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Ports in Somalia a study of their operation, administration and development

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PORTS IN SOMALIA
A STUDY OF THEIR OPERATION, ADMINISTRATION AND DEVELOPMENT

By

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SOMALIA

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

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

Signature: 
Date: 10/11/86

Supervised and assessed by: Professor Aage Døs, WMU

Co-assessed by: Professor Dr A A Monsef, WMU
IN THE NAME OF GOD, MOST GRACIOUS,

MOST KERCIFUL
To my wife, Rahma for her everlasting love, 
to my uncle Bashir Omar and to my friend indeed 
Osman Ossoble.
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Ports In Somalia—A Study of Their Operation and Administration and Development

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By The Name Of The Beneficent, Merciful God
Introduction

In developing countries, ports play an essential economic role. They serve as a gate for international trade, for importation of manufactured products and export of raw materials.

The Somali Democratic Republic, a developing country, lies in Eastern Africa. It has a long coastline on the Indian Ocean and the Gulf of Aden, forming the Horn of Africa.

To the north, Somalia faces the Arabian Peninsula, with which it has centuries of contact through trade. To the north-west, it is bounded by the Republic of Djibouti, whilst its western and southern neighbours are Ethiopia and Kenya.

On its long coast numerous small ports have been operated to serve their hinterlands.

Like other developing states, during the period 1960-1970 the Somali Government became aware of the need to invest in ports and thus the Somali Ports Authority was established. This meant the reorganizing of the ports and port usage in the country. The objectives of the Government Agency in this section are to have control and to administer the main ports of the country which are:

Mogadishu, Berbera, Kismayo and Bosaso now under construction, while the rest being minor ports have also been kept under close scrutiny for rehabilitation and improvements.
Ports are hampered by difficulties which the rest of the country face such as, economic, technical know-how and scarcity of appropriate skilled manpower. Besides the above reasons, the Somali ports especially the main ones have taken top priority in a development programme in the country for the past two decades in order to cope with the following:

a) Increasing national trade  
b) Increased number of shipping lines calling the ports  
c) Accommodation for national ships

To accommodate the development of the trade pattern and shipping it became very necessary to build quay facilities in the ports mentioned above.

The ships handled include: bulk carriers, tankers, containers, ro/ro and special vessels, mostly livestock carriers and reefer vessels. It is also equally important to invest in human resources in order to have a better result in port productivity and to periodically review the financial systems so that they can go along with the operations as long as economic progress is in need.

There is a very urgent need in all developing countries including Somalia to improve the efficiency of administration and operation of their ports in order to avoid huge financial losses due to inflated port costs and to congestion and the resultant demurrage to be paid if their ports are neglected and not operated efficiently.

Having worked with the Somali Ports Authority for a considerable period in the area of port operation and
accounting, I have been encouraged by my long experience in this area to give first hand information and to shed light on ports in Somalia, by studying their operation, administration and development.

I was encouraged to write about the above mentioned subject, to explore it deeply and to obtain solutions in case of bottleneck phenomena in ports operations such as labour disputes and congestions. Also, to arrive at a solution where our ports would operate efficiently. This should result in a positive contribution to the balance of payments. The study also aims to point out the major characteristics of the port services and organization.
Chapter I

Present Condition,
Somali Ports Authority (SPA)

1.1. Geographical Aspect

Somalia lies on the "Horn" of Africa, that point where the African continent stretches out towards the Arab World.

Somalia has a coastline of 3,330 kms, yet most of it lacks natural harbours. A number of ports lie in the north-east and the south of the country: Berbera, Mogadishu and Kismayo are the main ones. It is these ports that have brought the country on to the world scene, since the dawn of history, as a trading partner.

From ancient times, foreign nations have traded on the Somali coast. From the time of the Roman empire there was a string of flourishing ports along the coast some of which still exist today. Since the independence of the Somali Democratic Republic, the ancient ports are being developed and made suitable for modern shipping.

The port of Mogadishu which is in the capital, now has a modern deep-water harbour, with three general cargo berths, one multi-purpose berth, one specialized berth for livestock and another for bananas. Kismayo has four deep-water berths for vessels of up to 10,000 tons. Berbera, the main port in northern Somalia has two 40,000 foot piers. Now an expansion and modernisation
programme is expected to double its capacity, this new facility will open some time this year, and will provide the most up-to-date handling and storage facilities.

Mogadishu, being the capital port plays a vital role in the economic and social development of the country. The main commercial area is concentrated in the city, which is also the principle trading centre.

Prior to the country’s independence in 1960 and up to 1977, the port of Mogadishu was predominantly a lightu-raye port with vessels moored to buoys. The lighterage operations were costly, slow and archaic. Heavy port congestion was a common feature, and the country often had to bear the incidence of port detention surcharge. Furthermore, the following factors also contributed towards insufficient port services:

a) Lack of proper co-ordination and control of the various port activities through the multi-employer situation, and the consequential division of responsibilities
b) Long time before working of the ship could begin, e.g. hatch opening
c) Poor efficiency and productivity
d) No mechanical equipment used except the ship’s gear
e) Ships being used as warehouses
f) No direct delivery was available
g) Poor industrial relations leading to major operational problems.

Thus with the Government’s policy soon after the independence, a master plan to develop the ports in line with international standards was evolved. In this con-
text, the Somali Ports Authority was set up in 1962 to administer, plan, operate and develop all ports facilities and services.

The first master plan of the overall development of the port of Mogadishu comprising the following project was set up:

- Construction of six deep-water berths for cargo handling
- Construction of big warehouses
- Administration building
- Workshop building and procurement of modern cargo handling equipment and tugs.

In order to maximize the utilization of the above facilities, the following measures were taken:

1) New systems of operation were introduced for work along side the quays;
2) Efforts towards unutilization were intensified and palletization was encouraged. Increasingly the forklift truck was used for horizontal movements of cargo from the point of discharge at the quay side to the sheds and stacking area.

Containerization was also promoted. The impact of the above measures on cargo handling activities have as follows:

1) Total switch over from lighterage to the "along side operation."
2) A great improvement in turnaround time of the vessels in port, with complete elimination of the port conge-
station, which at one time could be as much as two months.

3) A greater and more efficient planning of operations of vessels in port.

4) Orderly stacking of goods in storage areas, to provide easy location and quick delivery.

5) The elimination of cargo delivery delays, cumbersome customs procedures and payment methods for duties and port charges.

All these factors greatly contributed to the efficiency in cargo handling. Care has been taken to ensure that shore-handling and administration are efficient.

The location of cargo is recorded and a search for goods not necessary when they are due for collection.

1.2. Organizational Aspect

The Somali Ports Authority operates under the Ministry of Sea Transport and Ports and in close co-operation with the Ministry of Public Works and Housing regarding construction of facilities. The Somali Ports Authority also co-operates with the Ministries of Finance, Labour and Sort, National Planning and Fishery.

The organizational system for the ports is based on strict central control, and the Somali Ports Authority in turn is controlled by the Ministries responsible for the area in question. Because of the bureaucratic control the decision making process of the port management is sometimes slow owing to the lack of trained manpower and the Somali Ports Authority not presently being equipped to carrying out the imposed tasks. The limited
budget of the Port Authority is strictly controlled by the Government, thereby limiting its flexibility where such is required.

The Somali Ports Authority also works out the frame budgets each year and monitors the performance of individual ports within the framework of the budget.

In practice however the Somali Ports Authority has very limited freedom to exercise its responsibilities to purchase equipment, particularly when involving foreign currency.

All activities of the Somali Ports Authority are divided according to the type of department and then further subdivided into specific tasks entrusted to the service and sections.

It is a basic rule that, when assigning tasks, the corresponding power and responsibility are also transferred.

This is the only way in which the employee can effectively function. Although the work of the port has already been distributed according to sections, there is a need to be more specialized to improve the overall efficiency.

1.3. Inland Transport

Ports are places where the mode of transportation changes from water-borne systems to rail and road systems to facilitate the movement of cargo to the hinterlands. The transport system grows and develops in response to
demands from a wide variety of sources and extend over a wide area on various scales.

In Somalia, there is no railway, thus goods are transported by road, often at high cost by very primitive means of transport, such as by hand etc. In Somalia there is a very urgent need to improve the inland transport system, so that reliable and efficient means of transport could connect the port with the rest of the country, particularly the trading center located near the port area.

Unfortunately, the Somali road infrastructure is generally inadequate for container movement and other large cargo movements.

As far as trucking is concerned there are public and private owned vehicles, but they are rather small vehicles up to a capacity of ten tons only. They are commonly operated by very small groups of co-operatives. These co-operatives, therefore, do not have the capital to invest in suitable equipment for the haulage of containers and large units of cargo.

Poor road conditions not only damage vehicles and goods, but also impede rapid transit of the cargo. In some instances roads are completely impassable. They affect the turn-round time and increase costs considerably, they also add to fuel consumption.

Due to rapidly increasing traffic and lack of facilities the Somali ports are sometimes cargo congested.

Containerization at present meets with barriers as the
ports are not well equipped, and hinterland infrastructure is not yet prepared to take care of container transport.

In a primary stage, a container freight station should be established in each of the three main ports and a major container terminal should be planned in the port of Mogadishu.

The economic development of any country is clearly affected by its transport, whether the country's economy is import or export oriented. In order to keep the economy moving, transportation facilities must be available to meet the requirements, it is therefore, important that the Somali Government become aware of these increasing problems and take steps to eliminate them.

1.3.1. Port as a Transport Mode

The existing hinterland transport in Somalia (ports, towns, villages) consists of movements of people and cargo carried on vehicles moving on the road.

The port is particularly important since it is the interface between the sea and the land, the point where enormous flows of goods or people are transferred from sea transport and broken down into smaller units for distribution by land vehicles and vice versa. The port thus becomes a critical subsystem within the total transport system.

The objective of the total transport system is to minimize the real cost of moving materials, and to achieve
this aim, it is necessary to optimize each of the sub-
systems. We know, generally that ships are increasing
size and as a result of economics of scale, the cost per
ton of goods transported by the sea is falling; on the
other hand the cost of ship's time in port increase where
matching port capacity is not provided, thus the
benefit is lost.

However any improvement in port facilities must be
accompanied by improved inland transport facilities.

It is also important in the total transport system to
identify where bottleneck phenomena and high costs are
being incurred, therefore, any improvement in the ports,
might bring marginal benefits compared with the
improvement of the internal transport flow from the port
to the hinterland. Indeed any improvement in the port,
leading to an increased rate of delivery to the land
transport sector may decrease the total delivery system.

It is therefore, necessary for the Port Authority to
make an overview of the total transport system to iden-
tify the real cause of the bottleneck phenomena.

From such an analysis, the port will be in a better
position to phase port development and delivery to the
land link.

Improvements in particular modes of hinterland trans-
port, the adoption of new forms of hinterland distribu-
tion and collection should be encouraged.

The general development of today's ports reveals a need
for more space, less sheds, faster handling and more
specialized handling. At the same time ports have to be more involved in cargoes from origin to destination, in the movements of ships and hinterland vehicles and the pre-planning of the arrivals and the handling operations of the cargo.

Ports are, therefore, still a vital link between sea and land and the importance of the time and quality factors has to be emphasized.

Port congestion obstacles are caused by:

- Delay of shiphandling in the port
- Low productivity in port operation
- Low speed of hinterland transportation
- Lack of co-operation, co-ordination and communication
- Trade practices
- Weather and tide conditions
- Inadequate cargo handling equipment

These causes must be analysed and faced while preparing for the port planning stage and between the port authority and the hinterland transport authority and all other parties involved in the creation of this congestion.

When trying to remove the barriers all parties have to recognise the needs:

- To simplify the functional and organizational pattern of the trade - to eliminate practices which cause delays to the ships, port operation, vehicles and cargo to be transported
- To improve customs and other clearance practices so as
to facilitate the movement of cargo in and out of the port
- For the unit load concept leading to palletization and containerization
- Greater consolidation of cargo, scheduling of vessels and shipment
- Transport system to be operated.

