade and commerce developed together with the development of this transport means which from use of wooden dug-out canoes propelled by manpower; to the use of wind power in the sailing ships; use of coal power in steamships and finally use of fuel and atomic power with motor engines. With faster, larger, more efficient ships trade and commerce grew with bigger risks and liabilities. To back-up
these world-wide commercial transactions and risk inherent high
capital business Banks and Insurances developed. The mechaniza-
tion process began to reduce the number of people needed. Certain
laws and regulations began to appear to administer the safety of the
vessels and goods transported. Earliest developments setting the
working conditions, commercial liabilities, etc., were seen in the
Rhodian Sea Laws of the 8th century; Laws of Oleron, 1300; Laws
of Wisby, 1361 and the Consolt de Mar, 1494, which were followed
by periods of lawlessness and anarchy with the rise of nationalism
and national laws until the labour movement found ground during and
after the industrial revolution. The present day labour law arose
from the successive industrial revolution of the 18th century on-
wards.

The second half of the 19th century and the beginning of the 20th
century was a period of major change. The Americans and Norwegians
began challenging British dominance of the seas and commercial
transactions with the principle of Freedom of the Seas became more
prevalent. With the emergence of new nations the British enacted
new shipping regulations regarding the competence of Masters, Mates
and Seamen and the Certificate of Competency was introduced followed
by the plimsoll line or mark on ships for international safety pur-
poses. The introduction of the wireless telegraphy and telephoney
changed the traditional one man management system. Improved commu-
nication systems shifted the commercial activities of the ship to
shore restricting the duties of the master to ensuring the running
of the ship with the lowest possible cost and greatest efficiency.
Limited liability companies and charter tramp companies appeared
conducting their business from shore with various connections.
Trade developed and so did technological advance until the two world
wars brought major destruction to shipping. Seafarers participation
in these world wars cannot be described any better than that of
Sir Winston Churchill's tribute, "Never have so few people contributed
so much to so many.".
International Organizations began to appear following these two major wars to bring peace and order to the world community. In 1919 with the peace treaty of Versailles the International Labour Organization was established to create better working conditions. In 1948, the IMCO Convention was drafted and came into force in 1958 to regulate questions of International Maritime Safety and other organs developed later when the need arose. The number of maritime nations increased with the end of colonialism who also wanted to participate in international trade and thus shipping to control the heavy flow of hardly earned foreign currency. This has created conflicting interests which are being used as a basis to create favourable working conditions by various international conventions and agreements such as the code of conduct for liner conferences and the registration of ships all to create a new international economic order and sometimes have led to increased protection and flag discrimination which are harmful to the industry as a whole. Participation in shipping has required adequate maritime administration in each country to control and advance this highly capital intensive, highly competitive international business in an orderly and productive manner, assuring safety of vessels, crew and the marine environment through adequate training and inspections, according to the international guidelines.

The registration of a ship in a flag state is one of the basic requirements of international law. The high tax system and high labour costs in some countries has encouraged foreign registeries in countries which have little or no requirements creating some anarchy in the system. This flux in the registry system has brought certain inconveniences in the safety of the ship, crew and the marine environment. The rights of the seafarers could not be protected by the unions or the flag state since are often non-nationals. The use of sub-standard ships further endangers life, property and the marine environment. Apart from these, it has created unfair competition in the international market and thus being an impediment to the development of national fleets of developing countries. This
complex situation involving manifold social, economic and technical interests has finally been reached into an agreement despite the basic questions of International Law of the "genuine link" and despite the majority will of developing countries who were advocating the "phasing-out" of such a system through procedural application of the law which has created an atmosphere of dissatisfaction for not addressing the basic question of international law. In the areas where it is applied the double check system of port state control has helped to curb the use of substandard ships to a great extent in addition to the inspection made by the flag state.

The international business of shipping is changing rapidly to meet the requirements of trade and new innovations being installed to enhance efficiency and productivity. Advance in technology in specialized ships and the container revolution has changed the manning scales on board ships as well as in shore based industries. Technical advance, especially computer based automation and satellite communication systems have brought the question of reduced manning and have created change in the organization and management systems due to easy and efficient communication with company and public as well. The Shipboard Management system has brought participation of the crew in the decision making process creating job satisfaction and motivation of the crew. Modern ships with similar cabins in the same region for all crew, with common mess rooms and recreation center has narrowed the gap inherited from the conventional system with three hierarchical divisions and strict demarcations. On the other hand, this technological advance has required more qualified but less crew reducing the manning scale and introducing dual purpose officers and multi (General) purpose seamen which can work wherever needed creating integration of work.

The Round the World Service cannot be overlooked when discussing advances in technology. These advanced technology container ships with very large carrying capacity (carrying about four thousand twenty equivalent units "TEU") are significant in cost reduction
calling only at major ports requiring feeder services from secondary ports or inland transport system if successful with their plans may become a major threat to smaller ships with present day over-tonnaging and to some ports. These container ships requiring lesser crew and replacing many smaller ships will end up contributing to the unemployment problem.

Technology will continue its stratification of society requiring more skills and replacing the unskilled and semi-skilled with robots in the long run extending the automation process which contributes to the efficiency and productivity of the ship giving her a better competitive position in the international market.
The future is towards unmanned vessels with remote control systems which have been found technically possible if the necessary infrastructure is provided and economic conditions allow endangering the seafaring profession.

The robotics revolution has already started in land based industries notably in production areas and is spreading to ships. Seafaring is going to be one of the victims and contributing to the unemployment problems. This seems to be the trend in all industries and have to be met with efficiency and planning. Although the significance of this problem differs in time in developed and developing countries it is without doubt that the advance in one area will affect the other, i.e., use of robots in developed countries will affect labour supplying countries. This inevitable social problem should be approached with social planning to avoid coming years of hunger, poverty and war by planning in the long term, a manageable society. This has been successfully implemented in some countries and should be approached in the following manner:
1. **Short-Term Plan:**

- The level of introducing technical advance should be planned not to create severe social repercussions.

