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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**THE WORK OF HARBOUR MASTER'S OFFICE IN A GUINEA
BISSAU PRIVATISED PORT**

By

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REPUBLIC OF GUINEA-BISSAU

Submitted to the World Maritime University in partial
fulfilment of the requirements for the award of a

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in

PORT MANAGEMENT

1999

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CHAPTER I

1. INTRODUCTION

The Guinea-Bissau and the organisation of a national port system

The Republic of Guinea-Bissau is located in West Africa and is bounded on the north by Senegal, east and south by Guinea-Conakry and west by the Atlantic Ocean. Country's main physical characteristics are rivers and wide estuaries. The main rivers are: the Cacheu, the Geba, the Corubal Complex, The Rio Grande and the Cacine. The country covers an area of 36,125 square km with 350 km of coastline. Guinea-Bissau with a sea coastline has a port system, composed of ports of different sizes, but the main port is called BISSAU PORT and is located in the capital city: Bissau.

The organisation of such a system requires, first of all, knowledge of their performance in order to achieve those purposes. As seaport is established on a country's coastline, which constitutes a political frontier because ships generally enter the port from the high seas, an area that is essentially international.

Nowadays, ports are the strong points of the economy of countries possessing a coastline and they constitute the lungs, as it was, for their foreign trade. Our port is the compulsory transit point for the bulk of this trade, permitting the import of goods, which the country does not itself produce in sufficient quantity, and the export of items contributing to the development of our economy. Also it is a good place, as all the ports in the world, for the provision of further services which added value to the products transported and thus help better to meet the increasing demand of trade. Port activities, therefore, contribute to the economic independence of nations, which

is vital for their political independence and they perform a strategic role in their trade. What are the purposes of Guinea-Bissau ports?

2 THE PURPOSES OF PORT

In order to answer this question, it is first necessary to identify the organisations or persons concerned. A distinction must be made between several groups of persons:

- 2.1 The owners of the port,
- 2.2 The operators,
- 2.3 The users,
- 2.4 Social purpose of ports,
- 2.5 The port area or port community.

2.1.1 The owners of the port

Although there is currently a tendency towards privatisation of entire ports or parts of ports, in most countries the port owner is still the government authority, whether national (the state) or regional or local. Its representative is the port authority or administration. The national port system must make the greatest possible contribution to the country's development. In economic terms, the purpose is reflected in an effort to find the lowest possible overall cost through the ports of the national port system (the cost of imported and exported goods).

This cost burden determines the price that will be paid by nationals of the state in which the port is situated for goods imported for direct consumption and for the raw materials needed for the production of goods for domestic consumption. Its also a factor in the sale price adopted by the exporting activities based on goods produced from national resources, and is an even more important factor in the case of export goods obtained by the processing of products imported by sea. The level of this cost is often a determinant in choice of ports of call made by shipowners, which may either serve a port directly or indirectly, from another offering more attractive transit costs.

Ports thus play an essential role, not only for a country's foreign trade, for its entire economy and for the standard of living of its inhabitants. Ensuring the lowest possible port transit cost is therefore a means of reducing the prices paid by the country's consumers, but it is also the way to help ensure that the country's natural

or industrial products will be competitive with those of other countries. Today, no economy has a captive market; in order to sell its products, it must offer its potential customers a combination of quality and price that is at least as attractive as that offered by its competitors.

In addition to this basic purpose of ports, there are other complementary purposes: contributing to better land use, promoting the development of particular area or of certain goods traffic, creating employment and earning foreign exchange. A macroeconomic approach naturally leads the public authorities to intervene in decisions concerning the establishment, development and operations of port and, in particular, induces them to be the initiator of decisions regarding the siting and design of the structural works which determine the vocation of ports.

2.1.2 For port operators

In many ports, the operators (cargo handling and stevedoring firms, etc.) are not the owners of the port installations. There are an increasing number of such enterprises. There are often private firms, like in Guinea-Bissau commercial port, but are sometimes wholly or partly publicly owned. For all these operators, the main purpose is generally that of covering their costs and making a profit.

2.1.3 For port users

Who are the users of Guinea-Bissau ports? The logical answer would seem to be the shipowners and the shippers. Yet this answer is not complete. There are direct users of ports, intermediate users and final users. The final users are those who really pay for the port services. The totality of port charges borne by the shipowners are passed on, through the importers and exporters, to the producers of the goods exported from a country and to the consumers of the goods imported into a country. The same applies to the other intermediaries, namely the forwarding agents, who pass on their port costs to the producers or consumers whom they represent. While there may be cases where an increase in ports charges does not immediately result in higher sea freight, in the long term the shipowners will not absorb this increase and will pass it on to the consignor of the cargo.

The country's producers and consumers are therefore the final users of ports. What they seek from ports is service of the best possible quality at the lowest possible cost. It is necessary to point out that the costs charged to the users when a ship and its cargo call at a port (e.g. pilotage, towing, port dues, agency fees, etc.) are only one element of the total cost of the ship's call at the port, which also includes the cost of the vessel inactivity (waiting time and cargo handling), the temporary storage of cargo, and, any loss or damage. The port that is expensive for the users is not necessarily the port with highest tariffs; it is rather always the port where the services are poor because of delays, inefficiency and damage.

Securing the lowest possible overall port transit cost for these final users is the aim generally expressed by shipowners objectives which are the same as those of the final port users: The country's producers and the consumers of the goods carried. It is in this sense that provision of good service to domestic or foreign shipowners is in most cases a service rendered to the country's producers and consumers, provided that there is some competition between shipowners, so that they pass on to the final users the gains in productivity realised because of the port's better service.

This way, in the macroeconomic approach, the government considers those provisions of the best possible service to users at lowest possible port transit cost and must be the primary aim or purpose of ports.

2.1.4 Social purpose of ports

Compared with other national enterprises, Bissau Port are economic spaces whose size, special character and work place organisation are such that they must be examined with particular attention. The activities connected with transit of the traffic through a port obviously create considerable employment requiring personnel with different kinds of training and skills. The passage of traffic through the port directly entails the performance of many kinds of activities within the port site itself:

- Construction and maintenance of the port infrastructure and equipment provide work for enterprises in the civil engineering, mechanical engineering, electrical and electronic fields;
- Reception of ships require sea and inshore pilotage and towing firms;

- Transshipment of goods and their inward and outward forwarding provide work for cargo handling and transport enterprises;
- Transit operations necessitate the intervention of specialised enterprises;
- Administrative work involves not only the personnel of entity managing the port, but also that of all the various administrations concerned with foreign trade;
- In addition to these traditional activities, the most efficient ports also have such operations as warehousing, packaging, bulk breaking and distribution, as well as repackaging and processing of products, which add considerably to product value.

The economic fallout from port activities extends well beyond the occupations and offices, which help to move traffic through the port: all industry, commerce and administrative services in the area are involved in the port activities. Thus, a passage port provides business for the hotel and tourism industries; the need of other industries to site plant close to the docks leads to the creation of industrial zones, warehousing and other storage facilities within or close to the port area. These port related activities give rise in turn to industrial or service activities necessitating the provision and management of community services, housing, shops, etc., which contribute to the development of the local economy. They too are subject to the general rules affecting all industrial, commercial and administrative activities, of which the principal one is the need to adapt to economic circumstances.

Training is therefore a prerequisite for the adjustments that must take place if a port plays its proper role in the economy. Training must be provided in all types of work, because efficiency must be improved at all levels in every activity in Bissau Port.