1.3.2. Road Transport

Road transport differs in many ways from the rail transport with regards to its technical characteristics, operational use and financing. The road transport system in Somalia provides transport services in the form of small business enterprises, which service local needs on long and short distances within the country. It is also the most important means of transportation.

The use of road transport in relation to value of goods and distance carried is affected as follows:

Traffic density: the quantity of goods and number of people to be transported.

Nature of route: road transport also depends on the nature of the variety and direct connection that exist between the port and where goods are to be moved.

Quality of the service: speed, frequency of the service, damage accessibility, loading, unloading and direct transport facilities should be carefully considered.

1.3.3. Economical Importance in the Hinterland Transport
The economic importance of the port's hinterland can be measured in many ways:

- Gross domestic product of the area
- Labour force and population engaged
- Tonnages produced and handled for transport
- Transport distance and speed/time used
- Transport costs of different transport modes
- Transport network and capacity
- The structure of the producers, importers/exporters.

1.3.4. Advantages of the Road Transportation

- Small initial capital investment
- Flexibility of capacity and service
- Speed of the service up to about 500km
- Easy loading and unloading
- Flexibility of scheduling departure and arrival
- Low terminal costs if any
- Low cost per unit carried.

1.3.5. Disadvantages

- Limited capacity in order to move heavy volumes of cargoes
- High cost for very long hauls
- Interruption due to breakdown of vehicles or weather conditions

For Somalia the road transport is the most important factor in establishing port hinterland, for economic objectives goods have to move as fast as possible from the port to the farthest end of the hinterland area
which the port services.

Road transport is the most important means of transport in many developing countries and there is no doubt of its continuous importance in the future of the transport system.

The basic function of road transport services to the port is to facilitate rapid and efficient delivery on clearance of cargo to or from the port area, it offers much greater flexibility, as mentioned earlier, which has more significance where the haul is short. Delays in road services in the port can cause expenses to the transport system and delay the cycle of production in the economy. Therefore, in order to establish the most convenient links with the hinterland, the most convenient mode of transport from an economic standpoint, should be the easy movement of cargoes to and from the port.

As we are aware the fact that the form of commodities and transport systems are changing very rapidly, the growing interdependence of transport modes makes imperative to the port authority to follow the national transportation policy and plans.

1.4. Port Users

The port as mentioned previously is a link in the transport chain, and as such, it is dependent on the other links in that chain, such as ships, inland transport as well as on general economic growth in the region which it serves.
The port users consist of all the firms or groups who use the port in their daily business, notably: shipowners, cargo owners, shipping agencies, forwarders and transport companies or cooperatives; it is also important to know whether these firms are located in the port premises or elsewhere.

In this respect, care should be given to various specifications of the port users of the different technological developments and provide effective and efficient service to them.

Due to this fact, and in order to help the port users and render efficient and beneficial service to them by decreasing the cost of sea transport in terms of increasing ship turnaround in the port and decreasing damage to cargo in port, ports are required to have:

- Facilities capable of handling ships with the least time and cost
- Must meet the requirements of port users
- The highest practicable quality of service to port users, especially regarding safe and fast through transport
- Safe and sufficient cargo storage for the port users
- The highest possible port capacity for all kinds of cargoes.

To realize the above objectives, the Port Authority needs money and heavy capital outlays on their part for port investments which the port users are not ready to pay. Therefore, the optimum point is reached when the combined costs of port, ships and cargo movement are at a minimum per ton of cargo.
1.4.1. Shipping

Sea transport makes up an important link of the total chain of the transport system. For the system to function well, there must be an inter-relationship between its various links.

There should be close co-operation between the companies which are responsible for the various links in the transport chain.

Such co-operation is well known by shipping companies and port authorities, and it will normally be of mutual benefit to the parties concerned.

Technical improvement in shipping can not be fully utilized if ports are not improved accordingly.

Shipping technological development may have an impact on:
- Port entrance
- The quay outlay
- The port area, sheds etc.
- Port equipment
- Feeder services
- Time in port.

1.4.2. Shippers

Shippers fear that an increase in port charges may lead to an increase in freight rates. I have already mentioned that modern port facilities and improved methods of handling can reduce ship-turnround time, reduce handling
cost and also help to reduce over all sea transport costs.

It is also possible to pass on the cumulative benefits of all these economic activities by way of reduced freight rates to the shippers. The Port Authority is advised to realize that they should always be positively sensitive to public criticism, responsive to the reactions of the users and committed to produce the qualitative improvement in port operations and productivity which users so dearly look for, namely, the continued development of their business. The best way, by which the Port Authority could display its accountability and responsiveness, is by publishing the figures and improving port performance and productivity achieved after every revision.

This could allay misplaced apprehension and help to instill a sense of confidence and satisfaction among the various port users. With such satisfactory services port users, would neglect any slight increase in the port charges that they had to pay.

At least in the future, it will not be possible to avoid this kink of resentment and discontent from the port users when the Port Authority presents proposals for revision of port charges. The major cause for such resentment is the concern and the anxiety on the part of the port users that such charges constitute a significant proportion of their operating and distribution of costs.

1.4.3. Need of a Shippers’ Association in Somalia
It is needed to create a representative body which could defend the shippers' interest both nationally and internationally.

The scope of such an association should be wide and varied, ranging from consultations with Government Departments on policies affecting the interests of its members to negotiations with shipowners and conference lines.

The primary objects of such an association should be:

- To promote and protect the interests of its members and take appropriate action where needed
- To keep close contact with national, provincial and trade promoters in the country
- To improve the effectiveness of the interest of the Somali shippers
- To reduce or minimize freight cost
- To assure more effective use of intermodal transport of foreign trade in Somalia
- To develop and support the common interest of the shippers in the country in all matters concerning maritime and related intermodal transportation of goods
- To assure the right of the shippers to distribute their cargo between conference and non-conference lines according to their commercial need
- To shippers should be able to use that right to ensure the existence of sufficient number of outsiders to achieve effective competition.
- To conduct training and research work on new methods for transportation.

Developing countries often have to bear most of the freight costs of their imports and exports due to
elastisities of demand and supply. In this respect, however, it must be noted that a shippers' association could have very effective way of influencing the potential competitive in the freight rate.

Actions are, therefore, needed to be taken by the country to safeguard the interests of its shippers and to secure the most attractive means of using the shipping services available which are convenient for their cargo. A shippers' association should also aim at rationalisation of sailings and shipments which must of course be tolerated to meet the requirements of the merchants avoiding port congestion. A shippers’ association should also have a certain independence of action, as much as can be allowed by the Government policy and it should be flexible enough to respond quickly to the challenges it may face.

A shippers' council or any other grouping should be set up to look after the shippers' interests accompanied by the creation of a shipping investigation unit. This shipping investigation unit should assess the efficiency and economy of exercising shipping services and the extent to which these services are affecting the country's flow of trade and possibilities of obtaining more satisfactory services.

Shippers grievances concerning the relationship between conferences and shippers, should preferably be dealt with in direct consultation with conferences, without the involvement of the Government.

Improvements in the balance of bargaining strength as mentioned in the few basic points set out above, would
considerably enhance the possibility for shippers to have meaningful consultations with conferences on these issues.
Chapter 2

Port Management

2.1. Present System of Management

The Somali Ports Authority uses a centralized management structure based on functions. There are four directors and three Port Managers; Director of finance and accounting, Director of planning & co-ordination, Director of personnel and Director of technical and engineering department.

There are also a Mogadishu Port Manager, a Berbera Port Manager and a Kismayo Port Manager. All these offices report to the General Manager who reports to the Chairman of the Ports Authority.

We are all aware that the port is a very complex system which involves a great number of different activities, which requires not only capital, but also know-how and other indirect factors that affect port operations.

Somali ports are administered by the Somali Ports Authority (SPA) which is a management body who is responsible for:

-Regulating and controlling the port water and land areas
-Co-ordination of port operations
-Regulation of provision of pilotage services
-Provision of policies for maintaining adequate and
efficient port services and facilities
-Somali Ports Authority owns and manages tug services, general cargo berths, container berths and specialized berths. It, also, owns sheds, warehouses and cargo equipment in all the three ports
-Encouraging the use of the ports to their maximum capacity for the economic benefit and developing new installations as and when necessary
-Ensuring that harbour facilities are managed and maintained properly.

In the Somali Ports Authority there is a management body, and the general manager is the executive officer who is responsible for all matters that are delegated to him by the board of directors. In his capacity as the representative of the Government, the General Manager has, within the limits of the port area and in respect of matters directly connected with the management of the ports, a co-ordination power over all public services and facilities within the port limits such as navigation aids, quays, sheds, equipment, light-houses, bouys etc.

The General Manager has the authority to appoint all officers and employees of the ports, subject to the approval of the chairman and according to the provisions of the acts and regulations concerning certain classes of officers.

The Ports Authority can only incour expenses according to the proportion of the budget, which is allocated to this authority by the Ministry of Finance, i.e. they have no financial independence.

Many of the problems associated with ports and marine
terminals are similar to those of other complex service management systems. Some of the activities of the ports organizations are internal and some are external and the main task of this authority is to co-ordinate all these internal and external activities.

The Ports Authority itself manages in setting up its operational capability, though modern ships and port facilities have become very costly to operate and the Port Authority intends to operate efficiently and completely relying on service for this purpose. This Ports Authority plans and regulates as I said previously, for the three ports as efficiently as possible to handle the needs of the modern ships calling at the Somali ports.

2.2. Proposed Management

The need for an efficient port is very important especially for Third World countries because they cannot afford the huge financial losses due to inflated port costs, congestions and the resultant demurrage to be paid if their ports are neglected and not operated efficiently.

There are other reasons for a major national port in developed or developing countries. It ensures the country's economic development because she can import or export her commodities with the least possible costs.

A port provides a direct access to world markets and opportunity to trade directly with a wide range of countries without intermediaries. The country could also have direct access to the foreign markets and buy foreign goods at the source from supplies at better
terms and also sell exports to foreign countries at competitive prices. Ports have always been a major link in any country's trade; therefore, they play an essential part in a country's economic activities. Unfortunately, not all economic activities always lead to economic growth in the long term.

Ports are also creating employment for citizens of that country such as port administrators, port operators, and maintenance staff, stevedores, warehouse-keepers, freight forwarders, customs house agents, chandlers, store suppliers, insurance company agents and dock labourers etc. Ports also serve as an additional source of earning foreign exchange apart from the revenues from exports and imports.

Crew members and passengers if any, come ashore and spend money buying gifts, or meals, transportation and entertainment.

The complex nature of port management and port planning to make operations more efficient, it is required that a good planning must be done according to real data and information. The most important factor is to predict the development of the trade flow and the development of the actual capacity of the port facilities so as to avoid bottlenecks and port congestions. Planning must face the needs of mechanization which are constantly increasing in importance.

To achieve rapid economic development it is absolutely necessary for the Somali Ports Authority to improve the port facilities so as to be able to operate efficiently. The main objective of the port management is to achieve
rapid turnaround of ships in the port. This will reduce
the cost and time of cargo port transit.

Nowadays, in port activities, the rapid technology and
the highly dynamic nature of the modern shipping industry
are forcing port management to become dynamic, very
developed, using modern tools for decision making. The
countries' training and updating of the managerial skill
must be taken as a strategic aim. To be effective, the
structure of the organization should be simple with a
minimum of reporting levels. The operation managers dea-
ling with problems in the centres of activity must be
well informed, in accordance with the organization's
policies, and above all, empowered to take a decision on
the spot. The ability to decide there and then build up
customer confidence and good relations, besides giving
job satisfaction to the employee will improve the port
management process.

It encourages him to accept responsibility and to exer-
cise the functions for which he is employed.

The organizational structure of the port should consist
of a management board of several members who are appoin-
ted by the Government because of their experience in or
special knowledge of port management such as finance,
labour, public work, marine transport, banks, industry
and commerce; the members should be appointed
accordingly in their individual capacities or be
appointed to represent particular sectional interests
such as: the port users, shippers, shipowners and inland
transporters.