- Training and retraining of the existing redundant personnel as far as possible and discussing together with the labour union, as to possible solutions in transferring to other areas and whenever consented to pension with equitable payment.

2. **Medium Term Plan:**

- Manpower planning should be introduced and should not be a once for all exercise but rather a continuous process whereby previous forecasts are updated in light of new information.

- The maritime administrations should look to the need for shipping services and limit the training to match the demand and improve quality of personnel so that they could work in any section on board a ship or in land based industries.

- The International Labour Organization is also making great efforts in the field of social repercussions of technological changes. Although government interest in a macro-level is to provide full-employment and Unions on micro-level to protect the interest of its members ILO's aim is not protecting jobs but to transit through training and change. To implement this it has passed conventions 107 and 108, and recommendations 139 and 154 to protect basic seafarers rights. The ILO is still studying possible dimensions of work and due cooperation is required to overcome this worldwide problem.
3. Long-Term Plan:

Cheap labour has always attracted capital throughout world history and has been the basis for the establishment of present day civilization which can be witnessed from ancient slavery, colonialism and present day S.E. Asia and Chinese trend of development. But this seems to come to an end with technological advance, automation and specially robotics which is on the process of taking over due to high productivity, high quality work and more man hour value, continuous work with little supervision once programmed. If this is so, the last alternative that is left to mankind in facing future unemployment and the following consequences would be through population control and adequate redistribution of income (wealth). This has been successfully done in some countries, notably China and some advanced European countries like the Netherlands, Sweden, and Denmark with zero population growth.

The technological advance and the taking over of work by machines seems inevitable and this should be met with efficient planning and population control not to reach the plimsoll line (i.e. the balance in society) through international cooperation for international safety purpose.
The bibliography is divided into two main parts: Books, including encyclopedias and dictionaries; Publications, including all magazines, newspapers, and other publications.

A. Books


B. Publications:


NMU, On a True Course, The Story of the National Maritime Union, AFL-CIO, Wash. D.C.


SARSAT, National Aeronautics and Space Administration (NASA Publication), USA.


The Staff, "Management: Taking the Team on Board". The Golf House Ship Management Centre, Lloyd's Ship Manager, June 1984.


ANNEX-I

UNITED NATIONS CONVENTION ON CONDITIONS FOR

REGISTRATION OF SHIPS
The States Parties to this Convention,

Recognizing the need to promote the orderly expansion of world shipping as a whole,

Recalling General Assembly resolution 35/56 of 5 December 1980, the annex to which contains the International Development Strategy for the Third United Nations Development Decade, which called, inter alia, in paragraph 128, for an increase in the participation by developing countries in world transport of international trade,

Recalling also that according to the 1958 Geneva Convention on the High Seas and the 1982 United Nations Convention on the Law of the Sea there must exist a genuine link between a ship and a flag State and conscious of the duties of the flag State to exercise effectively its jurisdiction and control over ships flying its flag in accordance with the principle of the genuine link,

Believing that to this end a flag State should have a competent and adequate national maritime administration,

Believing also that in order to exercise its control function effectively a flag State should ensure that those who are responsible for the management and operation of a ship on its register are readily identifiable and accountable,

Believing further that measures to make persons responsible for ships more readily identifiable and accountable could assist in the task of combating maritime fraud,

Reaffirming, without prejudice to this Convention, that each State shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory and for the right to fly its flag,

Prompted by the desire among sovereign States to resolve in a spirit of mutual understanding and co-operation all issues relating to the conditions for the grant of nationality to, and for the registration of, ships,

Considering that nothing in this Convention shall be deemed to prejudice any provisions in the national laws and regulations of the Contracting Parties to this Convention, which exceed the provisions contained herein,

Recognizing the competences of the specialized agencies and other institutions of the United Nations system as contained in their respective constitutional instruments, taking into account arrangements which may have been concluded between the United Nations and the agencies, and between individual agencies and institutions in specific fields,

have agreed as follows:
For the purpose of ensuring or, as the case may be, strengthening the genuine link between a State and ships flying its flag, and in order to exercise effectively its jurisdiction and control over such ships with regard to identification and accountability of shipowners and operators as well as with regard to administrative, technical, economic and social matters, a flag State shall apply the provisions contained in this Convention.

Article 2
DEFINITIONS

For the purposes of this Convention:

"Ship" means any self-propelled sea-going vessel used in international seaborne trade for the transport of goods, passengers, or both with the exception of vessels of less than 500 gross registered tons;

"Flag State" means a State whose flag a ship flies and is entitled to fly;

"Owner" or "shipowner" means, unless clearly indicated otherwise, any natural or juridical person recorded in the register of ships of the State of registration as an owner of a ship;

"Operator" means the owner or bareboat charterer, or any other natural or juridical person to whom the responsibilities of the owner or bareboat charterer have been formally assigned;

"State of registration" means the State in whose register of ships a ship has been entered;

"Register of ships" means the official register or registers in which particulars referred to in article 11 of this Convention are recorded;

"National maritime administration" means any State authority or agency which is established by the State of registration in accordance with its legislation and which, pursuant to that legislation, is responsible, inter alia, for the implementation of international agreements concerning maritime transport and for the application of rules and standards concerning ships under its jurisdiction and control;

"Bareboat charter" means a contract for the lease of a ship, for a stipulated period of time, by virtue of which the lessee has complete possession and control of the ship, including the right to appoint the master and crew of the ship, for the duration of the lease;

"Labour-supplying country" means a country which provides seafarers for service on a ship flying the flag of another country.
Article 3

SCOPE OF APPLICATION

This Convention shall apply to all ships as defined in article 2.

Article 4

GENERAL PROVISIONS

1. Every State, whether coastal or land-locked, has the right to sail ships flying its flag on the high seas.

2. Ships have the nationality of the State whose flag they are entitled to fly.

3. Ships shall sail under the flag of one State only.

4. No ships shall be entered in the registers of ships of two or more States at a time, subject to the provisions of paragraphs 4 and 5 of article 11 and to article 12.

5. A ship may not change its flag during a voyage or while in a port of call, save in the case of a real transfer of ownership or change of registry.