Special reference must be made, in this connection, to port cargo-handling activities, which are very irregular owing to the irregularity of arrival of vessels and goods. The need to have sufficient manpower in order to avert costly traffic delays (having regard to the increasingly high cost of immobilised ships and idle port equipment) means that the cargo-handling enterprises must retain more personnel than can be fully employed on, a continuous basis and there is thus some periodic under-employment of the workers concerned. Whatever the type of traffic handling accounts for a very large part of the cost of transit through a port (nearly 50 per cent

for general cargo with conventional packaging). Interruption of this operation therefore paralyses the port and compromises the reliability of its operations.

The social purposes of ports also necessitate taking into account such factors as industrial safety and general safety in the port area, as well as protection of the environment. Dealing with these social questions is a very delicate task. In the present context, it calls for courage and vision. Some countries, including even some of the most highly developed ones, are reluctant to adopt social objectives adapted to the requirements of traffic and competition and they simply follow the practices of the past. In the end, however, they lose market share owing to the reactions to such policies that sooner or later develop.

2.1.5 The port area and port community

The "port area" concept has gradually been adopted because, with development of international trade and the modernisation of trading methods and transport, the port's role has in many cases progressed from that of being a mere physical point of transit at the sea/land interface, to being a more or less highly developed logistics centre for trade. It should be noted that this trend started in ports in the smaller countries, like Guinea-Bissau, and has spread, because their port history and culture has been a particularly fertile terrain.

To the traditional zones of quay activities (cargo transfer operations) and transit sheds, there has now been added a third zone extending over the entire port area, where operations are carried out that give substantial added value to goods moving through the port (storage, repackaging, assembly, distribution, etc.).

The principal purpose or aim of these port areas and of the local communities is promotion of the port itself, securing goods traffic and providing new services. The port community sets its aim, not only to ensure that goods move through the port at the lowest possible cost, but also to give the goods the greatest possible added value while they are in the port area.

This purpose imposes certain requirements:

- The community must be united, it must be motivated and it must be guided.
- The interests of the port area must be taken precedence over the interests (and objectives) of the members of the port community.

- Administrative services, including customs and the port authority, must facilitate, prepare and encourage these changes, without yielding to the temptation to interfere in commercial operations.
- Nevertheless, Guinea-Bissau port doesn't involve yet the port community and from now it has to take its responsibility to that involvement in the real conditions, because the port community never was involved even its safety and security never had been taken into consideration.

CHAPTER II

2. GUINEA-BISSAU PORT PROBLEMS AND REASONS FOR REFORM

Following independence in 1974, the government established a centrally planned economy policy, and an ambitious investment programme, financed mainly by foreign borrowing, was initiated, with emphasis on the industrial sector. However, the economy, which had been adversely affected by the campaign for independence, continued to deteriorate, partly as a result of the government's policies, and by the late 1970's Guinea-Bissau had an underdeveloped agricultural sector, a growing external debt, dwelling exports and escalating inflation.

In the 1980's the government initiated a policy of economic liberalisation, in an attempt to reverse the decline in the economy. In 1983 measures were initiated to liberalise the trading sector, to increase producer prices and to encourage private enterprise. Although the measures of adjustment succeeded in increasing agricultural production and export in 1984, the momentum behind the reforms slowed in 1985-86. By the end of 1986, export earnings had fallen, and the production of many goods had been halted, as the depletion of the country's reserves of foreign exchange made it difficult to import fuel or spare parts.

In response to deteriorating economic situation, the government adopted a structural adjustment programme (SAP) for 1987/90, which aimed to strengthen the role of the private sector by removing controls over prices and marketing, and by reforming the public sector. In 1990 the government began the reform of the country's public enterprises and initiated the first phase of its programme of privatisation. By mid-1995 the process of removing subsidies from public enterprises, which began in 1991, had been virtually completed. In 1984 work began on a project, with a cost of US\$ 47.4 millions, to enlarge Bissau harbour and to rehabilitate four river ports (were

concluded in 1992). The African Development Bank (ADB) was to lend us2.5 millions in 1991 to purchase of port equipment.

So in last decade, had undertaken or considered institutional reform in the port sector as a means to improve performance and to reduce the government's financial and administrative responsibility. Technical change has also helped to set the stage for reform because of the massive increases capital requirements of the port sector. Institutional reform offers the potential to improve the competitiveness of port services and thus strengthen trade capacities. But experience with various forms of restructuring Bissau port has shown that improved performance has not always been achieved. Reforms can be not successful unless a number of preliminary conditions are satisfied and the proper strategies and procedures are implemented. Without competition within Bissau Port, there is a need to provide some mechanism for price and performance control. Government want safeguards to ensure that the facilities operate well, that labour and social problem are minimised, that changes are fair, the regulatory control is maintained and that the integrated transport system is developed.

The urgent need of port institutional restructuring can range from modernisation of management to complete privatisation, but it should have a single overall objective to make the port responsive to the market and thus satisfy clients needs. Reform will be successful as long as this objective is reached, which will set the stage to take further measures to obtain the overall objectives.

Main problems which conduce to privatisation of Bissau Port:

- 1) The government created the policy of port Autonomous Port to provide the port with less bureaucracy, efficient service, and to provide good services to the clients, but it failed. Why?
 - The director or general manager was every time nominated by the president of the republic who, as usual, chose between his bests direct collaborators with or without consensus of minister of transport who is responsible for the port and sea.
 - The border of senior's managers is nominated by the general manager of the port and has only to inform the minister of transport.

- The autonomy made the port to become an isolated island, use illegal of power, where there isn't balance sheet and the end of certain period or year.
- Lack of unity of command, difficulty to recognise the senior managers and junior managers.
- Every one is responsible for every thing and at same time no one is responsible for the things happening within the port.
- Lose of cargoes became a normal and acceptable routine in the port and administration.
- Punctuality is nothing to the port and the absence of executive board and juniors managers is frequent while ships are operating.
- Waiting time and dwell time is bigger because the port was open from 08:00 until 17:00 hours/day.
- All the news port equipment bought With African Development Bank brooked after two because of the lack of training, adequate maintenance and repair, lack of control and supervise, because no one is responsible for things happen.
- Over manpower and lack of control and supervise.
- There is no delegation of responsibility and authority because everything has to be decided or solved by the general manager.
- In his absence or impeachment no one is authorised to answer or solve even a small problem.
- Clients, users of the port, and port authority are not satisfied at all with port services.
- Is the privatisation a solution to biggest Bissau Port problems?

2.1 The global environment

At the meeting of UNCTAD Intergovernmental Group of Experts on Ports, in October 1993, privatisation and commercialisation were the topics of discussion that evoked enthusiasm, interest and concern among the delegates. These subjects are topic because of restructuring of the global economic environment. During the last decade, there has been a world-wide trend of institutional restructuring of public sector. In some developed and developing countries, it has taken the form of commercialisation or privatisation of public enterprises. Steps have been taken to transform their centrally planned economies into market economies. Globalisation

and manufacturing and, national and international competition have been motors for these changes. In the past, political decisions have transferred certain economic activities to the public sector. Now, market force are increasingly being allowed to drive the entire national economy, which often involves institutional changes, a way from public enterprise versus centred economies.

It is within this environment that port institutional reform is taking place. In many developed countries and most developing countries ports are, in one form or another, public sector entities (like Bissau Port). Some countries consider ports as a service sector for the national economy. Others think that ports are so vital and strategic to the country that they should come under direct public control. Some countries see no other alternative than public sector involvement since large investments are required for port development. In many countries, for instance Guinea-Bissau, it was natural and logical at the end of colonisation, port assets and activities were placed under the control of semi-autonomous public-sector corporations. The public nature of the port sector, together with serious port problems in some countries, makes the port sector a target for institutional reform.