The ability of the port authority to forge ahead in for-
ulating aggressive policies to discharge its functions should always be borne in mind.

Chairman is appointed by the Government. He must have a long experience in the management of similar bodies with a complex nature.

The general manager is responsible for implementing policies of the board, the control and management of day-to-day operations. Under the general manager there are a number of directors and port managers administering and controlling the work of the port organization.

A good communication system in order to make reports containing hourly, daily, weekly and monthly operational data is needed to monitor performance and respond quickly and positively with remedial action.

Annual reports printed on glossy paper issued six to twelve months after the end of the year are of little value for timely action. In many instances, the raw data collected and the manner in which they are processed and presented are based on tradition and requirements for annual reports, rather than on the needs for management purposes. It can be demonstrated on the basis of practical examples that a better organization of work-flow can be achieved through sensible planning and preparation. To be effective, all the pertinent data have to be evaluated once the respective services have been rendered (ship reports, productivity data, cost control data and etc.) with a view to assessing profitability and obtaining information based on experience for future operations.
With these three factors, planning, information and control which obviously include the decision-making process are touching on the main functions of a successful port management.

In general terms it can be said that a port employing a variety of personnel and carrying out a multitude of different activities faces daily situations that need quick decisions so as to co-ordinate these various activities; and to prevent bottlenecks. The Somali Ports Authority needs to analyse the various services of the port, to allocate responsibility for the various operation officers, to determine the necessary flow of information between parties, to determine who shall take the corresponding decisions and which authority is to be given that connection in order to decide the procedures during absence of key-personnel. It also has to set up the work-flow for various operations with special consideration of those activities involving various departments and parties.

Very often an individual decision is made relating only to the specific situation and without full knowledge of the background. The specialist or head of a specific section may generally have a much deeper level of knowledge of his sphere of the operation than his head of department or top management and is therefore better placed to reach the best decisions concerning this sphere, but we may find in many cases that the top manager may regularly influence the work of his subordinates.

We can see today that such a style of leadership inevitably had to lead to a series of erroneous decisions or to situations where decisions were never taken or taken
too late to be effective.
Besides this type of leadership, which is becoming obso-
lete, we have "management by delegation" which has beco-
me more and more popular, and which is suitable to our
ports.

Management by delegation presupposes that the employees
are responsible for taking their own decisions consid-
ered, showing initiative and insisting on being properly
informed. These employees are, generally speaking, spe-
cialists normally with more knowledge about their speci-
fic area of operations, they expect to deal with actual
information, practical rules and regulations and the
authority to take their own decisions within their own
specific area of responsibility. On this basis we can
establish the necessary principles for a successful top
management system, such as:

a) The employees have to be given a well defined area of
operation (job description)
b) They should have the right and duty to inform and
advice other departments, based on their own
specialized knowledge
c) They must acquire the necessary qualifications (trai-
n ing)
d) They must have access to all the information
necessary to perform their job
e) They must be involved in over all port planning, set
themselves targets for their own area of
responsibility
f) They must control their performance independently
based on directive instructions given by the
authority
-All the rules of the organization must serve to clarify
all aspects, of the allocation of the various activities, the planning and control functions as well as the signatory powers.

- Despite its central importance, an organization should be only the tools for success
- An organization can only offer a framework, while management and staff give life to these organizations and rules.

Management continuously needs reliable information, particularly port performance indicators for the major operational areas due to the following reasons:

- To determine the potential performance of the existing facilities
- To provide information required for the long-term development of the port, including information on types and sizes of vessels and on the complete door-to-door services
- To monitor the level of service provided so that action can be taken, such as increasing the intensity of work and by providing quantified information for consultation with conferences and liner operators, to avoid port congestion surcharges, demurrage payments and even general freight rate increases
- To monitor utilization and throughput of facilities and equipment in order to fix port tariffs at an appropriate level
- To monitor the productivity of labour and equipment in order to control cargo handling cost. Operational efficiency of the port which is an essential link in the transport chain and an important step for economic development
- A uniform scheme should allow government planners and
port managers to evaluate the performance of their port relative to other ports where comparable. The development of appropriate facilities to serve the region, such as a trans-shipment terminal, will depend on harmonized port activities in order to set the most appropriate location and to determine the facilities required.

1. Clearly define the objectives of the services, thus setting the boundaries within which decisions will be made. If the objectives are well known, it will lessen the danger of out-dated beliefs having an influence on the decisions.

2. Recognize the limitations that exist and to affect its freedom of decision, these limitations stem from the political and social background, from competition and economic scarcities and from people's attitudes though it is very difficult in the developing.

3. Analyze the decision-making in stages to make certain that it has formulated the reason for taking a decision and defined the problem to be solved; analyse the nature of the problem; and examine the alternative solution if any, and the possible consequences.

4. Be aware of the extent to which hopes, wishes and internal politics prejudice.

2.2.1. To Improve the Present Port Operation and Future Situation

Port operations have to be analysed so as to be able to be applied with carefully selected methods. These
methods do not necessarily include versatile or complex port simulation, but it should always be to pay due attention to aspects such as suitability to local conditions, appropriateness of levels of technology for capital and maintenance work, exchange of know-how and service training.

In order to analyse and evaluate the complex system of different transport modes which come together at a port, a clear specification of objectives and criteria is required as a starting point for any of our ports studies which encompasses planning and design of future development of the ports. (2)

A general approach of the study should normally follow:
- Analysis of cargo flows in relation to regional and national needs for transport.
- Determination of modes of transport, leading to a traffic forecast.
- Selection of cargo handling equipment.
- Preparation of master plans of each port.
- Comparison of the alternatives.
- Detailed recommendation and signs for the schemes preferred.

An important criterion for the evaluation of alternatives is minimum total cost, this minimum total cost is mainly determined by:

- Capital and maintenance costs of port layout and facilities or
- Vessel waiting time costs, provided that these are properly optimized for particular cargo volume.
By testing various input scenarios a comparison can be made of capital investments and operational costs together with an assessment of the sensitivity of input parameters and service reliability for the different scenarios.

All aspects of port interaction affect, to a greater or lesser extent, port operations, both seaborne and landborne operations, which hinge on the berths and their occupancy influence port efficiency.

An effect of this which is often overlooked is the overflow of storage facilities, therefore care should be taken to ensure that shore handling and the related administration efficiency, location of cargo, and search for goods are necessary when they are due for collection.

Available port facilities should be utilized to their optimum extent through multi-shift operations. It has been argued that a given throughput of cargo will result in a certain level of employment, regardless of whether only one or several shifts are worked. This is actually not a valid argument, multi-shift operations will increase the throughput and thus everything else being equal, increase employment, unless excess facilities are available. Further, the turnaround time for ships will be reduced and thus freight rates will at least be maintained for a reasonably long period, which is clearly beneficial and would alone be a sufficient reason for multi-shift operations.

The employment situation is obviously an important consideration when it is being decided to which extent car-
go handling should be equipment intensive. On the other hand, bagged cargo in more modest quantities is commonly handled well and rapidly by labour-intensive methods using only ships’ gear and tractor-trailer horizontal transportation to or from transit sheds. There should be clear cut guidelines for the operations.

In many developing countries like Somalia, ports will therefore find themselves catering for a mode of transportation, which not only requires heavy capital expenditure but also creates labour redundancy problems. Many ports in developing countries are unable to cope with these rapid changes because of scarcity of foreign exchange resources to purchase the necessary equipment or build new facilities and this in turn causes slower turnaround of ships.

To provide and operate through an excellent port performance according to the requirements and for the benefit of all port users, the following steps should be examined:

2.2.2. Port Users

- To recognise the changing needs and requirements of port users and to provide a capability to meet those changing needs and requirements.
- To ensure in the provision of such capability that the price and quality of facilities and services provided for the benefit of port users is consistent with their needs and requirements.
- To be active in promoting goodwill, and maintaining the support of port users through good relations.
2.2.3. Port Operations

- To ensure that all port operations are performed in an efficient safe and secure manner.
- To promote improved efficiency of cargo handling and the efficient delivery of cargo.
- To minimise real annual maintenance and operating costs consistent with the provision of adequate port facilities and services.
- To improve operating efficiency by regular review of methods and procedures.

2.2.4. Port Development and Trade

- To maintain long term development planning indicating the likely future direction and extent of port activities.
- To maintain and improve the competitive position of the port in international trade.
- To plan and provide port facility services in the promotion, development and facilitation of the trade through the port to future economic growth and associated employment opportunities within the port region and nation.
- To ensure that port land is developed for port-related activities and purposes.

2.2.5. Finance

- To maintain independent financial viability,
- To set and maintain a stable level of dues and charges for the use of port facilities and services to reflect the costs incurred in their provision and to limit or minimise wherever practicable, cross subsidisation.
-To regularly review accounting and financial reporting practices in the measurement and assessment of operating performance and financial viability.

2.2.6. Community and Social Responsibilities

- To provide effective communication between management and employees.
- To ensure that employees have an overall appreciation of the objectives, plans and activities of the Board.
- To encourage a high standard of work performance by involvement and training, and the best use of the talents and potential skills of employees.
- To provide employees with promotion opportunities wherever possible in order to realise their full potential and to fairly reward them for their efforts and achievement.
- To maintain a safety policy that will ensure a safe working environment and the minimisation of work-related accidents and injuries.
- To recognise the current and future needs of the community and to ensure that these are fully understood and given proper consideration in the objectives, plans, development and activities in the port area.
- To improve and maintain community awareness of the economic and social impact and benefits of the port by dis-operational information; subject to the observance of the confidentiality proper to the protection of the business and interest of the port users.
- To be responsible in the use and conservation of a pure environment. These considerations are included in the assessment of port development and operations.

2.2.7. Berthing Priority
It is necessary to review the existing berthing arrangement for all, general cargo berths and only allow it to continue for carriers which may exclusively be accommodated at one or more multipurpose berths; for example, container vessels are likely to be given priority; their short service time and tight working schedule would facilitate berth occupancy planning and would normally not seriously affect the waiting time for general cargo ships. "First come, first serve" should be a guiding principle in port operations, and it should only be deviated from, when it may be done without serious disadvantage to other ships. Priority berthing should also be used as a means of encouraging a selected or preferred mode of transportation in more efficient terms of ships turnround time therefore less reliant on labour availability, or port benefits from this arrangement. In addition to port priority, free transit storage both for inbound and outbound cargo should be allowed for four days to one week, after which storage charges should be sharply increased day by day for inbound cargo. Outbound cargo should not be allowed into transit storage earlier than the number of days of free storage before the loading of the ship is expected to commence. Shut out cargoes (outbound cargo not shipped as schedule) should be subject to sharply increased charges after the initial free period.

After inbound cargo has remained in transit storage for a total of two or three weeks it should be moved at consignee's expense to a warehouse or open storage in the old port or elsewhere ware available.

If handling and/or storage charges have become overdue
according to tariff regulations, the cargo should be sold at auction. If cargo remains in long-term storage more than a specified period even though storage charges are met, the port should have the right to dispose of the cargo according to clearly defined rules. This procedure of applying penalty storage charges after the initial free-storage period is to preserve the transit nature of the storage facilities and to encourage a speedier outflow of goods. Goods for long-term storage should be deposited in warehouses located elsewhere. It is however prudent to allow a phase in period in places where past customs and practices have been used.

While evaluating the impact of the port development we have to bear in mind that the impacts differ according to port location, furthermore, different types of vessels will create different impacts. Finally, any analysis will have to take into account political, and social considerations which have major influence on developing countries.

Ports were defined as safe harbours for vessels and their main function was to serve as an effective collection and distribution point of cargoes carried by vessels, but modern trading concepts changed the function of ports into a link of an integrated, intermodal transportation system, connecting ocean shipping to the various modes of inland transportation. To adopt to their new role, ports and terminal operations have had to introduce new operational concepts in order to survive as financial and economic entities and to retain their position as a link in the intermodal chain. All the changes in maritime transport systems have inevitably resulted in the transformation
of the ports. Ports have to transform their large number of low-intensity general cargo berths into a limited number of high-throughput terminals, categorized as follows: (a) bulk, (b) specialized semibulk, (c) cellular container service, (d) container ro/ro (full container handling by ro/ro methods) (e) modern semi-container, (g) ro/ro trailer for short sea routes.