Article 5

NATIONAL MARITIME ADMINISTRATION

1. The flag State shall have a competent and adequate national maritime administration, which shall be subject to its jurisdiction and control.

2. The flag State shall implement applicable international rules and standards concerning, in particular, the safety of ships and persons on board and the prevention of pollution of the marine environment.

3. The maritime administration of the flag State shall ensure:

   (a) That ships flying the flag of such State comply with its laws and regulations concerning registration of ships and with applicable international rules and standards concerning, in particular, the safety of ships and persons on board and the prevention of pollution of the marine environment;

   (b) That ships flying the flag of such State are periodically surveyed by its authorized surveyors in order to ensure compliance with applicable international rules and standards;

   (c) That ships flying the flag of such State carry on board documents, in particular, those evidencing the right to fly its flag and other valid relevant documents, including those required by international conventions to which the State of registration is a Party;

   (d) That the owners of ships flying the flag of such State comply with the principles of registration of ships in accordance with the laws and regulations of such State and the provisions of this Convention.
4. The State of registration shall require all the appropriate information necessary for full identification and accountability concerning ships flying its flag.

Article 6

IDENTIFICATION AND ACCOUNTABILITY

1. The State of registration shall enter in its register of ships, inter alia, information concerning the ship and its owner or owners. Information concerning the operator, when the operator is not the owner, should be included in the register of ships or in the official record of operators to be maintained in the office of the Registrar or be readily accessible to him, in accordance with the laws and regulations of the State of registration. The State of registration shall issue documentation as evidence of the registration of the ship.

2. The State of registration shall take such measures as are necessary to ensure that the owner or owners, the operator or operators, or any other person or persons who can be held accountable for the management and operation of ships flying its flag can be easily identified by persons having a legitimate interest in obtaining such information.

3. Registers of ships should be available to those with a legitimate interest in obtaining information contained therein, in accordance with the laws and regulations of the flag State.

4. A State should ensure that ships flying its flag carry documentation including information about the identity of the owner or owners, the operator or operators or the person or persons accountable for the operation of such ships, and make available such information to port State authorities.

5. Log-books should be kept on all ships and retained for a reasonable period after the date of the last entry, notwithstanding any change in a ship's name, and should be available for inspection and copying by persons having a legitimate interest in obtaining such information, in accordance with the laws and regulations of the flag State. In the event of a ship being sold and its registration being changed to another State, log-books relating to the period before such sale should be retained and should be available for inspection and copying by persons having a legitimate interest in obtaining such information, in accordance with the laws and regulations of the former flag State.

6. A State shall take necessary measures to ensure that ships it enters in its register of ships have owners or operators who are adequately identifiable for the purpose of ensuring their full accountability.

7. A State should ensure that direct contact between owners of ships flying its flag and its government authorities is not restricted.
PARTICIPATION BY NATIONALS IN THE OWNERSHIP AND/OR MANNING OF SHIPS

With respect to the provisions concerning manning and ownership of ships as contained in paragraphs 1 and 2 of article 8 and paragraphs 1 to 3 of article 9, respectively, and without prejudice to the application of any other provisions of this Convention, a State of registration has to comply either with the provisions of paragraphs 1 and 2 of article 8 or with the provisions of paragraphs 1 to 3 of article 9, but may comply with both.

Article 8

OWNERSHIP OF SHIPS

1. Subject to the provisions of article 7, the flag state shall provide in its laws and regulations for the ownership of ships flying its flag.

2. Subject to the provisions of article 7, in such laws and regulations the flag State shall include appropriate provisions for participation by that State or its nationals as owners of ships flying its flag or in the ownership of such ships and for the level of such participation. These laws and regulations should be sufficient to permit the flag State to exercise effectively its jurisdiction and control over ships flying its flag.

Article 9

MANNING OF SHIPS

1. Subject to the provisions of article 7, a State of registration, when implementing this Convention, shall observe the principle that a satisfactory part of the complement consisting of officers and crew of ships flying its flag be nationals or persons domiciled or lawfully in permanent residence in that State.

2. Subject to the provisions of article 7 and in pursuance of the goal set out in paragraph 1 of this article, and in taking necessary measures to this end, the State of registration shall have regard to the following:

(a) the availability of qualified seafarers within the State of registration;

(b) multilateral or bilateral agreements or other types of arrangements valid and enforceable pursuant to the legislation of the State of registration;

(c) the sound and economically viable operation of its ships.

3. The State of registration should implement the provision of paragraph 1 of this article on a ship, company or fleet basis.

4. The State of registration, in accordance with its laws and regulations, may allow persons of other nationalities to serve on board ships flying its flag in accordance with the relevant provisions of this Convention.
5. In pursuance of the goal set out in paragraph 1 of this article, the State of registration should, in co-operation with shipowners, promote the education and training of its nationals or persons domiciled or lawfully in permanent residence within its territory.

6. The State of registration shall ensure:

(a) that the manning of ships flying its flag is of such a level and competence as to ensure compliance with applicable international rules and standards, in particular those regarding safety at sea;

(b) that the terms and conditions of employment on board ships flying its flag are in conformity with applicable international rules and standards;

(c) that adequate legal procedures exist for the settlement of civil disputes between seafarers employed on ships flying its flag and their employers;

(d) that nationals and foreign seafarers have equal access to appropriate legal processes to secure their contractual rights in their relations with their employers.

Article 10

ROLE OF FLAG STATES IN RESPECT OF THE MANAGEMENT OF SHIPOWNING COMPANIES AND SHIPS

1. The State of registration, before entering a ship in its register of ships, shall ensure that the shipowning company or a subsidiary shipowning company is established and/or has its principal place of business within its territory in accordance with its laws and regulations.

2. Where the shipowning company or a subsidiary shipowning company or the principal place of business of the shipowning company is not established in the flag State, the latter shall ensure, before entering a ship in its register of ships, that there is a representative or management person who shall be a national of the flag State, or be domiciled therein. Such a representative or management person may be a natural or juridical person who is duly established or incorporated in the flag State, as the case may be, in accordance with its laws and regulations, and duly empowered to act on the shipowner's behalf and account. In particular, this representative or management person should be available for any legal process and to meet the shipowner's responsibilities in accordance with the laws and regulations of the State of registration.