2.2 Reasons for change our port policy

World wide, basic port activities may seem identical, namely, loading and discharging, receiving and delivering cargo, storage, services for ships, etc. However, when comparing performance of various ports, differences are seen between ports, even within the same region. For example, in Western Europe ports, the average productivity for container handling in 1991 ranged from 14 to 30 moves per hour per crane. In an Asian port in 1992, 458 containers were handled in 3 ¼ hours and the vessel stayed at berth for less than half a day, while in another port in the region, the same number of containers required a vessel to spent 2 to 3 days in the port. The difference in labour productivity between ports can also be considered. In a major port of the East in 1992, 7,200 employees were needed to handle about 200 million tons of cargo, while in another port of a developing country in the same region, 52,000 employees were needed to handle about 150 million tons of cargo. Low productivity and inefficiency have made some port very expensive for their clients.

Moreover, these international comparisons were not important when the national policy encouraged import substitution and they discourage foreign trade. However, many developing countries, like my country, want to expand their export in order to generate additional employment and foreign exchange and to develop their economies. Thus, trade promotion has been adopted as a national policy. Poor port performance can no longer be tolerated and government has realised that the poor services and high cost of their ports are hampering their trade development and national economy. The proportion of port charges in the final delivered cost of traded products varies from 0.2 per cent for cargo of high value to more than 20 per cent for that of low value. As exports of developing countries are often of low unit value, port performance is more important for them than for developed countries. Although more developing countries are entering the world market with manufactured goods, they have often been providing low value added products and products that compete on price rather than quality. Strong competition in the international market often leaves developing with a slim margin of profit. High transport costs or port costs can swallow that thin margin and eliminate the trade. Even if the developing countries, which is our case, are competing with developed countries for a market with the same product, the comparative advantage of low production costs can be offset or undermined by high cost port services.

The export of soybeans is an example. In 1991, the international f.o.b. price for soybeans was US\$230 per ton. However, for loading the cargo on board a ship it cost US\$65 per ton in a South American port, while it cost US\$20 per ton in a North American port. Although the production cost of soybeans was US\$165 per ton in South America, US\$30 cheaper than in North America, by selling soybeans at the international market price the South American producers made no profit at all (total cost US\$230) while their North American rivals made a profit of US\$15 per ton (total cost US\$215).

Poor port services were not taking the profits from national exporters but, in fact, were also squeezing the country out of the world market. This example shows that reduced cost of port services not only can save and encourage national trade, but

also can create new export sector that will be competitive in the international market. Many newly industrialised countries have taken steps to improve their port sector, which is directly linked to the national economic development policy. Port performance is no longer a problem for port managers only; the government and traders should also make ports a priority and develop plans to improve them.

2.3 Causes of Problem

High cost, poor services and low efficiency and productivity are symptoms of the problem rather than the causes of in Bissau Port. When there are the problems in the port, the infrastructure and the cargo handling equipment are often first considered to be at fault. However, the UNCTAD survey in some African countries found that Investment in modern port facilities has universally well, and although there been some minor omissions there no cases of serious infrastructure defects. If ports have the right infrastructure and necessary equipment, the problem may be the lack of appropriate management or of modern management know-how. Principles of modern port management require that each port organisation, department, workshop, team and staff member should have clearly described objectives and areas of authority, responsibility and be accountable for its performance.

Modern management includes adequate rules and regulations, well statically and information system, analytical accounting and cost control, and human resource development, etc. Today, in most cases, managers know these techniques well and many have been put in place. In fact, knowledge and modern port management has been disseminated in developing countries through various training activities during the last decades. In many ports of developing countries, there are managers who have been trained abroad in modern port-management techniques, and thus the problem is not the lack of these techniques, but their implementation. Improved management is often unable to touch the roots of the problem.

The study of some African ports found that the real causes of the problem were institutional. The interface between the government and the port was too heavy and managers were unable to manage the port commercially. The lengthy bureaucratic

procedures and unnecessary state intervention prevented management from streamlining operations and reacting quickly to market needs, which often delayed the implementation of needed changes. When changes were made, they were often either not enough to satisfy market needs or they were too great to be cost effective to clients. Decision makers were often interested in non-commercial objectives. Over staffing resulting from technological change or government policies can increase port costs, but management cannot solve this problem because legislation, social objectives and further constraints are imposed on ports. In many ports in developed countries, labour regulations have resulted in excessive labour and labour unions that are not market oriented. Negotiations have started with stevedoring unions to reduce costs and revise the working system.

Problems also arise when bureaucracy serves relation between clients and services provider. When markets attempt to punish ports for not fulfilling its needs, the ports are not threatened because they benefit from government protection (by having a monopoly or financial subsidy). Thus, the cause of many port problems is that management has been separated from its clients and the market. In many cases, the relation between the port and the market has been distorted or interrupted by their institutional structure. Therefore, the solution is to modify our system.

2.4 Objectives of port reform

The general objective of port restructuring is to make port management market oriented and thus enable it to satisfy the client needs, subject to meeting its financial objectives. This objective may seem to be abstract, but it is important for the success of any port reform. The notion of the market is extremely important in the analysis as well as in the restructuring process. Throughout the world, there is both successful and unsuccessful port with various kinds of structure and management style: the port can be big or small, landlord or operating, public or private.

However, successful ports have one thing in common- they all are highly market oriented, while unsuccessful ports are not, which is our particular case. An example is an Asian port. Its port has not been generating enough money to finance new developments. The government took a significant step by allowing the introduction

of private and expertise from outside the country into one of the country's major port, through the formation of a joint company. However, before investing the new company first reduced the number of staff by less half and increasing the handle charges by 50 per cent. The port's financial situation had been improved, and productivity increased even though the staff complained and the clients protested. The new company had reacted to market forces by improving performance and by setting charges related to actual costs. The managers of the old company said that, had they been given the authority, they also could have solved the port's financial problems.

Therefore, it is important to keep in mind the general objective of port institutional reform, which is for the port to satisfy the needs of the market and its clients.

The specific objectives of port restructuring vary greatly. The most important is to enhance the efficiency of port services. Some ports called for institutional reforms, such as deregulation or privatisation, to diversify services or reduce costs. Financial sustainability has been as specific objective of many ports that are losing money, or to obtain new financial sources for development projects that the government finds difficult to finance. The following are some specific objectives for Bissau Port institutional reform:

- To enhance the efficiency of port services;
- To diversify port services and promote competition;
- To reduce the costs of port services;
- To promote the port in the market;
- To facilitate organisational streamlining;
- To acquire management expertise;
- To find new financial resources for development;
- to strengthen entrepreneurial and managerial capacity; to ease the introduction of modern management methods;
- To and improve labour problems;
- To relieve the government's financial and administrative burden;
- To eliminate/minimise bureaucracy/political influence;

All these specific objectives are directly linked with general objective to enable the ports to satisfy the market and the clients, and they all economic objectives. In

addition, there are other objectives set by the government that may not be directly linked with the general objective.

Normally, the objective reflects the government's political policy. Some countries in transition from former centrally planned economies to market economies, which was our policy since 1986, have adopted a policy of developing the private sector as the engine of growth and have made privatisation the end objective. The setting of clear objectives is an important first step for the reform procedure to succeed. The general objective keeps all actions on track, while the specific objectives enable manager to adopt the right strategy and measures for implementation. The general objective is fundamental and constitutes the final criterion for any restructuring activity. This means that a port reform action is only successful when the general objective has been reached or, in other words, when the market needs have been fulfilled and the clients are satisfied.