All of these are characterized by high-speed cargo handling, and reducing labour requirement per ton of throughput.

With the present limited infrastructure and port equipment, smooth operation is only possible with a careful planning and execution. This requires acquisition of information and efficient communication with foremen, labour gangs etc.

Berth allocation by the port manager should be co-ordinated with cargo handling plans. When giving entrance permits, the port manager should consult the cargo handling officers to ensure that equipment and manpower are available for the cargo handling and in case of imports that enough space is available in transit sheds or other temporary storage areas.

The full capacity of the infrastructure can only be achieved if entrance criteria are established in relation to environmental condition.

The port manager should be kept informed about these conditions, the poorer the quality of this information, the greater the safety margins which have to be applied.
Managers are successful if they perceive the task to be done, seek out the relevant facts and resources and use these to take prompt, effective action, most likely to assist the port in achieving its objectives.
Present Chart of the Somali Port Authority:

CHAIRMAN

General Manager

Finance & Accounting Department
Planning & Co-ordination Department
Technical & Engineering Department
Personal Department

Minor Ports
Berbera Port
Mogadishu Port
Kismayo Port
PROPOSED CHARTER OF SOMALI PORTS AUTHORITY

CHAIRMAN

GENERAL MANAGER

DEPUTY GENERAL MANAGER

Minor Ports Dept.

Personnel Department

Audit & Legal Dept.

Finance & Account Dept.

Planning & Co-ordination Dept.

Technical & Engineering Dept.

Bosaso
Qandala
Alula
Hobio
Eil
Las-korey
Mayd
Zeyla
Barawa
Merca

Berbera Port

Mogadishu Port

Kismayo Port
Chapter 3

Port Operations

3.1. Somali Port Authority

The administration of ports in Somalia, which was established in 1962 as a statutroy organization, is entrusted to the Somali Ports Authority's responsibilities. In January 1973 a new act reorganised the Somali Ports Authority by giving it more power. The Government of today believed that to facilitate the technical development of the ports, this new decree would lead to the rapid development of the transport sector for the economic development of the country. Also, there was an increasing recognition of the part that ports play in increasing the efficiency in this sector of the economy.

It was also necessary that the port management should take the necessary steps for the future developments of the ports, which needed drastic change.

Therefore, it was necessary to plan a port system as a whole. Ports are a link in an integrated transport system, thus the decision can only be made rationally by the management and the staff of the authority who are delegated more responsibility to ensure that the performance is in compliance with the rules.

The Headquarters of the Somali Ports Authority is situated in Mogadishu, the capital, while the port of Mogadishu has its own management.
3.1.2. Duties of the Port Authority

The duties of the Somali Ports Authority are all clearly stated in the statute setting it up and include, inter alia the provision of the necessary facilities, equipment and infrastructure for the efficient and proper operation of the ports which includes the responsibilities for the provision, management and maintenance of storage of cargo, and provision of water and other supplies for ships.

The authority is also responsible for the development of the ports within the framework of the national economic policy. This is stipulated in this statute of 1973, which says:

1. To provide the necessary port facilities.
2. To construct and maintain the ports.
3. To maintain any port facilities and to extend and enlarge and such facilities as it shall fit.
4. To regulate the use of the port facilities.
5. To provide port security.
6. To carry out any activities which may be advantageous, necessary and lawful in order to meet the responsibilities as was stipulated by this act.

For that purpose the authority may:

1. Acquire, maintain and repair any property movable or immovable required for the purposes of the authority.
2. Enter into any agreement with any person, for the supply construction, manufacture, maintenance or repair of any property movable or immovable which the authority may require for the efficient discharge of
its functions under this decree and,

3. For the operation or provision of any port facilities which the authority by this decree is empowered to operate or provide.

The authority has been given the right to establish its own rules and regulations in consulting with the Ministry of Sea Transport and Ports. It has also the right to select and appoint personnel in accordance with national laws and their professional abilities. The authority is responsible for the maintenance of all the port work, for preparation of port development and extension plans and for awarding contracts for work and supply of equipment subject to the approval of the Ministries concerned such as: wharves, jetties, transit sheds, tugs, cranes and launches among others. The authority provides the safe navigation within the port area, pilots tug service, as required, berths and anchorage, stevedoring (cargo handling between ship and apron) shore handling.

Since the Somali Ports Authority took over in the 1966, it has been the sole body responsible for the proper planning organization and control of all cargo handling activities in the country.

The Port Authority is directly involved in the actual port operations and allocates the stevedores needed for the ships.

Furthermore, they supervise general operations of the ports, establish tariffs and port dues with approval of the Ministry of Sea Transport and Ports, whenever it seems necessary.
The Port Authority itself manages and operates all of the functions of the cargo handling operations and equipment which are necessary for port operations.

3.1.3. Government Control

The Government’s control over the Port Authority is exercised strictly and directly through the Ministry of Sea Transport and Ports and indirectly by the Ministry of Finance which is based on strict central control, which approve of the capital projects. Yearly, budgets of the Port Authority are drawn up by the board of directors of the ports and approved by the Ministry of Finance.

Foreign loans and contracts for large amounts of work and other development activities affecting national security and foreign aids policy have to be approved by a council of ministries.

Plans for major port extensions have to be submitted through the Ministry of Sea Transport and Ports to the Government.

Financial management of the ports are subjected to the control of national auditors appointed by the Government and final accounts of the Port Authority have to be lodged with the Auditor General’s: Department and state enterprises. Capital budgets also have to be lodged with the Ministry of Finance, to be embodied in the capital budget development programme of the country in the Ministry of the national planning.
3.1.4. Appointment of the Officers of the SPA

Appointments of the Chairman and Director General of the Somali Port Authority are made by the Government on the advice of the Ministry of Sea Transport and Ports. Other senior officers and port managers are appointed by the Ministry of Sea Transport and Ports on the advice of the Director General of the ports. They should be persons with appropriate qualifications and experience. Other senior staff are appointed by the Director General of SPA with consultation of Chairman. The total effect of these legal provisions, power and limitations make it possible to reconcile reasonable measures of Governmental control. This ensures that there is ample freedom for the administration authority to manage the ports efficiently and to follow a steady, consistent programme of the port development without deviating from the general economic policy of the Government.

3.1.5. Port Managers

The harbour master or port manager is appointed by the Ministry of Sea Transport and Ports on advice of the Director General of the ports. Port managers are heads of marine personnel such as tug masters, mooring men, divers, stevedores, warehouse keepers and signal men. Activities of the port manager are closely connected with allocation of berths bringing of vessels by the pilots and tug masters into or out of the ports, ensuring that all navigational aids in the ports are working and properly maintained. The port manager also ensures vessel traffic in the ports and at anchorage through the vessel traffic system operating the signal station through the VHF system in the port.
3.1.6. Port Operation

Port operation is carried out in a very primitive way, and it needs to eliminate:

- Unnecessary waiting time for ships at anchorage and also along side before cargo handling starts.
- Slow cargo handling using gear, rope slings and net slings.
- The mechanical equipment available is not sufficient for port operations.
- Not sufficient number of gangs available for ships.
- Container stripping in the open area without proper control.

The present situation of the port operations gets worse due to the fact that no advance information on cargo and stowage plans etc. is forwarded from the shipping companies to the operation service of the Somali Port Authority, and consequently no preplanning is made in most cases.

The average of handling rates per ship per day for general cargo and bagged cargo are 230 tons and 430 tons respectively. This low output, has of course several reasons. One of the important reasons may be the present wage level system, another reason may be the weakness of the management system, a third major reason may be the lack of a sufficient number of gangs available at all working hours.

3.1.7. Shift System

The port is officially working 24 hours/day of the seven
days of the week, however the shift system is based on the following working hours:
- First shift from 0700 hours to 1400 hours
- Second shift from 1400 hours to 1900 hours
- Third shift from 1900 hours to 0300 hours

Presently the gangs are paid for one contract, whenever a contract is finished, they may be renewed, but this not common, when a contract is finished, however, the operation section will have to hire new gangs out of the port, which sometimes cause delay of the work of handling the cargo.

Furthermore the casual labour force is completely casual meaning that sometimes many workers from the city may come for work and be employed, and the port is not allowed to discriminate between them for any reason.

3.1.8. Berthing

The ship’s expected time of arrival (ETA) is sometimes reported by the shipping agency to the port manager. The agency provide the port and customs with the cargo list or manifest of cargo. The berth allocation is decided by the port manager with first come first service rule priority. But such a rule has some exceptions in case of:

- Cargo of strategic importance
- Consignment of special vital economic importance
- The shipping agency having special reasons for working the ship in emergency
- The size of cargo on ships is either small or neglectable so that it is preferred to be worked on immediately
-Emergency for bunkering, taking water etc.

When allocating a ship to the berth, the accessibility of the ship in the various cargo operations is taken into account before allocations. A shed allocation has to take place as well, sometimes a ship is allocated to a shed other than the berth to which she is allocated, depending on the vacant parts available for storage in these sheds. When a ship arrives at long side of the quay gangs are to be assigned immediately to discharge the cargoes. The cargo discharged is to be stored either in the shed or open storage areas otherwise it is to be delivered directly to the consignee's vehicles.

Trailers are to be brought to the ship side on the quay apron. No quay cranes are available in the port side, so the ship's gear is used, some mobile cranes are sometimes used in discharging heavy consignments which can not be handled by the ship's gear or merely to assist in the handling operation in speeding up the operation. Palletized cargoes (fully or partially palletized) are handled by forklift-trucks directly to and from the ship side.

Labourers in the ports have a large turnover, which is obviously undesirable as it means a constant effort to recruit and when necessary to train. This large turnover is entirely due to the simple nature of labourers' agricultural background which affects the labour pool in time of ploughing or harvesting and in periods of construction programmes.

This large turnover has caused great and serious trouble to the whole port operation.
The port is an integrated part of its hinterland and should act as such:

- It should assist in generating trade and industrial development in the country.
- The traffic to and from the port should be handled in an efficient way, providing advantages as given in other ports.
- The port has to be planned in such a way that it is able to handle the future in a better way than it handles them today.
- The port should secure that its labour-forces are as qualified as that of other ports, and that its work-force is ensured safe, economical and sound working conditions.
- The port should be organized in such a way that cargo going to/from through-transport take the least possible time and that they do not bear any adverse consequences.
- The port should try to obtain the maximum through-put.
- To maximize its net profits.

The possibilities of meeting these objectives are for me considered small in the short term, though hopefully better in the long term policy.

If the plan of the ports extension is to be included, these very important aspects of port development, there would be considerable opportunities in order to achieve greatly reduced waiting time and the development required.

3.2. Port Equipment

As regard port equipment, the Port Authority has four
mobile cranes with cargo handling capacities ranging between 20 to 35 tons, and various forklifts, tractors, trailers, and tugboats. Every port is not fully equipped with workshops, dry docks and shipyard repair facilities.

The amount of equipment mentioned above is not sufficient enough to serve cargo movement through the ports.

All three ports have fresh water supplies for ships, whereby water is supplied from the berth, bunkering facilities which are supplied at the berths from tanker vehicles are also available at all ports.

In general, the inadequacy of loading and unloading equipment is a problem in the ports of Somalia, for this purpose all the three ports are in shortage or need of the following equipment:

- Mobile cranes of 35 tons and above
- Forklifts of various size and handling capability
- Hand pallet trucks
- Tractors of 200 HP and above
- Spreaders for cranes 20’
- Spreaders for cranes 40’
- Port tower mobile cranes
- Forklifts with low-profile
- Trawlers of 20’
- Trawlers of 40’
- Tugboats with their equipment
- Well equipped workshops with highly skilled technicians in each port.