3. The State of registration should ensure that the person or persons accountable for the management and operation of a ship flying its flag are in a position to meet the financial obligations that may arise from the operation of such a ship to cover risks which are normally insured in international maritime transportation in respect of damage to third parties. To this end the State of registration should ensure that ships flying its flag are in a
position to provide at all times documents evidencing that an adequate guarantee, such as appropriate insurance or any other equivalent means, has been arranged. Furthermore, the State of registration should ensure that an appropriate mechanism, such as a maritime lien, mutual fund, wage insurance, social security scheme, or any governmental guarantee provided by an appropriate agency of the State of the accountable person, whether that person is an owner or operator, exists to cover wages and related monies owed to seafarers employed on ships flying its flag in the event of default of payment by their employers. The State of registration may also provide for any other appropriate mechanism to that effect in its laws and regulations.

Article 21

REGISTER OF SHIPS

1. A State of registration shall establish a register of ships flying its flag, which register shall be maintained in a manner determined by that State and in conformity with the relevant provisions of this Convention. Ships entitled by the laws and regulations of a State to fly its flag shall be entered in this register in the name of the owner or owners or, where national laws and regulations so provide, the bareboat charterer.

2. Such register shall, inter alia, record the following:

(a) the name of the ship and the previous name and registry if any;

(b) the place or port of registration or home port and the official number or mark of identification of the ship;

(c) the international call sign of the ship, if assigned;

(d) the name of the builders, place of build and year of building of the ship;

(e) the description of the main technical characteristics of the ship;

(f) the name, address and, as appropriate, the nationality of the owner or of each of the owners;

and, unless recorded in another public document readily accessible to the Registrar in the flag State:

(g) the date of deletion or suspension of the previous registration of the ship;

(h) the name, address and, as appropriate, the nationality of the bareboat charterer, where national laws and regulations provide for the registration of ships bareboat chartered-in;

(i) the particulars of any mortgages or other similar charges upon the ship as stipulated by national laws and regulations;

3. Furthermore, such register should also record:

(a) if there is more than one owner, the proportion of the ship owned by each;

(b) the name, address and, as appropriate, the nationality of the operator, when the operator is not the owner or the bareboat charterer.
4. Before entering a ship in its register of ships a State should assure itself that the previous registration, if any, is deleted.

5. In the case of a ship bareboat chartered-in a State should assure itself that right to fly the flag of the former flag State is suspended. Such registration shall be effected on production of evidence, indicating suspension of previous registration as regards the nationality of the ship under the former flag State and indicating particulars of any registered encumbrances.

**Article 12**

**BAREBOAT CHARTER**

1. Subject to the provisions of Article 11 and in accordance with its laws and regulations a State may grant registration and the right to fly its flag to a ship bareboat chartered-in by a charterer in that State, for the period of that charter.

2. When shipowners or charterers in States Parties to this Convention enter into such bareboat charter activities, the conditions of registration contained in this Convention should be fully complied with.

3. To achieve the goal of compliance and for the purpose of applying the requirements of this agreement in the case of a ship so bareboat chartered in the charterer will be considered to be the owner. This Convention, however, does not have the effect of providing for any ownership rights in the chartered ship other than those stipulated in the particular bareboat charter contract.

4. A State should ensure that a ship bareboat chartered-in and flying its flag, pursuant to paragraphs 1 to 3 of this article, will be subject to its full jurisdiction and control.

5. The State where the bareboat chartered-in ship is registered shall ensure that the former flag State is notified of the deletion of the registration of the bareboat chartered ship.

5. All terms and conditions, other than those specified in this article, relating to the relationship of the parties to a bareboat charter are left to the contractual disposal of those parties.

**Article 13**

**JOINT VENTURES**

Contracting Parties to this Convention, in conformity with their national policies, legislation and the conditions for registration of ships contained in this Convention, should promote joint ventures between shipowners of different countries, and should, to this end, adopt appropriate arrangements, inter alia, by safeguarding the contractual rights of the parties to joint ventures, to further the establishment of such joint ventures order to develop the national shipping industry.

Regional and international financial institutions and aid agencies should be invited to contribute, as appropriate, to the establishment and/or strengthening of joint ventures in the shipping industry of developing countries, particularly in the least developed among them.
Article 14

MEASURES TO PROTECT THE INTERESTS OF LABOUR-SUPPLYING COUNTRIES

1. For the purpose of safeguarding the interests of labour-supplying countries and of minimizing labour displacement and consequent economic dislocation, if any, within these countries, particularly developing countries, as a result of the adoption of this Convention, urgency should be given to the implementation, inter alia, of the measures as contained in Resolution 1 annexed to this Convention.

2. In order to create favourable conditions for any contract or arrangement that may be entered into by shipowners or operators and the trade unions of seamen or other representative seamen bodies, bilateral agreements may be concluded between flag States and labour-supplying countries concerning the employment of seafarers of those labour-supplying countries.

Article 15

MEASURES TO MINIMIZE ADVERSE ECONOMIC EFFECTS

For the purpose of minimizing adverse economic effects that might occur within developing countries, in the process of adapting and implementing conditions to meet the requirements established by this Convention, urgency should be given inter alia, to the measures as contained in Resolution 2 annexed to this Convention.

Article 16

DEPOSITARY

The Secretary-General of the United Nations shall be the depositary of this Convention.

Article 17

IMPLEMENTATION

1. Contracting Parties shall take any legislative or other measures necessary to implement this Convention.

2. Each Contracting Party shall, at appropriate times, communicate to the depositary the texts of any legislative or other measures which it has taken in order to implement this Convention.

3. The depositary shall transmit upon request to Contracting Parties the texts of the legislative or other measures which have been communicated to him pursuant to paragraph 2 of this article.
Article 18

SIGNATURE, RATIFICATION, ACCEPTANCE, APPROVAL AND ACCESSION

1. All States are entitled to become Contracting Parties to this Convention by:

   (a) signature not subject to ratification, acceptance or approval; or
   
   (b) signature subject to and followed by ratification, acceptance or approval; or
   
   (c) accession.