The general objective is meaningful only when the port's goal is market oriented, for example, to be financially viable international hub port: if its goals is primarily of a political or social nature, such as to be a major provider of employment in the region, then the general objective would be different. The general objective usually involving the ports in carrying out market-related functions, consistent with their financial viability, in contributing to wider national or regional economic goals, as directed by the government with the appropriate adjustments to the port's financial objectives.

The Guinea-Bissau government after two years of studies decided to privatise the Bissau commercial port in a public sector/private joint-venture option, which means that the public sector remains in the organisation after privatisation.

- All operational, commercial and financial activities were given to the new company called GUIPORT (Guinea port exploration).
- The state owned 51% of the capital investment and the private sector detain 49%.
- The concession time is a period of 15 years renewable started in 1992.
- Two lessons can be learned from our privatisation: one is that the public sector initially remained an important player- private sector participation in the new organisation was 49%. The other is that several privatisation forms were used;

for instance, the fixed assets were leased to the Joint-venture Company, but the superstructure and equipment were sold to them.

Port joint venture may be attractive to both the government and the private sector because the government can reduce administrative and financial burdens, improve efficiency and promote competition. Joint-venture are viewed favourably by the private sector where the magnitude of the investment and commercial risk are beyond their capabilities or where complete ownership of assets and operational control by the private sector are not allowed. In the port of Bremen, Germany, for example, a joint-venture company formed by the city of Bremen (51 per cent) and the private sector carry out most cargo handling. The same formula can be found in many other developing countries, such as the port of Shanghai in China (50 per cent private ownership in container terminals for a 50 year joint-venture), the port of Saigon in Vietnam, the port of Szczecin in Poland and the Marsalokk free port in Malta, etc.

CHAPTER III

THE WORK OF THE HARBOUR MASTER AND RELATED PORT MANAGEMENT FUNCTIONS

3. Introduction

In Guinea-Bissau the harbour master is generally an appointment made by statute under local Acts of Parliament. The harbour master has a statutory responsibility for the safety of navigation within his port, and this is again derived from both local and national legislation. These provide the harbour master with powers to give directions to vessels for the purposes specified in the legislation, and also imposes a duty to ensure the safety of navigation. Navigation in this sense refers to all its aspects, and includes also the movement of dangerous substances.

A harbour master may exercise his power concerning the safety of navigation by general and special directions by notice to the mariners, by harbour patrol or vessel traffic services. To discharge his responsibility effectively, and to regulate the movement of the vessels, which includes their movement underway and when secured, the harbour master will need the latest available hydrographic information for his port area.

The principal role of the harbour master is to ensure safety of navigation in his port and approaches. To do this effectively he has to liaise professionally with pilots, towing companies, marine superintendents, marine surveyors and shipmaster. He has to ensure that aids to navigation are adequate, regulated vessel traffic movements, be aware of the needs of a wide variety of port users and be able to contribute positively when new port development are being considered. The harbour master in the fulfilment of his conservancy duty also needs hydrographic data. This will include the possibility of the placing and servicing of navigation aids and

dredging to maintain a safety deep of water; either may necessitate the availability of plant, which be operated by the port or use of contractors.

3.1 Harbour Administration

- The law relating to the marine functions of a harbour authority and the harbour master;
- Implementation of harbour regulations and the harbour master responsibility to provide a safe port;
- Law relating to safe port;
- Responsibility of a port authority for the training of pilots;
- Port Administration;
- Management accounting for harbour masters;
- Some changing management roles and the training of harbour masters;
- Administration of passenger boat and boatman's licences.
- The law relating to the marine functions of a harbour authority and the harbour master.

There are two main aspects to the functions of a harbour authority. One is the provision and operating of dock and jetties the other is the marine aspect.

Virtually all harbour authorities, except for a purely conservancy bodies, are concerned with both aspects, although their relative importance varies according to the nature and circumstances of particular port undertakings. The powers and duties of a harbour authority, including their powers and duties relating to marine matters, are generally derived from statute and largely, although not exclusively, from Acts of parliament and statutory orders. It should be emphasised that when legal problems arise at port, it is essential to examine the particular local statutes.

Leaving aside pilotage, the marine functions of a harbour authority can be divided into the conservancy functions and the regulatory functions.

3.2 Conservancy functions

The basic purpose of the conservancy functions is to ensure that ships may use the harbour conveniently and safely. The conservancy function of a harbour authority consist mainly of:

- Dredging;
- The provision of lights and buoys;
- The removal of wrecks and other obstructions. Powers to carryout all these functions must be conferred by Parliament Common Law Duty;

How far is a harbour authority under a duty to exercise these powers?

In a number of cases the courts have formulated a Common Law Duty which applies to all harbour authorities with statutory conservancy functions. Where such a body is constituted by statute, having the right to levy tolls to its own profit in consideration of making and maintaining a lock or a channel, there is not doubt of the liability to make good for the persons using it any damage occasioned by the neglect in not keeping the workers in proper repair.

The Common Law in such case imposes a duty upon the proprietors to take reasonable care so long as they keep it open for the public use of all who may choose to navigate it, that they may do so without danger to their lives or property.

The most important case about the conservancy duties of a harbour authority is "Neptum"(owners). The duty of a buoyage and beaconage authority are analogous to that existing between invitor and invitee, and was to take reasonable care so long as the authority keep the navigable highway open for the public use of all who chose to navigate it, that they might do so without danger to their lives and property. Nevertheless, The common law duty is the same as that owned by an invitor to an invitee, and it is not necessary to invent any particular single term to indicate the relationship between a custodian and an individual who pays for the use and the work performed by such custodian. So the port authority under the scope of the obligations of a bouyage and beaconage authority would expect as follows:

- The authority should have sounded and found the best navigable channel in the river;

- Having found it, the authority should have placed sea marks of the nature of light vessels, floats or buoys in the positions where they would be of the best advantage to navigation;
- Y night, such sea marks should be provided with adequate lights to enable the channel to be easily found and properly kept by a vessel using it;
- The authority had re-sounded the channel as and when the opportunity presented itself;
- In view of the quickly shifting character of the river bed, that the authority had kept a vigilant watch upon the changes in the river bed and had altered, moved or renewed the sea marks in accordance with the changes ascertained.
- That records of the changes, both in sounding and movement of marks, should have been preserved for future reference and for the guidance of subsequent officials;
- The authority should publish, as conspicuously as possible, such further information as would supplement the guidance given by sea marks.

To sum up, therefore, the duty of a harbour master authority in conservancy matters is to take reasonable care that ships may navigate in their port without danger. It would seem that, on this basis, a harbour authority would be bound to consider necessary any action, which has required to satisfy their duty at common law.

3.3 Regulatory functions

Turning now to the powers of harbour authorities and harbour masters for regulating the movement and berthing of ships, it is important to bear in mind that, a ship has the right to enter, and navigate in, a harbour. This right is based partly on common law, there is a public right of navigation in tidal waters which includes a right of anchoring, mooring and grounding in the ordinary course of navigation. This right is, of course, subject to the payment of proper tolls and due, and to the provisions of any statute regulating the harbour. Upon payment of dues, the harbour shall be open to all person for the shipping and unshipping of goods and the embarking and landing of passengers.

A harbour authority's right to regulate the entry of a ship into its harbour, must therefore be specifically conferred by statute.