Workshops and equipment are at presently inadequate and there is a need for practical training at all levels of
workshop staff, thus to implement and improve the present workshop and equipment maintenance by following steps which should be carefully evaluated and taken into consideration:

- Give every individual port full responsibility for the purchase of equipment and spare parts needed.
- Maintenance of equipment and facilities etc. within reasonably fixed budgets.
- Assign the necessary funds, including foreign currency, for the purchases.
- Initiate extensive training programmes.
- Erect the necessary workshops and purchase the necessary tools and equipment.
- Introduce daily checking procedures to be carried out by the operator of the equipment.
- Introduce state control equipment to be carried out by skilled mechanics.

The cost of this equipment can be a major part of the capital investment of the ports. Not only must the Port Authority carefully select its equipment based on price, technical characteristics and expected utilization, but also it must ensure the safe and efficient operation of the equipment.

This causes of of course problems in the developing countries which lack capital, to adhere the large-scale and fast transport systems originated in the developed world. In these countries ship types loading and unloading equipment have grown together. Developing countries, however, find themselves confronted with newer, larger, sophisticated ship types, while having only limited conventional facilities which have not had
chance to grow with the ships.

As a consequence in many ports ships have to unload with their own equipment or with unsuitable port equipment.

The time used for effective loading and unloading is dependent on the availability of proper equipment, number of shifts and also on the workability condition of the port.

The workability may be determined by swells in the harbour basin, wind, rain and other obstacles.

It should also be noted, that the location orientation of the moored ships directly affects the workability.

The availability of proper equipment and skilled manpower is an important item in the port operation.

The complexity of the port system can easily be appreciated by reviewing the factors which determine the length of a ship's stay at the port and may also include:

- Environmental conditions (tide, wind, swell) etc.
- Number of suitable berths
- Transhipment system
- Equipment conditions
- Storage capacity
- Arrival patterns of ships
- Improper shifting
- Distribution of the service time when loading and unloading.

Therefore the modelling of quay handling equipment,
storage and inland transport is required to determine more precisely the optimal berth length, terminal size and equipment efficiency. To obtain the optimal port performance and accommodate modern ships the present port equipment must be totally changed to modern ones.

It is here proposed to change and renew the present equipment in Mogadishu, Berbera and Kismayo, because developing countries are under considerable pressure from shipping lines to modernize their ports if they wish to maintain their position as a port of call.

Failure to modernize may mean either withdrawal of services, in which case imports and exports are transhipped elsewhere or the imposition of a permanent surcharge on all cargo.

To avoid such circumstances the Somali Port Authority and the Somali Government should:

- Modernize the present port performance and equipment
- Instruct all ports to use the same set of port performance indicators and management information
- Build up a standard of necessary equipment for the individual port
- Maintain the equipment on a planned basis in the port workshop.

All ports are in need of container handling equipment in order to serve all kinds of ships properly, to stack containers and utilize storage areas better and generally in order to gain the full benefit of increased containerization and port operations.
It must be remembered that while port operations are now considered by many to be highly capital intensive, a great deal of labour is still needed to drive and maintain equipment.

However, as far as we know, port equipment has now become insufficient and complicated therefore research, development and more improvements have to be made on the existing equipment or design innovations should be introduced.

3.3. Port Tariff

The purpose of this section on port tariff is to examine and analyse the current fee schedules and to suggest rate re-adjustment to maximize revenues consistent with converying cost and maximize benefits accruing to port users.

Through my personal experience as a port accountant, port fees had not increased proportionally to devaluation, they were not high enough to cover amortization of the port rehabilitation needed. As the Somali Port Authority applies the same tariff on all its ports, it would be necessary for the adequacy of fees to be considered in comparison with other neighbour ports such as: Djibouti and other East African ports.

The Somali Port Authority does not amortize nor reevaluate its replacable assets in a way that would adequately reflect their replacement value, nor are costs discriminated so that they can be related to different port fees.
Fees have decreased significantly in real terms from 1982 to 1984.

Port fees on export products are low when compared with freight costs, small changes in port fees will have a marginal impact on CIF prices and consequently on the competitiveness of export products. (3)

In the financial analyses, the cost and revenue should be brought and distributed among the various cost/revenue centres to show the adequacy of the present fees and fee levels in covering costs by cost centers. The current fee schedules should be analysed in terms of individual fee levels, and charging practices at other ports.

Although the analysis shows a deficit at Kismayo Port, the surplus created by the ports of Berbera and Mogadishu is sufficient to cover all costs at all three ports.

Present fee levels are not sufficient to cover the amortization cost of the Berbera extension and Kismayo rehabilitation.

The cost center analysis shows that there is little relationship between costs of various services and fees charged for them.

As a matter of fact the role of the port as a provider of services to the ocean transport industry has changed and with it its operational responsibilities. Ports no longer provide only a safe harbour and a quay wall along which ships load and unload their cargo directly to land transport, but nowadays ports provide labour, equipment, and storage space to facilitate the movement of the cargo between the wharves and inland modes of transport.

As matter of fact, for the port authority to be able to
charge the vessel or the cargo owner all the payable dues, the following should be considered:

1) The different services which should be rendered to the port user should be simple and easy to understand to be implemented.

2) The number of documents and steps for releasing a consignment has to be reduced.

3) It is also necessary to update the tariff levels at regular intervals, as minor increases annually would be more acceptable rather than huge increase once after long periods.

Port tariffs should generally consist of service charges for:

a) Service rendered to ships while along side berth, or on anchorage buoys, such as tugs, pilotage, bunkering, fresh water, electricity, telephone, mooring etc.

b) Cargo-handling service on board the ship, between ship and quay, between quay and storage, between transit storage and long-term storage, and between land transport and storage on board the ship.

c) Transit storage, long-term storage, temporary storage and delivery services.

d) Equipment services.

The structure of a port tariff should determine what the port objectives are, the desire to increase the port size throughput of a port and lead to the adoption of a competitive price setting strategy. All port tariffs should be based, to some extent, on the costs of operating and maintaining the port's
facilities and equipment due to these principles the port authority should be responsible for:

- General level of the fee adequately covers all costs, including amortization and revaluation of the present assets. Therefore no increase in general fee levels in real terms is to be recommended. Regarding compulsory services, it is suggested that their fees are to be brought more in line with costs, some by increasing, others by decreasing in such a way that total revenue levels remain unaffected. This can be done in connection with adjustments in relative Somali shilling rates during devaluation, if any, on the other hand, it is felt that rental equipment fees should fully reflect their costs, so a series of increases are suggested for various types of equipment, specifically marine craft, cranes, forklifts and cargo handling gear.

4) Regarding the basis for charging various fees, it is suggested that

a) NRT ship charges be changed to GRT, thus making the basis more indicative of the input of services supplied to each vessel.

b) Berth occupancy charges to be changed to GRT, thus providing a more equitable basis and at the same time substantially increasing fee revenues.

c) Equipment rental to be charged consistently on a time basis (day, hour) rather than ton handled.

5) As mentioned present fee levels are not adequate to cover the amortization of future investments such as the Berbera port extension and the Kismayo port rehabilitation. Therefore, it is suggested that fees be readjusted to to cover these costs at the time of
their capitalization.

6) It is suggested that the fee increase must be split between ships and cargo by increasing occupancy and wharfage charges, represented by the harbour taxes. This should be discussed with port users and shipping agencies to arrive at an equitable solution.

7) The Somali Port Authority should take urgent measures to improve its database which can be used for determining and evaluating ports charges, especially cargo handling, storage and equipment utilization. Pilots logs for ship data should be improved on a consistent basis. Important steps need to be taken by the Somali Port Authority in this matter.

Since all the cargo-handling equipment, warhouses, berths and facilities are owned by the Port Authority, the accounting system should provide information on their operating costs and their net book value. The operating costs should be separated from the costs related to their labour, maintenance and repair, and depreciation.

Therefore, it is possible to compute the average annual costs of each major asset and to separate the fixed and variable costs, though it is sometimes very difficult to discriminate repair and maintenance costs from variable costs.
3.4. Port Operation

Present Cargo Handling Operation

3.4.1. General Cargo

General cargo is generally handled by the ship's gear with nets and steel wire slings as no stevedoring pallets are available. The load is landed on trailers or trucks.

Trailers are towed to the transit sheds or open storage areas by tractors. The tractors then return with empty trailers. When along side, the trailer is pushed manually by the port labourer, when required because generally old ships' gear can only place the cargo at specific points on the quay. Trailers are very often slowly manually discharged in storage areas or due to lack of ordinary trailers.

When direct delivery is in operation, trucks are used, and an ordinary trailers are often used as landing platforms for the ships. Direct delivery is presently done at the storage area and proper storage methods are necessary. But sometimes work is delayed because of lack of trucks which are missing, and ships sometimes lay idle along side a whole day waiting for trucks. This results in huge increases in ships' costs and loss of time.

3.4.2. Palletized Cargo

Pallets are handled with rope slings only, no pallet brigdlets or pallet forks are available. Futhermore stevedores do not have the knowledge to use forklifts. Timber pallets are very often destroyed by the corner loads of rope slings with resulting damages in the
cargoes. Shrink wrapped and preslinged loads of cement bags are handled.

The port have a number of forklifts suitable for this operation, if they work at all, consequently the port also have very severe problems like other developing countries, when ships arrive with pallet loads or bigger units in the wings of the hold. In these cases a rope sling is attached around the unit and to the ship's hook, which then pulls the unit out with possible damage.

3.4.3. Drums

Drums are handled with nets. Drums are dropped on the bottom of the hold on to the net, then lifted and landed on the quay with quite an impact. From the quay the drums are rolled back towards the storage areas. This handling is very time consuming and very damaging. When trucks are loaded, drums are manually lifted and rolled on board the truck by using a rope slings. When forklifts are provided, drum clamps should definitely be provided for forklifts and drum slings for the ships' gear allowing a load of 4 drums each time.

3.4.4. Pipes

Steel pipes with big diameter are being handled with one or two or more wires slings with leading ropes at ends to protect injuries on dock labourer, but this slows the operations down. Pipe slings with two hooks for each big pipe should definitely be provided.

Smaller prestrapped pipes are discharged by slings and stacked by forklifts with intermediate timber and
sometimes causing damages to the pipe. Intermediate timber should always be used allowing the forklifts to lift them easily, and the pipes should always be stacked in a parallel way, depending on the cargo composition and volume, but the most important piece of equipment in modern cargo handling is the forklift. To facilitate a fast operation on the quay, in the shed and in the stacking area, but the surface must be absolutely smooth and flush.

If there are not enough spaces the cargoes will be stored on the apron, which will hamper the ships’ operation considerably.

Therefore, the shed and the open area should be large enough to take care of both inbound and outbound cargo at the same time.

The cargo should be checked and controlled as to identifying marks, port marks, weight etc. to make sure that they are in accordance with the shipping documents.

Control should be made to see that all the cargo on the stowage plan or hatch list is landed, and in what condition it is brought into the allocated shed area. The checking should take place during delivery to the consignee’s truck as well.

Expensive cargo, and cargo exposed to pilferers, should be carefully checked and placed in a strong room in the warehouse.

To be able to plan for the future, and to record the present operation, we need to evaluate productivity,
utilization of quays, shed areas and open storage spaces.

The port operations must be better organized, co-ordinated and preplanned. This will increase the productivity both in receiving, storing, loading or unloading of the ship. Further, it should be kept in mind that the basis for effective and speedy discharge of the ship, and fast delivery of the cargo, is established prior to the loading.

3.5. Cargo Storage

The transit sheds and open areas of storage are owned by the Port Authority, the cargo is however released to the consignees by the Port Authority after examination by the Customs Exercise Department. Cargoes which have stayed in warehouses or open storages more than three months after the departure of the vessel which brought it, have to be transferred to the Customs Exercise Department.