2. This Convention shall be open for signature from 1 May 1986 to and including 30 April 1987, at the headquarters of United Nations in New York and shall thereafter remain open for accession.

3. Instruments of ratification, acceptance, approval or accession shall be deposited with the depositary.

Article 19

ENTRY INTO FORCE

1. This Convention shall enter into force 12 months after the date on which not less than 40 States, the combined tonnage of which amounts to at least 25 per cent of world tonnage, have become Contracting Parties to it in accordance with article 18. For the purpose of this article the tonnage shall be deemed to be that contained in annex III to this Convention.

2. For each State which becomes a Contracting Party to this Convention after the conditions for entry into force under paragraph 1 of this article have been met, the Convention shall enter into force for that State twelve months after that State has become a Contracting Party.

Article 20

REVIEW AND AMENDMENTS

1. After the expiry of a period of eight years from the date of entry into force of this Convention, a Contracting Party may, by written communication addressed to the Secretary-General of the United Nations, propose specific amendments to this Convention and request the convening of a review conference to consider such proposed amendments. The Secretary-General shall circulate such communication to all Contracting Parties. If, within 12 months from the date of the circulation of the communication, not less than two-fifths of the Contracting Parties reply favourably to the request, the Secretary-General shall convene the Review Conference.

2. The Secretary-General of the United Nations shall circulate to all Contracting Parties the texts of any proposals for, or views regarding, amendments, at least six months before the opening date of the Review Conference.
Article 21

EFFECT OF AMENDMENTS

1. The decisions of a review conference regarding amendments shall be taken by consensus or, upon request, by a vote of a two-thirds majority of the Contracting Parties present and voting. Amendments adopted by such a conference shall be communicated by the Secretary-General of the United Nations to all the Contracting Parties for ratification, acceptance, or approval and to all the States signatories of the Convention for information.

2. Ratification, acceptance or approval of amendments adopted by a review conference shall be effected by the deposit of a formal instrument to that effect with the depositary.

3. Any amendment adopted by a review conference shall enter into force only for those Contracting Parties which have ratified, accepted or approved it, on the first day of the month following one year after its ratification, acceptance or approval by two-thirds of the Contracting Parties. For any State ratifying, accepting or approving an amendment after it has been ratified, accepted or approved by two-thirds of the Contracting Parties, the amendment shall enter into force one year after its ratification, acceptance or approval by that State.

4. Any State which becomes a Contracting Party to this Convention after the entry into force of an amendment shall, failing an expression of a different intention by that State:
   (a) Be considered as a Party to this Convention as amended; and
   (b) Be considered as a Party to the unamended Convention in relation to any Contracting Party not bound by the amendment.

Article 22

DENUNCIATION

1. Any Contracting Party may denounce this Convention at any time by means of a notification in writing to this effect addressed to the depositary.

2. Such denunciation shall take effect on the expiration of one year after the notification is received by the depositary, unless a longer period has been specified in the notification.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have affixed their signatures hereunder on the dates indicated.

DONE at Geneva on 7 February 1986 in one original in the Arabic, Chinese, English, French, Russian and Spanish languages, all texts being equally authentic.
Annex I

Resolution 1

Measures to protect the interests of labour-supplying countries

The United Nations Conference on Conditions for Registration of Ships,

Having adopted the United Nations Convention on Conditions for Registration of Ships,

Recommends as follows:—

1. Labour-supplying countries should regulate the activities of the agencies within their jurisdiction that supply seafarers for ships flying the flag of another country in order to ensure that the contractual terms offered by those agencies will prevent abuses and contribute to the welfare of seafarers. For the protection of their seafarers, labour-supplying countries may require, inter alia, suitable security of the type mentioned in article 10 from the owners or operators of ships employing such seafarers or from other appropriate bodies;

2. Labour-supplying developing countries may consult each other in order to harmonize as much as possible their policies concerning the conditions upon which they will supply labour in accordance with these principles and may, if necessary, harmonize their legislation in this respect;

3. UNCTAD, UNDP and other appropriate international bodies should upon request provide assistance to labour-supplying developing countries for establishing appropriate legislation for registration of ships and attracting ships to their registers, taking into account this Convention;

4. The ILO should upon request provide assistance to labour-supplying countries for the adoption of measures in order to minimize labour displacement and consequent economic dislocation, if any, within labour-supplying countries which might result from the adoption of this Convention;

5. Appropriate international organizations within the United Nations system should upon request provide assistance to labour-supplying countries for the education and training of their seafarers, including the provision of training and equipment facilities.
Annex II

Resolution 2

Measures to minimize adverse economic effects

The United Nations Conference on Conditions for Registration of Ships,

Having adopted the United Nations Convention on Conditions for
Registration of Ships,

Recommends as follows:-

1. UNCTAD, UNDP, IMO and other appropriate international bodies should provide, upon request, technical and financial assistance to those countries which may be affected by this Convention in order to formulate and implement modern and effective legislation for the development of their fleet in accordance with the provisions of this Convention;

2. ILO and other appropriate international organizations should also provide, upon request, assistance to those countries for the preparation and implementation of educational and training programmes for their seafarers as may be necessary;

3. UNDP, the World Bank and other appropriate international organizations should provide to those countries, upon request, technical and financial assistance for the implementation of alternative national development plans, programmes and projects to overcome economic dislocation which might result from the adoption of this Convention
### Annex III