A harbour authority's powers to regulate shipping are two kinds:

- There are powers to give directions to particular ships on particular occasions. Such powers are always vested in harbour master, for obvious reasons. He has to deal with particular situations as they arise, where there is no time to call a meeting of the board.
- The other sort of regulatory power is the power to lay down general rules for the movement of shipping in the harbour.

A harbour master has a right to give directions for regulating the time at which, and the manner in which, any vessel shall enter into, go out of or lie in or at the harbour, dock or pier, and within the limits of the harbour, and its position, mooring or unmooring, placing and removing whilst therein. The master of a ship moored in a harbour, when directed by the harbour master to move her to a different berth, was required to comply with the direction even although, if that ship alone were to be considered, it will be injudicious to move the ship, it being the duty of the harbour master to consider the interests of all the shipping in the harbour.

Leaving aside the Dangerous Vessels Act 1985 and the Dangerous Substances in Harbour Areas Regulations 1987, the power for a harbour master to give specific directions to particular ships is still derived at most harbours from section 52 of the Harbours, Docks and Piers Clauses Acts 1847, which authorises a harbour master to give directions for (among other things) regulating the time at which, and the manner in which, any vessel shall enter into, go out of or lie in or at the harbour, dock or pier, and within the limits of the harbour, and its position, mooring or unmooring, placing and removing whilst therein. In the case of the "EXCELSIOR", it was held that the master of a ship moored in a harbour, when directed by the harbour master to move her to a different berth, was required to comply with direction.

3.4 Dangerous Vessels Act 1985

It appeared that the harbour master's power to regulate, etc., the movement of vessels under section 52 of the Harbours, Docks and Piers Clauses Act 1847 did

not, strictly, include power to prohibit a ship from entering harbour, although the power to regulate the postpone entry for a considerable period. Given the highly dangerous nature of some modern cargoes, and the catastrophe that could result if, say, a ship with defective steering collides with a gas carrier, it was considered that there ought to be a clear express power for a harbour master to prohibit a ship from entering port, or to order a ship to leave the port, where this was necessary to avoid the danger of a serious accident. This led to the initiation of the Private member's Bill, which became the Dangerous Vessels Act 1985. Section 1 of this Act enables a harbour master to give directions, normally no doubt to the master of the ship concerned, although they can also be given to the owner of a vessel, prohibiting the entry into, or requiring the removal from the condition of that vessel, the nature or condition of anything it contains, is such that its presence in the harbour might involve:

- Grave and imminent danger to the safety of any person or property;
 - Grave and imminent risk that the vessel may, by sinking or foundering in the harbour, prevent or seriously prejudice the use of the harbour by other vessels.
- The second of these grounds differs from the first in that acute danger to persons or property is not a necessary element.

The Act does not, therefore, give a harbour master "carte blanche" to exclude a ship merely because its presence may be inconvenient. It does not even entitle him to exclude a ship simply because it may pollute the harbour-although, if he has reason to believe that a ship which purposes to enter the harbour does not comply with requirements of the Merchant Shipping (Prevention of Oil Pollution) Regulations 1983, he may, and indeed must, under Regulation 33 of those Regulations report the matter to the Secretary of State, who may deny the ship entry to port if he is satisfied that the ship presents an unreasonable threat of harm to the marine environment.

The scope of the 1985 Act is wider in that it refers to the safety of any person or property, and not just that of other shipping, as well, of course as the risk of the harbour being blocked. On the other hand, the local power to prohibit entry on the grounds of possible danger to other shipping could be used in cases where the potential danger is not so grave and imminent as to justify use of the powers under

the Dangerous Vessels Acts. The Acts does therefore place a serious responsibility on the harbour master. He may have to make a very difficult decision, at short notice and in circumstances of great stress, possibly balancing the safety of a particular ship against the safety of all those in or near the harbour. Section 3 of the Dangerous Vessels Act contains an overriding power for the Secretary of State to enable a vessel which has been prohibited from entering, or removed from, harbour by a harbour master under the powers conferred by the Act nevertheless to enter and/or remain in the harbour. This overhang power may be exercised by the Secretary of State only for the purpose of securing the safety of any person or vessel, including of course the vessel to which the harbour master's directions applied.

3.5 Dangerous Substances in Harbour Areas Regulations 1987

The Dangerous Substances in Harbour Areas Regulations 1987, made under the enable power contained in section 15 of, and schedule 3 to, the Health and Safety at Work Act 1974, are an important new operational code for harbour authorities and their harbour masters in dealing with dangerous goods.

The contents of regulations are not, however, altogether new. To a large extent they cover the same ground, substantially but not precisely, as former bylaws under the petroleum (consolidation) Act 1928, certain bylaws made by harbour authorities under their local acts and various provisions in local orders and acts of parliament. There are, however, some substantial changes and, of these, perhaps the most important are:

- First, the express power for harbour authorities, though power vested in their harbour masters, to control the entry into their dock estates of dangerous substances from the land.
- Secondly, the requirement, contained in regulation 33, for an explosives licence to be obtained before any explosive, with certain qualifications, may be brought into or carried or handled within, a harbour or harbour area, or in certain cases loaded or unloaded outside a harbour or harbour are, is new. It replaced the former system which relied on explosives bylaws.

- Thirdly, although a number of harbour authorities already had emergency plans, the general statutory requirement for such plan contained in regulation 26, as well as the provision with regard to emergency arrangements at berths contained in regulation 27, is new legislation.

Within harbour and harbour areas the regulation apply essentially to the loading and unloading of dangerous substances out and from ships and the storage and movement of dangerous substances related to such loading and unloading. They do not, for example, apply to dangerous substance which is brought into a harbour area from inland to be stored or used in a factory there unless it is to be loaded on board a ship in the harbour area. Of course where the legislation do not apply, or even when they do, other statutory control may bite.

- Regulation 7 authorises the harbour master to give directions to:
 1. Regulate or prohibit the entry into;
 2. Require the renewal from:
 3. Any dangerous substance if in his opinion its condition is such to create a risk to the health and safety of any person;
 4. Any freight container, portable tank or receptacle, containing a dangerous substance or any vehicle or vessel carrying a dangerous substance, if in his opinion the condition of the container, tank or receptacle, vehicle or vessel is such as to create a risk of the health or safety of any person from the substance which it contains or carries.

In deciding whether to give such directions, a harbour master must have regard to all the circumstances of the case and in particular to the safety of any person, whether this person is within or outside the harbour or harbour area.

The Dangerous Vessels Acts is, of course, intended to deal with acute emergencies and it is suggested that the powers of that Act should generally be used where a harbour master considers that there is a grave and imminent risk of a major disaster. The purpose of unusual provision is to enable a harbour authority to take action at short notice to prohibit or regulate the entry of a (new) dangerous substance into their harbour. Some major harbour authorities already possessed in their special

legislation general powers to regulate the entry of dangerous goods in the harbours. Such powers are not affected by the dangerous substances in Harbour Area regulations or bylaws made thereunder are contained in the Health and Safety at Work Act 1974.

3.6 Status of the harbour master

Harbour master is directly responsible for the exercise of so many of the powers and duties referred to above. He is, by statute, The marine executive officer of a harbour authority. By statute, because the responsibility for dealing with problems at the sharp end is vested directly in the harbour master.

- In some contexts, a harbour master may operate within guidelines laid down by the harbour authority, or perhaps the port director, but in the resort in any particular case. The director or manager is not generally entitled to tell the harbour master what to do in a particular case within the area of the harbour master's statutory responsibility.