This is to create adequate space in the sheds and open stacking areas for cargo. A free period of five days is also granted for the clearance of cargoes in the ports after which the Port Authority begins to charge port rent. This is to discourage port users from using the ports as warehouses and to prevent cargo congestion in the warehouses. There is normally co-operation between the Port Authority and the Customs Exercise Department. The Port Authority provides all facilities which are necessary for the Customs to perform their duties. The activities of the Customs and Custom Police are aimed at preventing smuggling, collection of dues and enforcement of various customs regulations. In such warehouse there is a register which is maintained by a warehouse clerk.
When goods arrive either in the warehouse or to the associated open area the following details are entered on the register based on the copy of tally sheet or ship's manifest if the tally sheet is copied then it is returned to the operation service which files:

- Date of receipt of goods
- Type of goods
- The ship which has carried or unloaded the goods
- Name of consignee in case of import
- Name of shipper in case of export
- Shipping mark or rotation number
- Number of packages
- Position where the packages have been placed in the warehouse when the consignment has been placed in more than one position in the warehouse for storage, the number of the packages and shipping marks are noted separately in the register for each position.

If it becomes necessary to move packages permanently from their original position to another warehouse or to an open storage area, the warehouse clerk notes in the comments' column that the goods have been transferred, the area they have been sent to, and the date this has been taken place. A new entry with the new date is then made in the appropriate warehouse register.

If the goods have been moved from the original place in the warehouse into a new position in same warehouse, the new position is then noted in the comments' column.

Goods are released from the warehouse when the consignee or his representative presents the authority with either:
- Cash receipt for cargo charges or
- A copy of the promissory note from the consignee confirming that he will pay the charges when invoiced.

When the goods are released the warehouse clerk enters the following information into the warehouse register:

- The date the goods were released from warehouse
- The reference number of the document presented as authority for release
- The number of packages released

On receiving the goods the consignee then signs the register as acknowledgement of the receipt of goods. If the number of packages released is different from the number originally entered in register because an excess or shortage has been discovered, the warehouse clerk informs the claims' office by means of a shortage/excess note.

It is important to note that when large consignments are released from the warehouse, over a number of days, that separate storage proformas are prepared for each day’s release. The storage proforma is then passed to the consignee, who in turn passes it to a cargo assessment clerk as evidence of ownership of the goods.

The cargo assessment clerk compares the number of packages that can be found in the warehouse with the number already recorded on the consignee’s cargo proforma.
3.6. Port Productivity

There is a great argument in developing countries complaining that freight rates charges are too high, but the shipping lines service themselves reply that these rates charged have been affected by many factors such as delays to ships awaiting berthing, the inordinate amount of time often wasted to discharge or load, difficulties and delays regarding customs formalities, the relatively low productivity of the ports’ labour and to many other factors, which have held up ships and involved their owners in costs. It is regrettable to admit that many of these features of developing countries and ports are still dominant and prevailing. The same applies to the Somali Ports Authority, even if continuous efforts to improve every possible aspect in the ports operations have been made, but still, there are some deficiencies which augment the cost of the operation and in turn have the above mentioned raising effect on the charged rates.

Many of these freight rate augmenting factors cannot be directly measured in monetary terms from the ports point of view, such as the time consumed awaiting berthing, but to the shipowner, as this resembles a certain loss in terms of the turnaround time of his ship in the port, which exerts a very strong effect on the total cost of the ship (running cost). Such an effect will make the shipowner reconsider trading with that port giving a more rational close look at the various opportunity costs which might be alternatively gained in trading with other ports. And this is only one factor out of too many factors affecting the productivity of any developing port, and in turn affecting the beneficial view of the shipowner towards that port.
Somali ports, suffer from some of these factors affecting its productivity. Productivity is defined as tonnage transferred-loaded/unloaded per man hour, per gang for instance, although the structure of the gang varies from one type of goods to another. The hours worked by the gang, the tonnage, the type of goods handled should be recorded on a special form. These sheets should be filled every quarter of an hour and should also record changes in the composition of the gang if any (arrival or departure of workers) to provide continuity of records. These working sheets should be completed by the system of hourly wage accounting by the office to allow monitoring of accuracy of the time sheets. There should be separate records for each function (crane, truck operator, foremen worker) in a directly recordable form allowing a fairly correct allocation to types of goods, this makes it possible to differentiate between the productivity of the various types of goods. The same applies to equipment hours, which should also be processed according to equipment type.

It varies from port to port, how far one should differentiate between various types of goods, functions and equipment. The same applies to quay-side records and to the shed handling records. The cost accounts department analyses the total work hours—the method depending upon local port conditions.

Productivity control is achieved by monitoring and analysing the hours used for each type of goods and passing this information on to the accounting department for the various port units within a short period of time. The above information should be separated according to types of goods, direct or indirect transfer and cost.
units.

To improve port productivity, efforts should be made to study the causes behind such obstacles and apply every possible method to diminish them or at least to reduce them to the minimum.

It is not possible here to give a more detailed study of the port's productivity with a cost analysis as well. But as we are all clearly aware of the fact that productivity in any port is not always at its fullest level.

It can only be raised by the application of efficient and economic methods based on an empirical study of the whole port's various operations, facilities and costs.

It must be realized that the present operation of the three Somali ports is far below the optimum capacities. If modern and efficient management, equipment and methods were introduced with a slight improvement to the present shift-system having three shifts working, would of course increase the ports' capacities, to meet the goals of the above mentioned development in the various operation units responsible in each operational department in every port. They should meet and discuss operational problems, differences, and then analyse and consider other alternative according to type and influence.

3.7. Data System

Data System

A port is to be operated with efficiency and the management must be accurately informed of every aspect of
port traffic and port operations at all times. This information must be based on correct figures and it should be available promptly as it otherwise looses part of its usefulness. A substantial increase in a certain sphere of port traffic may require urgent improvements, additional storage space or more mechanical equipment. A decline may be due to unsatisfactory service or excessive costs, relating in a deviation of traffic to a competitive port.

A good information base in a port forms an excellent basis for analysing the port performance, identifying its problems and prescribing solutions, a good information system showing usage of berthing facilities, and the utilization of port equipment, ship traffic, turn-round time of ships, labour productivity, and berth productivity, cargo traffic and analysis of waiting time which could give banks and other financial institutions a clear image of the state of affairs in a port and speed up grading of financial assistance should the need arise.

The statistical service should as much as possible be adapted to the needs of the port administration and not for economic planners of the country who would need very detailed data which should be provided by the central Bureau of Statistics. The port statistics must be simple and must always be available to the management and must as much as possible be used in making decisions.

To get a very good data base for a good port information system the officers working on this must be properly trained and must be encouraged to work. A good port information system is however useless if the forecast, projections and other analyses made are not used by the
management.

All forecasts, prognosis, analysis etc. made using statistics involve constant variables and political situations, economic situations, social situations which could all change and sometimes these changes are very difficult to forecast. Plans and programmes drawn should therefore be flexible enough to allow changes to be made. Port information systems and statistics are tools for management and judicious use should be made of them.

Statistics remains a basic input into any pricing exercise and should be used for the effective making of vital decisions. Therefore, there is a need for the authority to improve its statistical data setting up units for the collections and the processing of port information into statistics to be used by the management.

To be able to produce meaningful port statistics, particularly operation data, it is necessary to step by step consider the arrival of ships, their stay at berth, the cargo-handling equipment, port labour and land transport.

For better management the following must be taken into consideration:

a) A ship of known category, size and cargo brought to the port.

b) It may come directly alongside a berth or it may have to wait temporarily due to one or more of the following factors:
   (i) No suitable berth available
   (ii) No tug or pilot is available
(iii) Berthing of such vessels is only allowed during daylight.

(iv) Adverse weather conditions (wind, current or fog the latter is very rare.)

(v) Vessels carrying dangerous cargo, which must first be unloaded at a designed anchorage.

(c) After waiting it comes alongside (4)

(d) After berthing, unloading/loading start

Sometimes further waiting occurs between the time of berthing and the time the cargo handling operations start due to one or more of the following reasons:
- Procedures and formalities (customs, ship papers, B/L) are not ready.
- The ship is not ready. Gear has to rigged. hatch cover not removed etc.
- Unfavourable weather conditions
- Cargo handling equipment is not ready for operations.
- Storage space is not available.
- Port labourers are not available.
- Land transport are not available.
- Cargo to be shipped is not yet available or brought alongside.

(e) Unloading is completed, and

(f) The ship leaves berth. (5)

Delays could happen between (e) and (f) and are normally due to one or more of the following reasons:
(i) Procedures and formalities are not yet finished
(ii) Tugs or pilots not available.
(iii) Ship's crew or engine not ready.
(iv) Departure only allowed during daylight hours on some occasions.
(v) Adverse weather conditions.
Labour is usually allocated the day before if not the hour before. The number, size and type of gang depend on the nature of the cargo to be discharged or loaded. Of course, different cargo mixes will result in different productivity levels. The manner in which the cargo is stowed in the hatch or over stowed by the cargo will also effect productivity. Further, labourers may not be working all the time due to various factors such as breakdown of winches, rain, waiting for instructions, for stowage etc.

Land transport to and from the port is not under the control of the port. For this reason and also with the aim of limiting the collection of data, statistics should only be concerned with facilities and resources within the port limits and with the primary port users (ships), except for the tonnage of major cargo categories arriving and leaving the port.

The main purpose of collecting and processing port statistics are:

(a) To know the characteristics of the ships which call, their changes with time obviously, furthermore the vessel calling at a port depends to a large extent upon existing port facilities.
(b) To determine the extent of utilization of port facilities and labour.
(c) To determine the productivity of port equipment and labour.
(d) To determine whether the equipment is properly maintained and the relevant maintenance facilities are properly utilized.
(e) To determine the area and means for improving
productivity, for better maintenance of equipment and for additional or modified facilities.

Based on the above considerations, basic data requirements and the principal results of their processing are proposed as below. Above all, the information must be processed in a timely manner, and presented in simple, easily assimilated form. For each category of carriers and berths, the following aspects should be considered:

(a) Number of ships calling each year or each season
(b) Number of days per year or per season
(c) Total and average number of hours ships spent waiting for a berth or broken down according to cause, such as:
   (i) Low tide
   (ii) Arrival or departure not allowed at night
   (iii) Weather and
   (iv) Berths not available
(d) Total and average number of hours spent alongside berth
(e) Total and average number of hours spent alongside berth during shifts when cargo-handling took place
(f) Number of ships for service time
(g) Average utilisation or occupancy for each berth
(h) Average cargo handled per ship (metric ton)
(i) Average number of hatches worked simultaneously for general cargo ships
(j) General cargo handling:
   (i) Tonnes per hatch per actual working hour
   (ii) Tonnes per shift
   (iii) Tonnes per man-hour for all port labour.
(k) For container, separately for Lo/Lo and Ro/Ro
(i) Containers of different sizes per shift
(ii) Containers of different sizes per actual working hour

(l) Productivity for bulk commodities:
   (i) Tonnes per ship per day
   (ii) Tonnes per ship per hour

(m) Statistical distribution for cargo stored in each separate storage facility (m/t)

(n) Availability of average for each major cargo handling equipment

(o) Utilization of each major type of equipment and number of hours worked

(p) Percentage of cargo passing through transit storage facilities, and percentage of cargo delivered directly to and from road transport and air transport

(q) Average storage period of cargo remaining in transit sheds and open storage areas

(r) Average total turnout per day with maximum and minimum turnouts over a certain period.

3.7.1. Traffic And Cargo Throughput For Each Arriving Ship

- Date and time of arrival at anchorage waiting for a berth to become available
- Date and time berth available
- Date and time of start of cargo unloading and loading activity
- Date and time of completion of cargo, unloading and loading, breakdown of cargo handling interruptions is necessary if any
- Date and time leaving berth
- Number of hatches worked during each shift
- Total cargo tonnage handled during each shift
-Number of gangs-hours during which work was not performed
-Total cargo per ship (m/t):
  -unloading or loading of major commodities
    separate cargo units. Container, bags, drums, preslung cargo, strapped cargo, bulk etc.

3.7.2. Ship’s Particulars

- Type of vessels (tankers, general cargo vessels etc.)
- Dwt TEU or other carrying capacity indicator
- Length (meters)
- Fully loaded draft (meters)
- Actual maximum draft when entering or leaving port (meters)
- Total metric tonnes of cargo handled per shift day/month/year:
  (i) General cargo
  (ii) Direct to railway or wagon
  (iii) Direct to truck
  (iv) To transit storage
Total quantity for each inbound and outbound major commodity per shift, day, month and year (m/t).