**Merchant fleets of the world**

**Ships of 500 grt and above**

**As at 1 July 1985**

<table>
<thead>
<tr>
<th>Country</th>
<th>Gross registered tons (grt)</th>
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<td>1,191,419</td>
</tr>
<tr>
<td>Burma</td>
<td>94,380</td>
</tr>
<tr>
<td>Cameroon</td>
<td>67,057</td>
</tr>
<tr>
<td>Canada</td>
<td>841,048</td>
</tr>
<tr>
<td>Cape Verde</td>
<td>8,765</td>
</tr>
<tr>
<td>Chile</td>
<td>371,468</td>
</tr>
<tr>
<td>China</td>
<td>10,167,450</td>
</tr>
<tr>
<td>Colombia</td>
<td>357,668</td>
</tr>
<tr>
<td>Comoros</td>
<td>649</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>12,616</td>
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<tr>
<td>Côte d'Ivoire</td>
<td>124,706</td>
</tr>
<tr>
<td>Cuba</td>
<td>784,664</td>
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<tr>
<td>Cyprus</td>
<td>8,134,083</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>184,299</td>
</tr>
<tr>
<td>Democratic Kampuchea</td>
<td>998</td>
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</tbody>
</table>
Merchant fleets of the world (continued)

Ships of 500 grt and above

As at 1 July 1985

<table>
<thead>
<tr>
<th>Country</th>
<th>Gross registered tons (grt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democratic Yemen</td>
<td>4,229</td>
</tr>
<tr>
<td>Denmark</td>
<td>4,677,360</td>
</tr>
<tr>
<td>Djibouti</td>
<td>2,066</td>
</tr>
<tr>
<td>Dominica</td>
<td>500</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>35,667</td>
</tr>
<tr>
<td>Ecuador</td>
<td>417,372</td>
</tr>
<tr>
<td>Egypt</td>
<td>835,995</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>6,412</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>54,499</td>
</tr>
<tr>
<td>Faeroe Islands</td>
<td>39,333</td>
</tr>
<tr>
<td>Fiji</td>
<td>20,145</td>
</tr>
<tr>
<td>Finland</td>
<td>1,894,485</td>
</tr>
<tr>
<td>France</td>
<td>7,864,931</td>
</tr>
<tr>
<td>Gabon</td>
<td>92,687</td>
</tr>
<tr>
<td>Gambia</td>
<td>1,597</td>
</tr>
<tr>
<td>German Democratic Republic</td>
<td>1,235,840</td>
</tr>
<tr>
<td>Germany, Federal Republic of</td>
<td>5,717,767</td>
</tr>
<tr>
<td>Ghana</td>
<td>99,637</td>
</tr>
<tr>
<td>Greece</td>
<td>30,751,092</td>
</tr>
<tr>
<td>Guatemala</td>
<td>15,569</td>
</tr>
<tr>
<td>Guinea</td>
<td>598</td>
</tr>
<tr>
<td>Guyana</td>
<td>3,888</td>
</tr>
<tr>
<td>Honduras</td>
<td>301,786</td>
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<tr>
<td>Hungary</td>
<td>77,182</td>
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<tr>
<td>Iceland</td>
<td>69,460</td>
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<tr>
<td>India</td>
<td>6,324,145</td>
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<tr>
<td>Indonesia</td>
<td>1,604,427</td>
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<tr>
<td>Iran (Islamic Republic of)</td>
<td>2,172,401</td>
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<tr>
<td>Iraq</td>
<td>882,715</td>
</tr>
<tr>
<td>Ireland</td>
<td>161,304</td>
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<tr>
<td>Israel</td>
<td>541,035</td>
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<tr>
<td>Italy</td>
<td>8,530,108</td>
</tr>
<tr>
<td>Jamaica</td>
<td>7,473</td>
</tr>
<tr>
<td>Japan</td>
<td>37,189,376</td>
</tr>
<tr>
<td>Jordan</td>
<td>47,628</td>
</tr>
</tbody>
</table>
## Merchant fleets of the world (continued)

### Ships of 500 grt and above

As at 1 July 1985

<table>
<thead>
<tr>
<th>Country</th>
<th>Gross registered tons (grt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>1,168</td>
</tr>
<tr>
<td>Kiribati</td>
<td>1,480</td>
</tr>
<tr>
<td>Korea, Democratic People's Republic of</td>
<td>470,592</td>
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<tr>
<td>Korea, Republic of</td>
<td>6,621,898</td>
</tr>
<tr>
<td>Kuwait</td>
<td>2,311,813</td>
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<tr>
<td>Lebanon</td>
<td>461,525</td>
</tr>
<tr>
<td>Liberia</td>
<td>57,985,747</td>
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<tr>
<td>Libyan Arab Jamahiriya</td>
<td>832,450</td>
</tr>
<tr>
<td>Madagascar</td>
<td>63,115</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1,708,599</td>
</tr>
<tr>
<td>Maldives</td>
<td>125,958</td>
</tr>
<tr>
<td>Malta</td>
<td>1,836,948</td>
</tr>
<tr>
<td>Mauritania</td>
<td>1,581</td>
</tr>
<tr>
<td>Mauritius</td>
<td>32,968</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,282,048</td>
</tr>
<tr>
<td>Monaco</td>
<td>3,268</td>
</tr>
<tr>
<td>Morocco</td>
<td>377,702</td>
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<tr>
<td>Mozambique</td>
<td>17,013</td>
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<tr>
<td>Nauru</td>
<td>64,829</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3,628,871</td>
</tr>
<tr>
<td>New Zealand</td>
<td>266,285</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>15,869</td>
</tr>
<tr>
<td>Nigeria</td>
<td>396,525</td>
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<tr>
<td>Norway</td>
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<td>Oman</td>
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<tr>
<td>Pakistan</td>
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<td>Panama</td>
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<tr>
<td>Papua New Guinea</td>
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<tr>
<td>Paraguay</td>
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<tr>
<td>Peru</td>
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<tr>
<td>Philippines</td>
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<tr>
<td>Poland</td>
<td>2,966,534</td>
</tr>
<tr>
<td>Portugal</td>
<td>1,280,065</td>
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<tr>
<td>Country</td>
<td>Gross registered tons (grt)</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Qatar</td>
<td>339,725</td>
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<tr>
<td>Romania</td>
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<tr>
<td>Saint Vincent and the Grenadines</td>
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<tr>
<td>Samoa</td>
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<tr>
<td>Saudi Arabia</td>
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<td>Senegal</td>
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<tr>
<td>Singapore</td>
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<tr>
<td>Solomon Islands</td>
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<td>Somalia</td>
<td>22,802</td>
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<td>South Africa</td>
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<tr>
<td>Spain</td>
<td>5,650,470</td>
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<tr>
<td>Sri Lanka</td>
<td>617,628</td>
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<tr>
<td>Sudan</td>
<td>92,700</td>
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<tr>
<td>Suriname</td>
<td>11,181</td>
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<tr>
<td>Sweden</td>
<td>2,951,227</td>
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<tr>
<td>Switzerland</td>
<td>341,972</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>40,506</td>
</tr>
<tr>
<td>Tanzania, United Republic of</td>
<td>43,471</td>
</tr>
<tr>
<td>Thailand</td>
<td>550,585</td>
</tr>
<tr>
<td>Togo</td>
<td>52,677</td>
</tr>
<tr>
<td>Tonga</td>
<td>13,381</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>9,370</td>
</tr>
<tr>
<td>Tunisia</td>
<td>274,170</td>
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<tr>
<td>Turkey</td>
<td>3,532,350</td>
</tr>
<tr>
<td>Uganda</td>
<td>3,394</td>
</tr>
<tr>
<td>Union of Soviet Socialist Republics</td>
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</tr>
<tr>
<td>United Arab Emirates</td>
<td>805,318</td>
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<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>13,260,290</td>
</tr>
<tr>
<td>Bermuda</td>
<td>969,081</td>
</tr>
<tr>
<td>British Virgin Islands</td>
<td>1,939</td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>313,755</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>568,247</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6,820,100</td>
</tr>
</tbody>
</table>
### LIST OF IMO RESOLUTIONS ADOPTED BY ASSEMBLY OF THE INTERNATIONAL MARITIME ORGANIZATION RELATING TO MARITIME TRAINING