Furthermore, the most authoritative text book on the subject, express the view that a negligence of the harbour master, and the Dangerous Vessels Act 1985 assumes that this is the position by extending the right of a harbour authority occurring outside the harbour in consequence of negligent or improper directions given by a harbour master under the act. To sum up, therefore, the legal position of a harbour master in relation to harbour authority who employs him appears to be this. The harbour master is the servant of the harbour authority.

Certain statutory powers are vested directly in him because those powers must be generally be exercised at short notice and only he can decide what action to take. And taking that decision in particular cases he cannot generally be subject to instructions from anyone else. Nevertheless, in exercising the powers vested in him, the harbour master is acting on behalf of, and is answerable to, the harbour authority and they will vicariously liable for any negligence on his part. To put it another way, although the powers of the harbour authority which are exercised through their harbour master. It should be noted that the statutory definition of a "harbour master" in a harbour authority's local legislation virtually always includes

the harbour master's deputies and assistants, who are therefore vested with the same statutory descriptions as the harbour master himself.

3.7 Implementation of Harbour Regulations and the Harbour Master's Responsibility to provide a safe port

Almost every port in the world will have a harbour master, but the tasks and responsibility given to him will vary. The size of the port, the local situation, administrative competency and legal status will influence the range of tasks and responsibilities to a greater or lesser extent. The marine background of a harbour master, together with other qualifications that may be required, will make it easy to give him the responsibility of maintaining safety in water area of a port. But as safety cannot be divided and there is a very close interdependence between the water and the land area of a port, the harbour master will need certain abilities in that land area as well. His tasks and responsibilities should be well defined in adequate regulations, together with legal powers given to him. He should have a staff adequate in qualification and number, technical requirement as required by the scope of the port and the tasks given to him, and a budget to the requirements of his organisation.

"Safe port-efficient port" should be the course a harbour master stress.

3.8 Legal Aspects

There should a special law regulating, without going into detail, the tasks, responsibilities and powers of the organisation headed by the harbour master. As law has to be passed by the appropriate legislature, and it will be difficult to chance it in short intervals, it should be written concisely, describing all relevant items generally, but clearly defining boundaries. It should give power to a lower body-a ministry or a department thereof or another authority- to regulate items covered by that law in detail. The harbour master will generally have only limited opportunities to influence that legislative process, but he should not hesitate to raise his voice if he sees chances necessary in the interest of safety or efficiency of the port, resulting in his day-to-day experience.

Port rules and regulations under the law mentioned should cover in detail all items of safety and port operation falling under the competency of the organisation headed by the harbour master. Unquestionably, the rules should cover the whole water area of the port and give details of its use by any ship or floating object. Entry permission, use of the water surface, special rules in navigation if necessary, use of tugs and/or pilots, berth allocation, safe berthing, use of engines, fire prevention, reporting of accidents, pollution prevention, special regulations for tankers and dangerous substances should be included here. These regulations should be as close as possible to international and national law, regulations or recommendations, and only deviate from them if the local situation so requires.

3.9 Updating the Rules

Port rules or regulations have to be updated from time to time to keep them in a state really to improve and maintain safety in a port. But traffic changes, new developments may require a harbour master to change or improve the content of written regulations. A special situation in a port may also require immediate action. Finally, the harbour master has to give advice to the rule making-body on when and how to improve port regulations, not only to keep the port safe, but also to keep the port efficient and competitive. These two aspects must not be mutually exclusive and the harbour master should be the person to judge and propose the necessary steps. To be able to do so, he has to keep himself informed about all international, national and local developments in his field of work and responsibility, have close contacts with emergency services, and the various shipping, commercial and scientific institutions and the authority responsible for rulemaking.

3.10 Provision of a Safe Port

Port safety regulations are the basis of port safety-but only the basis. They contain the rules of all ports users have to follow generally as a minimum. But more has to be done to make the port really safe. There have to be necessary services for shipping- such as vessels traffic services, pilotage, tugboats, mooring personnel- one or more of which may come under the authority of the harbour master. But even they do not, ha has to tray to obtain the necessary influence as far as port safety is concerned. It may as well be that the technical maintenance of the port, dredging

and planning, is totally or in part included in the obligation of the harbour master. Moreover the harbour master may be involved in or responsible for negotiating or setting port tariffs. He has to have necessary staff, qualified in the different fields and adequate in number, to fulfil the tasks.

Qualified in the sense that each person has the necessary professional background, has than average knowledge in the field he or she works in, and is able and prepared to take responsibility. Most of the staff of what may be called the "marine service" " in the organisation under the harbour master will normally come from the merchant navy. Higher ranking staff should have a licence as master foreign going and possibly have been in command; for others a coastal licence may be sufficient. All this depends on the size of the port, its traffic, the local situation and the responsibilities given to the harbour master. That will have its influence on the number and qualifications of technical and/or administrative staff as well.

To provide a safe port, the pre-planning of all activities, long-term and day-to-day, is the paramount item. Close co-operation with shipping and port industry is indispensable. The harbour with his staff should monitoring everything in the port in his only intervene if port safety or the general welfare requires him to do so. Every advice and assistance possible should be given to the industry-but offenders against port regulations should be fined in the interest of general port safety, if possible.

3.11 Supervision

It is a necessary item to provide a safe port. It may be necessary to have port's own radar station to monitor movement of ships, together with a VHF service to maintain the necessary communication. Control in the port area from boats or by car is another way of supervision. Exchange of information with port industry verbally, in writing, by telex or electronic data change may form a part of that supervision. The harbour master must to keep himself informed about all developments in the area of supervision and do everything to get the necessary staff and instruments for his organisation. It is not only the people working in and living around a port, but also the authority or organisation above the harbour master that asks for the highest level of safety in every aspect in the port- at the same time mostly forgetting that safety

has to be paid for. The harbour master needs that money to provide safety, but somebody else will allocate it-it may be generally or in detailed budget.

This a very important field in which a harbour master has to work. It may be the number and qualifications of and amount of wages for staff, acquisition or maintenance of equipment, dredging or construction-the harbour master has to fight outside his own organisation to get the necessary results. To make that struggle successful, he has to look for every possibility of rationalisation or organisation of his own authority first-at the same time at least maintaining the level of safety and efficiency- and he has to prove that to his governing body. He has to give detailed and qualified evidence for any expenditure he thinks to necessary. He has to keep close contact with people in the position to decide and to convince them, show them where and how port safety is at stake and how closely the total wellbeing of the port is connected with highest possible standard of safety.

If all the activities of the harbour master do not yield the necessary results within a reasonable time, after careful reconsideration the harbour master should not hesitate to inform in very clear terms those who have given him the responsibility of the situation or even inform the port industry and shipping about steps he has taken within his legal power to overcome a special problem, such as the delay or dispensation of non-safety related services, delay in introducing modern modes of communication for use of information exchange with port industry, or the slowing down of certain activities which make the work in the port more comfortable but are not safety-related. These should only be ultimate steps, as they lose their power by repetition.

Primarily, the harbour master should find his own way out of the problems, keep his organisation out of public discussion and keep the port safe with assistance of his staff. A harbour master needs a competent and committed staff. He should try to put the right person in the right place, make use of the different abilities people have, be careful when placing people in safety-related position.

The scope of responsibility and the range of decisions each number or group of members of the staff may take have to be clearly defined. Ongoing training has to be provided as well as adapting to new developments.

3.12 Actions

To provide a safe port requires actions in different fields-before something goes wrong. That means the harbour master and his staff have to be informed adequately in advance of everything that will happen in the port, from the establishment of new enterprises in the port. It is not only that port regulations must contain rules for that flow of information. The necessary equipment compatible with that used in the industry is a pre-requisite as well.