3.7.3. Port Operation

Very much consideration should be given to:

- Number of working days per year
- Duration of hour per shift worked on weekdays
- Duration of hours per shift worked on weekends and holidays
- Number of gangs of each type working during each shift
- Number of men per gang for each type of gang
number of cargo-handling equipment utilized and available during each shift
-Number of tug movements per annum, identified by the different movements for each class (category) of vessel such as container ships, tankers, general cargo vessels, etc.
-Number of tug movements during normal hours and overtime if any
-Number of pilotage movements per annum for each class or vessel.

Preparation of forecasts for ocean-going transport volumes per year.

-Study of present and future infrastructure activities.
-Study of current port operations.
-Development of alternative solutions for a new general cargo pier and the number of cargo quays.
-Development of solutions for the rehabilitation and extension of the system of navigation aids.
-analysis of inland navigation and the infrastructure required and comparison with road transport cost.
-Cost-benefit analysis of the projects.
-Reorganization of existing financial data and analysis of the future financial situation of the port authority.
Chapter 4
Training of Manpower

4.1. Present educational system in Somalia

Primary School Education begins at the age of seven. Elementary up to Intermediate School Education is compulsory, to be followed by Secondary Education at the age of fifteen years. Secondary Education in Somalia is conducted in the Somali and Arabic languages.

A number of Secondary Schools, are Technical Secondary. These Technical Schools have mainly high theoretical education, partly due to the lack of training workshops and materials.

The Somali National University nearly covers all advanced studies in all parts with the exception of maritime studies. All courses are taught in the Italian language.

The Somali Institute for Development, Administration and Management (SIDAM) in Mogadishu, which has several years of experience with management, accounting, clerical and similar courses, is partly run by foreign assistance from ILO and other Institutions, is engaged in the education of public civil servants. The period of study is two years after Secondary School.

Another Institute was established for training of ratings in marine skills and fishery. It offers courses in Navigation, Marine Mechanics and Fishery, but these
courses are given in theory. These courses run for two years after Secondary School.

To enter the Somali National University, candidates are required to have the Secondary School Certificate. It is also in the requirements that candidates have to sit for a selective competitive examination organized by the University Admission Board.

Somalia did not have any University in the past. Very few primary and secondary schools were available before the military coup, in 1969. Today, the position has changed dramatically, there is now at least one primary and another secondary school in every town in the country. Then number of the University’s faculties has also increased.

It is a matter of great importance that the educational system supporting the marine education, be given due attention. The Institute of Marine Education, is now not able to train licensed deck and engineering officers, port skilled workers and marine labourers. In this regard, it is advisable that the Government should increase its support and introduce new technologies that may help the systematic growth of marine education in the country.

It is also hoped that the Government establish an advanced Institute for Management and Marine Industry Education. This will provide professional training in marine industry an establishment which will support all kinds of maritime operations; terminal operations, Port & Harbour Managerial activities, other related governmental agencies, shiprepair yards, and National Marine manpower.
as a whole.

The skills of personnel involved in the port operations strongly affects the functioning of the port, the extent of training to the level of skill required, and the throughput and or efficiency of the port is very much inter-related.

Therefore, it is stressed that permanent training facilities should be available to up-grade skills of port labourers to facilitate improved productivity.

A port training center should be established in Mogadishu, because such a training center will concrete demands in carrying out real professional training activities which will contribute to the crucial improvement of port operations and the performance of Somali ports.

The most important group of personnel to be trained is:

-Middle Managers;
-Cargo handling superintendents and foremen and manpower;
-Maintenance superintendents and foremen;
-Executive port management;
-Pilots, tugboat men, and mooring crews;
-The center should have a good mix of theory and practice.

4.2. Manpower Training Development

The need for training and the transfer of technology at all levels of not only port affairs but also of the whole maritime sector is of greater importance today.
This is especially true in developing nations.

One of the international bodies for the training of personnel in the maritime sector including ports is IMO. Apart from developing conventions for safety and welfare of seafarers and the prevention of pollution at sea and the marine environment, IMO also plays quite an important role in training through its experts on missions to various countries in the maritime sector including ports.

Through the World Maritime University, IMO is also carrying out training of marine personnel from various developing countries. When the students go back to their countries they will participate in improving the maritime sector in their respective countries including ports activities.

A well-trained work force is among a country's greatest assets. Those who have acquired and perfected skills have also acquired self-confidence and pride in their work and the esteem of their communities.

One of the biggest problems facing developing countries embarking on the running of the port according to modern concepts is the training of their staff at all levels.

This problem faces the Somali Ports Authority as well.

The necessary skills needed to operate ports effectively and efficiently requires that all the port's infrastructure such as wharves, jetties, quays, breakwaters and roads in the ports are in excellent conditions to receive ships.
Vehicles moving goods in and out of the ports and all other equipment used in ports should be maintained properly.

This requires provision of workshops, stores for spare parts and gear, overhaul facilities for marine craft and a highly skilled workforce to carry out these activities. Maintenance should include maintenance of structures, utility lines, paving, dredging etc.

Port projects should aim at higher selected designs for the most efficient types of quays and piers, sheds and fixed mechanical installations. Materials should be chosen and tested, specifications formulated and construction contracts supervised. The management of the port requires the skills necessary to run any economic enterprise especially when the authority is expected to operate as a commercial enterprise according to the law. They have to declare profits and pay excess profits into the consolidated funds, furthermore a team of experts in management, personnel and finance is required in order to make purchases legal, account statistics, fix tariffs and rental charges, public relations among other duties.

Unfortunately, however, there is a lack of trained manpower, especially in the fields mentioned in the above paragraph. Even though the authority has few people, of good administrative, accountancy skills and good experience, they lack the academic background. They are not familiar with modern maritime transport systems especially with the operational aspects including multipurpose and container terminal development and operation as well as modern techniques of management. There is a need for specialised training for the
executives and the staff in operation and maintenance, engineering and management.

The Port Authority needs to draw up a comprehensive training programme to cover all the work force of the Authority. Some of the training, especially for the top management can be sought overseas where adequate training facilities are available which would offer officers opportunity of seeing how ports in developed countries are operated. Professional staff like engineers, accountants, finance officers etc. should be sent on refresher-courses and seminars local and overseas to become acquainted with new technologies and ideas in their field. Visits to neighbouring ports to see how they are being operated should be organized from time to time for the operational staff to become familiar with problems in other ports and discuss those in common with their counter parts in these ports.

Junior staff should be trained as well in their specific fields. Presently the technicians on tugs are trained regionally, the accounting officers are encouraged to take professional courses in the Somali Institute for Development, Administration and Management. Clerks are also sponsored on courses organised in the country by the Management Development Institute (SIDAM).

Since cargo handling operations are in the hands of the Authority the cargo handling staff should be trained to use modern cargo handling techniques and relevant maintenance procedures for port equipment. There is a need to train workers in the safety of cargo and that of fellow workmen. Some foremen or senior operational staff should be trained overseas to become trainers for the
port labour. This training must be effective enough for its intended purposes, and should in the light of modern marine education techniques:

- Be really effective, and well organized and operated on a continuous basis.
- Be taken into consideration not only the current requirements of marine industry but also future needs of its different categories and operational requirements, to ensure a well balanced supply of labour to man the National fleet and shore operations.
- Ensure that the training facilities available are adequate in training of a sufficient number of properly trained men.
- Ensure that curricula are properly constituted and rightly executed so that these men are trained in the various operational techniques, related maintenance developing satisfactory understanding. In doing so, marine personnel become among the most vital and precious assets of the country.
- Ensure that the training does not consist of costly and inefficient processes but of simple and beneficial ones.

For the purpose of proper education and training, duties and tasks of the person for whom, the training is intended and job-specification, must be specified in the curriculum. In general, I can say that such trainees are expected to possess all technical knowledge and skills required to operate and maintain in good will and consideration to understand the legal and technical aspects of his responsibilities, in addition to having some degree of managerial skill.

It is intended here that the National Maritime
Authorities should play their required role in formulating sound national policies to provide suitable training facilities for the various categories of marine industry personnel.

The curricula of any education and training programme should be in line with national maritime policy aims.

Syllabuses that make up training programmes should be related to specified training objectives.

In this field, the principal aim is to produce skillful and professionally competent manpower. Such competent manpower should be acquainted with the ability to provide an effective input at ships' and shore operational teams, in addition to the above, they should be conscious, at all times, of the vital necessity of operating all the port machinery installations safely; and have due regards and respect for the maritime environment.

However, the ultimate aim of any training pattern is, and should be, to produce highly qualified seagoing and shore personnel who have completed well planned programmes of maritime training leading to the issue of appropriate certificates of competency in their respective fields.

One of the natural resources of any country is its manpower and this, like any other of its resources, can be neglected or can be actively developed towards its full potential for the economic growth of that country. In this modern age the full, or at least the reasonably efficient use of available manpower depends largely upon the existence of an adequate number of workers possessing the requisite knowledge and skills at various levels in
each sector of the economy.

The rapid technological development which is characteristic of this age, requires a rational governmental policy of encouragement or control towards the achievement and correct distribution of such knowledge and skills.

Such policy must be implemented by more than one department of the government's administration because it must encompass not only a country's industry but also the general marine education at all levels.
Chapter 5

Effect of Containerization on Somali Ports

5.1. Present Situation

The Somali ports are at present handling both 20’ and 40’ containers, flats and low profile trailers. All handling for the two major Italian shipping lines are at the moment carried out with equipment and staff owned and employed by these lines. Only containers on Ro/Ro ships are being handled with tugmasters and heavy forklifts.

One of these shipping lines has its own heavy forklift and another small one in the port, but it relies on the port owned tractors and trailers. Discharge is being made by ships’s gear such as chain slings, and as no 40’ trailers are available 20’ trailers are used for all containers. Discharge rates are at 6-10 TEUs per hour and per crane. The storage of containers is not well organized nor well planned in the port. Italian lines try to gather their containers in on stacking area for storage, but this is hampered by the lack of transport equipment. These shipping lines and other lines as well consequently have their containers spread all over the port area, obstructing any other utilization of the area.

A container count made on January 1985 showed that more than 1,372 TEUs including trailers and flats existed in Mogadisu Port. Out of these units, more than 50 percent were considered empty. Comparing the number of these units with the total annual container throughput of
13,749 TEUs in 1984, gives an average dwell time of 36 days per unit. This high dwell time could be explained by the irregular conventional ships carrying containers on deck and calling at the port with long intervals, which causes a kind of container congestion in the port area.

Container traffic in this port is increasing the congestion by their intensive movement which can be observed not only by the tugmasters running along quay aprons obstructing cargo handling for neighbouring ships, but also tractors and trailers with 20' containers placed across these apron causing the same obstructions.

Such an operation is of course not only dangerous, but also absolutely destructive for any attempt to provide an efficient cargo handling.

The majority of containers imported are being stripped in the port. This is due not only to the fact that many of these containers are LCLs (less container load) but also due to the fact that there are few containers moving inland with the minimum degree of control over them due to lack of registration and follow up procedures of their destination arrivals. It could be added that due to the inefficient road infrastructure not accepting heaving units like containers and the existing customs barriers which are hindering containers to be released easily, to be transported outside the custom’s zone.

Stripping in the port is at the moment carried out in the most primitive way. The FCLs (full container load) for one consignee are being stripped by the consignee himself with the help of dock labourers and possibly by a forklift hired from one of the shipping lines or brought
into the port from outside. LCLs are being stripped in several steps when the consignee shows up. Every time the remaining cargo is restowed in the container, and the box is not released before the whole cargo is emptied which may take a very long time. The stripping and consolidating processes are often done manually disregarding whatever signs may be on the cargo i.e. fragile, this side up etc...