<table>
<thead>
<tr>
<th>RESOLUTIONS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 89(IV)</td>
<td>Training of Seafarers</td>
</tr>
<tr>
<td>A. 124(V)</td>
<td>Recommendation on Crew Training</td>
</tr>
<tr>
<td>A. 181(VI)</td>
<td>Instructions on Survival in Liferafts</td>
</tr>
<tr>
<td>A. 188(VI)</td>
<td>Training of Masters, Officers and Crew</td>
</tr>
<tr>
<td>A. 216(VII)</td>
<td>Instructions for Action in Survival Craft</td>
</tr>
<tr>
<td>A. 285(VIII)</td>
<td>Recommendation on Basic Principles and Operational Guidance relating to Navigational Watchkeeping</td>
</tr>
<tr>
<td>A. 286(VIII)</td>
<td>Recommendation on Training and Qualifications of Officers and Crews of Ships carrying Hazardous or Noxious Chemicals in Bulk</td>
</tr>
<tr>
<td>A. 311(VIII)</td>
<td>Safety of Maritime Navigation</td>
</tr>
<tr>
<td>A. 337(IX)</td>
<td>Recommendation on Principles and Operational Guidance for Deck Officers in charge of a Watch in Port</td>
</tr>
<tr>
<td>A. 380(X)</td>
<td>Standard Marine Navigational Vocabulary</td>
</tr>
<tr>
<td>A. 437(XI)</td>
<td>Training of Crews in Fire-Fighting</td>
</tr>
<tr>
<td>A. 438(XI)</td>
<td>Training and Qualifications of persons in charge of Medical Care aboard ship</td>
</tr>
<tr>
<td>A. 443(XI)</td>
<td>Decisions of the Ship Master with regard to Maritime Safety and Marine Environment Protection</td>
</tr>
<tr>
<td>A. 481(XII)</td>
<td>Principles of Safe Manning</td>
</tr>
<tr>
<td>A. 482(XII)</td>
<td>Training in the use of automatic radar plotting aids (ARPA)</td>
</tr>
<tr>
<td>A. 483(XII)</td>
<td>Training in radar observation and plotting</td>
</tr>
<tr>
<td>A. 484(XII)</td>
<td>Basic Principles to be observed in keeping a navigational watch on board fishing vessels</td>
</tr>
<tr>
<td>A. 485(XII)</td>
<td>Training, Qualifications and Operational Procedures for maritime pilots other than deep-sea pilots</td>
</tr>
<tr>
<td>A. 488(XII)</td>
<td>Use of the Standard Marine Navigational Vocabulary</td>
</tr>
<tr>
<td>A. 537(XIII)</td>
<td>Training of Officers and Ratings Responsible for Cargo Handling on Ships Carrying Dangerous and Hazardous Substances in Solid Form in Bulk or in Packaged Form</td>
</tr>
<tr>
<td>A. 538(XIII)</td>
<td>Maritime Safety Training of Personnel on Mobile Offshore Units</td>
</tr>
<tr>
<td>A. 539(XIII)</td>
<td>Certification of Skippers and Officers in Charge of a Navigational Watch on Fishing Vessels of 24 metres in length and over</td>
</tr>
</tbody>
</table>
CONVENTION CONCERNING MINIMUM STANDARDS IN MERCHANT SHIPS

Date of entry into force: 28 November 1981

Article 1

1. Except as otherwise provided in this Article, this Convention applies to every sea-going ship, whether publicly or privately owned, which is engaged in the transport of cargo or passengers for the purpose of trade or is employed for any other commercial purpose.

2. National laws or regulations shall determine when ships are to be regarded as sea-going ships for the purpose of this Convention.

3. This Convention applies to sea-going tugs.

4. This Convention does not apply to:

(a) ships primarily propelled by sail, whether or not they are fitted with auxiliary engines;

(b) ships engaged in fishing or in whaling or in similar pursuits;

(c) small vessels and vessels such as oil rigs and drilling platforms when not engaged in navigation, the decision as to which vessels are covered by this subparagraph to be taken by the competent authority in each country in consultation with the most representative organisations of shipowners and seafarers.