Port safety today has to include environmental safety. Here is a new wide field that the harbour master has to care for. It may start with his proposal to include rules for the protection of the environment in port regulations, see that such rule are not in conflict with other port safety regulations if they are set up by other bodies, care for clear division of responsibilities in the area he is responsible for. It may go on with installation of new services or co-operation with private enterprise to provide such services or the construction of reception facilities.

Staff have to be trained to give advice and ensure that rules are obeyed. Close contact with municipal or regional bodies working in this field have to be built up, as the port will normally not be able to solve all related problems itself. If any chance is given to him to participate in negotiations on subjects that may be related to port safety outside the port or in higher-up authorities, he should take such opportunities. He certainly will not prevail in every case and he should not become frustrated if he doesn't get through with his opinion.

Primarily he should be happy with what he gets for the safety of his port. If in the longer run his forecast prove to be reliable and right, more people will follow him more easily. So safety is vital for every port- that means for people working in or living near the port, for ships and their crew for port installations and merchandise in the port area. But a harbour master should never forget that efficiency and

competitiveness of a port are vital as well. It is his responsibility to bring these conflicting demands in line. He must know that there are different ways to make profits and that it may be advisable to lose one specific business and maintain the reputation of being a safe port with responsible people operating it in all fields. Without doubt the harbour master should be the leading one.

CHAPTER IV

4. Port performance and the role of harbour master's office

Ports are essentially providers of service activities, in particular for vessels, cargo and inland transport. The degree of satisfaction that is obtained on the basis of pre-set standards will indicate the level of port performance achieved from the foregoing. It is already obvious that port performance levels will be different depending on whether ships, cargoes or inland transport vehicles are served. It is obviously more likely that poor performance will not be limited to one group of port users but rather pervade all services offered by the port. Port performance cannot be assessed on the basis of a single value or measure. In fact a meaningful evaluation of a port's performance will require sets of measures relating to:

- 4.1- The duration of a ship's stay in port
- 4.2- The quality of cargo-handling
- 4.3- The quality of services to inland transport vehicles during their passage through the port.

The complicating factor is the strong interrelationship that exists between the three sets and between the various performance measures in each. Thus it is virtually impossible and certainly inappropriate to study each of these in isolation. However, because of the particular importance of the first two sets, and their dominant position with respect to main port users (namely the ship operators).

4.1 The duration of a ship's stay in port

Figure 1 shows the standard stages of a vessel's passage through port. The first and foremost measure of "ship productivity" through a port will concern the "total turn-round time in port" of a given vessel on a given call (generally expressed in hours). However the total "time value" is not absolutely meaningful in itself but requires further substantiation. Thus a second measure presents total turn-round time in port as a function of cargo tonnage to be handled during total call. Whilst a

third measure must show the total turn-round time in the port, in the high of cargo composition (traditionally presented by main classes, e.g. bulk liquids, bulk solids, conventional general cargo, containerised cargo). Up to this point the total "turn-round time in port" has been examined without any breakdown of the "ship's time" periods as shown in figure 1. Although a reduction of any of these, may improve the overall "productivity of the ship in port".

4.1.1 The performance indicators for the berth

The berths serve the ships: the first function of a port is to receive ships and provide them with services- shelter, piloting, tugging, mooring facilities. The performance indicators for the berth are mainly necessary for the planning departments and for the harbour master who is in charge to locate the ships. The service indicators are useful for the ship-owners and the shippers because the turn-around time the ships spent in ports is paid by the ship owner and also by the shipper (specially in the case of chartered ships because he has to pay demurrage). The turn-around time is the time spent in the port by all the vessels calling in a specific period. It includes:

1. The Waiting Time (WT)- which is the delay between the ship's arrival in the port and its tying up at the berth.

$$WT = \frac{\text{cumulated time for waiting (in hours)}}{\text{Total number of ships}}$$

2. The Time at Berth (ST), or service time- is the time the ship stays berthed (between the berthing and the departure time).

$$ST = \frac{\text{cumulated service time}}{\text{Total number of ships}}$$

3. The Time in Port (PT), or turn-round time- is the time that the ship spends in port from the arrival in from of the port up to departure after leaving the limits of the port.

$$PT \text{ ratio} = \frac{\text{cumulated WT+ST}}{\text{Total number of ships}}$$

- For commercial reasons, it is very frequently calculate also the following ratio:

$$\text{Grade of Waiting} = \frac{\text{cumulated WT}}{\text{Total number of ships}}$$

Cumulated ST

1. Looking to our own port, the service performance is poor and the following factors are influencing the results:

- Topographic and geographical factors:
- the Bissau Port is a estuary port
- Tide time occurs twice a day and high tide vary from 3 to 7 metres
- Weather- we have only two seasons: dry season- from May until November, and rain season- from December until April.

4.2.1 Operational factors

- port congestion - because of the weather and main products of commercialisation;
 - unavailability of pilots or tugs
- existing only two pilots of channel, and only one for port manoeuvring.

Both of them have only a background of channel navigation with too much limitation on modern navigation system, and in most of time they make only the presence on board of a ship. Nevertheless, the pilot port is the best one until present date. He dominates all situations and knows very well the tide current, wind speed and direction, and he is able to mooring and unmooring the vessel, in any circumstances or weather. But as the only man in the port manoeuvring, he is up to some diseases, or other unpredictable cases.

- The other problem is a lack of boatmen to drive the pilots on time to the vessel. This happen even within the port, or from the pilot station in Caio Island. This problem is the big one in Caio Island because the vessel has to scour its own boat to pick up the pilot.

- In most of the time, without boatmen, who is most of the time brooked, the pilot has to travel by road, after pick up the small boat with outside engine and across to Caio Island. Sometimes there is no boat to across, and he has to wait one, two or three days, and the vessel is waiting even with authorisation to entry.

So, waiting time start with this lack of boat to connect the pilot station of Caio Island with vessel and vice-versa.

- Once in the port, the vessel has to receive the port pilot because of current and a lack of tug can make the vessel to wait more than 10 hours because of the tidal time.
- A lack of tugs, the existing one was brooked since 1987, make the manoeuvre difficult and some time dangerous to the crew, vessel and cargo. Some accidents have been happen occasionally but with a little consequences.
- The weather factor is other problem because of the rain season. The major products of importation: rice, potatoes, onions, etc. So in the rain season with port working from 8 to 20 o'clock, most of the time its raining mainly from July to end of August. The rain can continues for 2 or 3 days strongly and the vessel is in the port waiting.
- The other problem is related to the policy "first come, first served", with a negative impact among the port users. The problem usually arises when there is one vessel discharging rice and the oil tanker or semi-container vessels arrive at the port. What to do? There is no specific legislation to deal with. Some times it take one day or more to find a solution for the problem, and "first come, first served" has to be put out, and serve those ship which will spend unless then one day in the port, and their cost at port are higher then others.

Grade of waiting = 33.75%

If the ship owners usually accept a 10% rate, and beyond this rate they consider as a low quality one. This can show how poor quality our port is, even after privatisation.

- The berth utilisation indicators

The berth utilisation indicators, in our port, indicate the actual intensity of use of the berths.

The berth occupancy ratio shows the level of demand of services. So,

$$\text{Berth Occupancy ratio} = \frac{\text{Total service time}}{\text{Hours in a year (or other period)}}$$

In our case it will show:

Total service time per day = 12 hours

Hours in a year = 8760 hours

$$\text{Berth Occupancy ratio} = \frac{12 \times 365 \text{ days}}{8760 \text{ hours}}$$

$$\text{Berth Occupancy ratio} = 50\%$$

This means that our berth working time ratio is 50% which shows that, the port works only 12 hours a day and the ship is in idle time 12 hours (no working time at berth). The berth related ratio mainly concern the services to ships: they measure the maximum capacity of the port, the level of services supplied by the infrastructure and are used by the planners for translating the forecasted demand in requirements for new berths, or new terminal. In our particular case the problem is to solve definitely the waiting time in Pilot Station of Caio Island, The waiting time for a port pilot, and increase the number of gang per day, and put the port open 24 hours/day during 365 days a year. But the problem of cargo handling equipment has to be taking into consideration, and its quality related to its operations. So I will not talk about the port operations because of lack of true data of Bissau Port.

Table used:

| Number of berths | Maximum occupancy ratio |
|------------------|-------------------------|
| 1 | 30% |
| 2 | 50% |
| 3 | 60% |
| 4 | 66% |
| 5 | 70% |
| 6 | 74% |
| 7 | 77% |
| 8 | 78% |

Waiting time and dwell time are the main factors in our port congestion traffic, and only changing, by discussing with all port users, will make better our present port performance. The problem is not to build the new terminal, but to improve the existing facilities and services to the ship (pilotage, service time, number of gang per

ship, etc.), and to improve the cargo handling equipment at the short-time (1 - 3 years).

Functions of Harbour Master's Office in Guinea-Bissau is much more important than other ports; It does not only a technical function but also managerial function as we can see its responsibility in performances.

CHAPTER V

5. CONCLUSIONS AND RECOMMENDATIONS

1.1 CONCLUSION

As trade increased and ports grew in importance in Guinea-Bissau, a degree of control clearly became necessary. Without some regulation of the activities of persons and ships making use of them there would have been chaos. Furthermore, the needs of rules and notions to raise taxes is very ancient, and port provided very convenient places where tolls could be imposed on people and goods passing through them. Thus the institution of harbour master and the collector came about. Both these officials must have been busy and important people at the thriving wharves. Eventually the concept of the port authority was developed a body with powers to promote and regulate use of a port. It shall be the duty of the our authority:

- 1.1.1** To provide and operate in the port such port facilities as appear to them best calculated to serve the public interest;
- 1.1.2** To maintain, improve and regulate the use of the ports, and port facilities transferred to the authority, to such extent as appear to them expedient in the public interest;
- 1.1.3** To provide for the ports the approaches to such ports, and the territorial waters of Guinea-Bissau, such pilotage services and such lights, marks, and other navigational services and aids as appear to them best calculated to serve the public interest.
- 1.1.4** To provide and operate such other services as the Minister may require. So the Guinea-Bissau Port Authority under which the harbour master acts, must have power in:

- 1.1.4.1** acquire, construct, manufacture, maintain or repair anything required for the purpose of the authority;
- 1.1.4.2** carry on the business of carrier by land or sea, stevedore, wharfinger, warehousemen or lighterman or any other business recommended as desirable for the purpose of their authority;
- 1.1.4.3** load or unload any ship at any wharf for the time being vested in, or in the possession of the authority provided that the owner or charterer of any ship may employ on the ship his own agents and labour with their ordinary gear for such purposes;
- 1.1.4.4** clear, deeper, improve or alter any port or its approaches or if so required by the Minister, any other waterway;
- 1.1.4.5** provide and use both within Guinea-Bissau and on the high sea ships and appliances for the towage or protection or salvage of life and property for the prevention of fire.
- 1.1.4.6** Determine and impose charges for any services performed by the authority and for the grant to any person of any licence, permit or certificate;
- 1.1.4.7** Acquire any undertaking affording or intending to afford facilities for the loading and unloading or warehousing of goods in any port;
- 1.1.4.8** Appoint licence and manage pilots;
- 1.1.4.9** Supply water to shipping, and generate and supply electricity.

Nevertheless, the most important for Guinea-Bissau Port Authority is to regulate or adapt the older port law to the new requirement and changes occurring in the maritime trade and within the private companies. Create the law and regulations for all shipping industries and port intervenients and mainly, to promote the dialogue, discussion, act to serve the public interest and all the port users, and port community. Harmonisation from different parties involved should be a imperious duty of the port authority in Guinea-Bissau. Regulations and law according to IMO Conventions, UNTACD Regulations and other international organisations, and agencies is the challenge for a future. Consultants, expertise will be certainly necessary to help our country and, specifically, the port to meet those requirements and walk accordingly with the international merchant marine and international maritime and port community. The future of our maritime, and port sector are fully of

challenge. However, we will be able to overcome them and make and more presence in the national, regional and international community.

1.2 RECOMMENDATION

The policy of the Guinea-Bissau maritime and port authority shall be directed to secure that:

1.2.1 The annual revenues of the authority are, taking one financial year with another, sufficient to meet all charges properly chargeable to revenue;

1.2.2 No particular person is given any under preferences or subjected to any undue disadvantages.

1.2.3 The general objective shall be:

- To plan, provide all manage facilities and services to ensure the efficient, and to safe movement of shipping, cargo and passenger through the port of Guinea-Bissau in a cost-effective manner and to facilitate the development of trade, for the ultimate benefit of the community.

5.2.4 In the specific objectives, the Guinea-Bissau Maritime and Port Authority shall:

5.2.4.1 Port operators:

- To ensure that, port operations are carried out in an efficient, safe and secure manner.
- To promote increased efficiency of cargo handling as measured by the ratio of tonnes of cargo handled to the number of ships hours at the berth.
- To promote the efficient receiver and delivery of cargo.
- To reduce the real annual maintenance and operating cost/tonne of cargo.
- To improve administration efficiency by regular review of methods and procedures.

5.2.5 Planning and development

. To plan and provide port facilities and services giving due regard to:

- Utilisation and performance of the current facilities.

- Likely changes in trading patterns and economic conditions.
- Changes in technology.
- Requirements of port users.
- Safety.
- Community requirements.
- Activities of the other agencies.
- Facilities in other ports.
- To maintain a long-term development strategy outlining the likely future direction and extent of port activities.
- To contribute to economic growth and associated employment opportunities within the port hinterland by the promotion, development and facilitation of trade through the port.
- To carry out appraisals of individual projects giving consideration to financial and other costs and benefits, and to use a test discount rate at least 5% in the real terms.
- To ensure that port land is developed for port related purposes.

5.2.6 Community responsibilities

- To ensure the current and future needs of the community are fully understood and given proper consideration in the authority objectives, plans and activities.
- To improve public awareness of the port by dissemination and discussion of planning, development, financial and operation information.
- To provide improved public access to the port.
- To ensure that necessary social and environmental considerations are included in the assessment of port operations and development.

Nevertheless, the authority may be permitted, with the prior consent of the Minister, to provide and operate other facilities and services which are not the responsibility of another public administration and which would appear desirable in the interest of port operation, where private firms are not prepared to provide and operate such facilities or services.

Finally, training shall be the mainly policy of harbour master's office to meet port performance activity. Provide all new employees with training adapted to their new

job functions and the organisation objective. Provide also regular training to all personnel according to the needs and technical developments of the organisation. This training shall be either internally or externally supplied. Communication and motivation shall be set up within the organisation, taking into consideration that the best thing within one organisation is the Human Resource. More they are motivated more can work to improve the organisation, help the port and the country to growth up. The Guinea-Bissau Port Authority shall follow this policy and make sure all advantages for the organisation in the way to serve the public interest.

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