5. Nothing in this Convention shall be deemed to extend the scope of the Conventions referred to in the Appendix to this Convention or of the provisions contained therein.
Article 2

Each Member which ratifies this Convention undertakes -

(a) to have laws or regulations laying down, for ships registered in its territory -

(i) safety standards, including standards of competency, hours of work and manning, so as to ensure the safety of life on board ship;

(ii) appropriate social security measures; and

(iii) shipboard conditions of employment and shipboard living arrangements, in so far as these, in the opinion of the Member, are not covered by collective agreements or laid down by competent courts in a manner equally binding on the shipowners and seafarers concerned;

and to satisfy itself that the provisions of such laws and regulations are substantially equivalent to the Conventions or Articles of Conventions referred to in the Appendix to this Convention, in so far as the Member is not otherwise bound to give effect to the Conventions in question;

(b) to exercise effective jurisdiction or control over ships which are registered in its territory in respect of -

(i) safety standards, including standards of competency, hours of work and manning, prescribed by national laws or regulations;

(ii) social security measures prescribed by national laws or regulations;

(iii) shipboard conditions of employment and shipboard living arrangements prescribed by national laws or regulations, or laid down by competent courts in a manner equally binding on the shipowners and seafarers concerned;

(c) to satisfy itself that measures for the effective control of other shipboard conditions of employment and living arrangements, where it has no effective jurisdiction, are agreed between shipowners or their organisations and seafarers' organisations constituted in accordance with the substantive provisions of the Freedom of Association and Protection of the Right to Organise Convention, 1948, and the Right to Organise and Collective Bargaining Convention, 1949;

(d) to ensure that -

(i) adequate procedures - subject to over-all supervision by the competent authority, after tripartite consultation amongst that authority and the representative organisations of shipowners and seafarers where appropriate - exist for the engagement of seafarers on ships registered in its territory and for the investigation of complaints arising in that connection;
(ii) adequate procedures - subject to overall supervision by
the competent authority, after tripartite consultation
amongst that authority and the representative organisations
of shipowners and seafarers where appropriate - exist for
the investigation of any complaint made in connection with
and, if possible, at the time of the engagement in its
territory of seafarers of its own nationality on ships
registered in a foreign country, and that such complaint
as well as any complaint made in connection with and,
if possible, at the time of the engagement in its
territory of foreign seafarers on ships registered in a
foreign country, is promptly reported by its competent
authority to the competent authority of the country in
which the ship is registered, with a copy to the Director-
General of the International Labour Office;

(v) to ensure that seafarers employed on ships registered in its
territory are properly qualified or trained for the duties for
which they are engaged, due regard being had to the Vocational
training (Seafarers) Recommendation, 1970;

(f) to verify by inspection or other appropriate means that ships
registered in its territory comply with applicable international
labour Conventions in force which it has ratified, with the
laws and regulations required by subparagraph (a) of this
Article and, as may be appropriate under national law, with
applicable collective agreements;

(g) to hold an official inquiry into any serious marine casualty
involving ships registered in its territory, particularly those
involving injury and/or loss of life, the final report of such
inquiry normally to be made public.

Article 3

Any Member which has ratified this Convention shall, in so far
as practicable, advise its nationals on the possible problems of
signing on a ship registered in a State which has not ratified the
Convention, until it is satisfied that standards equivalent to
those fixed by this Convention are being applied. Measures taken
by the ratifying State to this effect shall not be in contradiction
with the principle of free movement of workers stipulated by the
treaties to which the two States concerned may be parties.

Article 4

1. If a Member which has ratified this Convention and in whose
port a ship calls in the normal course of its business or for
operational reasons receives a complaint or obtains evidence that
the ship does not conform to the standards of this Convention,
after it has come into force, it may prepare a report addressed to
the government of the country in which the ship is registered, with
a copy to the Director-General of the International Labour Office,
and may take measures necessary to rectify any conditions on board
which are clearly hazardous to safety or health.
2. In taking such measures, the Member shall forthwith notify the nearest maritime, consular or diplomatic representative of the flag state and shall, if possible, have such representative present. It shall not unreasonably detain or delay the ship.

3. For the purpose of this Article, "complaint" means information submitted by a member of the crew, a professional body, an association, a trade union or, generally, any person with an interest in the safety of the ship, including an interest in safety or health hazards to its crew.

**Article 5**

1. This Convention is open to the ratification of Members which:

(a) are parties to the International Convention for the Safety of Life at Sea, 1960, or the International Convention for the Safety of Life at Sea, 1974 or any Convention subsequently revising these Conventions; and

(b) are parties to the International Convention on Load Lines, 1966, or any Convention subsequently revising that Convention; and

(c) are parties to, or have implemented the provisions of, the Regulations for Preventing Collisions at Sea of 1960, or the Convention on the International Regulations for Preventing Collisions at Sea, 1972, or any Convention subsequently revising these international instruments.

2. This Convention is further open to the ratification of any Member which, on ratification, undertakes to fulfil the requirements to which ratification is made subject by paragraph 1 of this Article and which are not yet satisfied.

3. The formal ratifications of this Convention shall be communicated to the Director-General of the International Labour Office for registration.

**Appendix**

Minimum Age Convention, 1973 (No. 138), or Minimum Age (Sea) Convention (Revised), 1936 (No. 58), or Minimum Age (Sea) Convention, 1920 (No. 7);
Shipowners' Liability (Sick and Injured Seamen) Convention, 1936 (No. 55), or Sickness Insurance (Sea) Convention, 1936 (No. 56), or Medical Care and Sickness Benefits Convention, 1969 (No. 130);
Medical Examination (Seafarers) Convention, 1946 (No. 73); Prevention of Accidents (Seafarers) Convention, 1970 (No. 134) (Articles 4 and 7);
Accommodation of Crews Convention (Revised), 1949 (No. 92);
Food and Catering (Ships' Crews) Convention, 1946 (No. 68) (Article 5);
Officers' Competency Certificates (Convention, 1936 (No. 53) (Articles 3 and 4);
Seamen's Articles of Agreement Convention, 1926 (No. 22);
Repatriation of Seamen Convention, 1926 (No. 23);
Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87);
Right to Organise and Collective Bargaining Convention, 1949 (No. 98).