The results are consequently damaging to the cargo. This system of stripping prevents reefer containers from arriving in the port in order to export frozen fish products, which is potential export cargo. The Ro/Ro ships calling at the port at the moment have reefer capacities, however, containers are being brought in as LCLs. For the time being it is economically not acceptable to have such very costly reefer containers sitting in the port waiting for stripping and as mentioned above, may cause lot of inconvenience and damage.

The majority of the containers are being handled by Ro/Ro ships which also have berthing priorities. A special Ro/Ro ramp is available on the end of berth number six. This ramp is, however, seldomly used, as the ship will be laying perpendicular to the quay with the wind abeam, obstructing the utilization of the other berths which in general deteriorates port productivity.

5.2. Looking Ahead of Containerization

The advent of the container has sparked a revolution in cargo transport which has exceeded the expectations of many in the transport industry. This versatile cargo
packing unit has made it possible for merchandise to be packed at the manufacture’s warehouse and subsequently be left unopened until the container reaches the wholesaler’s door. Containers are visible on board large ocean-going ships, canal barges, railway cars and road trailers, each of which may form a link in the multimodal or intermodal transport chain of a modern container system.

Though many of the developing countries may still rely heavily on conventional cargo handling methods, the container is gradually having an impact on port operations as well.

The container brings with it possibilities for improving international trade. Consequently more and more developing countries are investing in the possibility of establishing container systems, or taking steps to set up intermodal systems to keep up with the developments in international cargo transport and world trade.

The space needed to accommodate the large number of empty containers is often not available and additional handling costs are accrued in the shifting of the containers.

Containers have become an important means of transport largely because of the fast turnaround times achievable by full cellular container ships which are serviced by one or more purpose-built quayside cranes. Both the pure cellular container ships and the land facilities are capital intensive but they met the needs of the industrialized countries in terms of saving in labour costs, and developing countries suffering many difficulties including problems relating to alternative
employment of port labourers who have become redundant
due to extensive mechanization of cargo handling.

Containerization offers the following benefits:

- A container system permits a house to house service
  being given, which from the industry production site to
  the wholesaler's store may be an over all distance of
  thousands of kilometers.
- Less packaging is required when cargo is shipped in
  container.
- More security in the transport system of the container.
- Higher productivity and faster ship's turnaround.
- Lower freight rate should be achieved.
- One of the greater advantages of the container is that
  there is no intermediated handling at the terminal
  transshipment point.
- The elimination of intermediate handling permits faster
  transit and reduces the risk of cargo damage, and a much
  lower risk of cargo pilferage.

These benefits should encourage shippers and consignees
of cargo to use this mode of transportation. However,
experience over the years has shown that the benefits
could be partly cancelled by higher inland haulege
charges and dead-heading levies applied by conference
lines. This is particularly significant in developing
countries where there is an imbalance of inward and
outward containers (dead-heading is the shipping back of
empty containers).

Another problem to be encountered in many ports in
developing countries, which attempted to keep abreast of
this new trend, is the requirement for large areas of
land for container stacking. Most ports have grown from humble beginnings within a city and therefore in many instances acquiring large tracts of land for this purpose was virtually impossible.

These advantages permit the cargo to arrive in better condition at its destination than that of break-bulk shipments.

In addition ports can obtain substantial labour savings:

Containerization is one of the new systems which ports have to adjust and to cope with very quickly. This in general is for the benefit of both the ports and shipping industry.

Some of the disadvantages of containerization may be listed as:

- High freighted cargo tends to be containerized or at least unitized, leaving low freight cargo to conventional ships.
- Conventional ships may suffer detention at ports where priority of berthing is given to vessels carrying containers.
- Ports not providing container facilities may not be served by direct lines, but only by feeder services and this might result in:
  a) loss of trade to the respective port
  b) increase of cost of transport to the respective country.

Developing countries seem to have little choice than to adopt their facilities to the modern transport
technologies.

For developing countries to characterize the container system as being highly attractive, the decision makers involved in the liner companies and port industries, the Port Authority and inland transportation organizations have to co-operate in order to elaborate a harmonized concept of investment required which plays a predominant role because:

- Containerization demands completeness of the facilities otherwise the advantage claimed for the system does not materialize.
- Containerization must involve the whole transport chain, otherwise there are bottlenecks which might clog up the system.
- Containerization calls for space which often appears to be promising at the beginning.
- Containerization demands highly developed economics at both ends of the sea route and a highly developed transport infrastructure.
- Containerization requires intensive trade relations between trading countries and it is a labour saving industry as well.

Many changes have taken place in the last few years. Some of the changes have been gradual while others have rapidly taken place and have had long range effects on the whole shipping industry.

Most of the improvements that have taken place in terminal cargo handling have been designed to reduce ship time in port but as an additional benefit it has been discovered that the overall port efficiency has also improved.
It must be remembered that containers fundamentally carry general cargo which has not changed, but only the method of handling has changed drastically. For that reason many are considering that ports are being or going to be highly capital intensive, nevertheless, a great deal of labour is still needed to handle, to drive and maintain equipment. The use of sophisticated Ro/Ro operations has enabled ports to reduce congestion, especially in areas where port facilities have not been developed and thus has had a similar effect to that of the container revolution in many ways.

5.3. Terminal System

It seems to me that areas of container terminal operation hold better prospects for automation than others; some manufacturers of container handling equipment have designed and modelled completely automated facilities. These automated facilities are today feasible at today's level of technology, their acceptance in developing ports at present seems remote to me for a number of reasons:

Firstly: In developing countries there is a lack of skilled manpower and know-how.
Secondly: There would be problems in the area of labour-relations.
Thirdly: The cost of total automation would be high and yet such systems have not been tried in many developing countries.
Lastly: In order to retain reliability of service the backup equipment needed in the event of a breakdown would be costly and vastly under-utilized.
As the volume of container traffic grows, the need arises to improve the efficiency of systems and equipment used rather than supplement with additional hardware which employ valuable resources of capital and space.

The capital cost research and development of a new system is extremely high in today's maritime transport which usually involves great investments or active participation of ship operators as well as Port Authorities. Therefore, I see the existing systems being refined and improved in the future for economic reasons rather than new system being introduced.

5.4. Operational Difficulties in the Terminals

A well planned terminal need not to impose any serious and unexpected difficulties, however, certain problems might arise in container terminals which do not have parallel on conventional berths and therefore deserve some further attention:

- Number of container units to be handled: (assuming the number of container or quantity throughput in a year)
- The need to consider each unit separately: (each and every container (7) needs to be followed at least as long as it stays on the terminal)
- Many parties are interested in the container: (this is not a new phenomenon, but the combination of it with all the other factors seriously aggravates the problem)
- The increase of the speed of cargo-handling activities: (instead of handling 40 tons per hour and per ship in a conventional operation, the output of containers have increased to an average of 25/35 TEUs/gang per hour.)
5.5. Data to be Collected in the Terminal Operation

- Type and size of unit (8)
- Container number and profit
- Origin and destination
- The contents of the container
- Weight and class
- Name of ship and voyage number
- Stowage slot on board or location on the terminal
- Any specific or special information which is important for terminal operation.
- Increasing efficiency of equipment in the terminal
- Loading and unloading equipment
- Effective utilization of existing facilities
- Voyage information: e.g. temperature specification for reefer cargo which need special care, or whether the container needs to be washed before restuffing or needs to be weighed etc.
- Name of the shipper and/or receiver of the container
- Whether the container is specifically designed for certain cargo.
- Whether container is designed for the carriage of goods by one or more modes of transport without any other intermediate modes.
- Number of empty containers in the hinterland and their movement which should be minimized if possible.
- Average dwell time or stay time to be recorded and minimized as well.

One of the main objectives of containerization is to reduce the turn round time of ships in port, and thereby increasing the throughput of the port’s container terminal. However, container handling in ports is a space-demanding operation. Stuffing and stripping
containers can not be carried out effectively given the physical layout. The container system requires a modification and enlargement of the area to be utilized, it is therefore impossible to operate a container system from a conventional berth system, where the ship berths alongside by a narrow apron hampered by a storage and transit shed.

Export containers must be stored in port before hand to allow loading as soon as the vessel arrives in port. A large storage area is also needed to accommodate unloaded containers and free movement of equipment and containers.

The container terminal must have a repair workshop for the repair of all the equipment involved in dockside operations; the workshop must be manned by qualified technicians and equipped with spare parts so that repair can be made at the port rather than elsewhere.

In this way, valuable time can be saved and operations can be carried out more efficiently.

It is clear that the design of the container terminal must be carefully selected and various alternatives must be examined in order to obtain the most efficient and economical system for the port.

A very efficient and well co-ordinated system is also required if one is to enjoy the full benefits of containerization. Government departments (including customs), shipping companies/agencies, shippers and consignees and port authority must all co-operate and work together in the new environment, as no co-ordination would result in the collapse of the whole system.
Maximum benefits are gained in the door-to-door concept through integrated services where any full container load (FCL) is stuffed by the shipper and contents delivered undisturbed to a single consignee at the last point of inland destination. This may not always be practical and a container with less container load (LCL) stuffed for several consignees could not be shipped in this concept.

In this case, the LCL containers must be brought to a container freight station (CFS) within the port area or outside, depending on Customs requirements. The contents of such containers will then be unstuffed and delivered to the different consignees.

Developing countries could obtain considerable benefits through palletization and other forms of unitization without resorting to containerization. Preslinging and palletization of cargo is simpler and much less costly in terms of facilities and equipment. Also, there are no de-heading charges, and port labour is not so drastically displaced. The greatest problem is the requirement at the other end of the shipping route, where labour and other costs may be so prohibitive that its use is discouraged. However for shipment between two developing countries, such unitization would be the logical solution.

To conclude, it is, therefore, very unlikely that developed countries will stop their penetration in the transport trade of developing countries within the concept of containerization.

Therefore, developing countries must ensure that they obtain a greater benefit by the establishment of a container system which in my opinion is absolutely vital.
to the achievement of an integrated mode of transport.

Containerization could gradually be introduced into the country through various simple containerization concepts (9) which vary according to the kinds of equipment and facilities used. Developing countries could choose the types which are relevant to their types of cargo, trading routes, available facilities, water draft.....etc.

Such types could be enlisted in the following:

- Forklift systems
- Chassis systems
- Cargo systems

Other containerization concepts are highly capital and skilled labour demanding.
Conclusions and Recommendations

In Somali ports, the efficiency of the technical operations and maintenance of port infrastructure and equipment, is suffering because of a variety of factors. In the past inadequate provision of funds for the acquisition of equipment and their replacement, essential spare parts for repair improvements, and preventive maintenance have all contributed to the problem.

There is also the problem of effective utilization of the present facilities and infrastructure due to physical limitation or ignorance of operators concerning the benefits of their use. As a result, port equipment and structures have either degenerated into an unsatisfactory condition, gone out of service or are under-utilised. The cumulative effect of all these shortcomings is unnecessary high operating costs and ship delays in ports due to lack of adequate and modern handling equipment and modern storage space especially for containers. Delays in clearing cargo from port areas due to internal transportation problems have also worsened the situation and the ports instead of promoting economic growth have almost become drain pipes on the economy.

There is an urgent need for internal reforms in the organization of the Somali Ports Authority to rationalize staff, recruit more qualified personnel and train staff to meet modern techniques of port operations and administration which would eventually enable the ports to be autonomous.
It is very important not only to have an organization which is well structured, but also one in which managers at all levels are well prepared for the responsibility needed to carry out their field of activity. As this is so important, I would like to mention some elements which must be kept in mind at the time of selecting the management leaders of each activity area.

A manager should possess the appropriate technical or professional qualifications and experience in the area in which he/she is appointed. (8)

He or she should also demonstrate dependability in exercising responsibilities, and have some essential personal characteristics and abilities. The most important personal and professional characteristics of a leader, include efficiency, boldness, honesty, self-confidence, sense of humor, sense of justice, dedication, consistancy and discretion.

A good manager also shows initiative and perseverance when it comes to plans or projects. Integrity and tact are also essential.

Managers should be skillful in preparing and clarifying department aims and further breaking these into smaller workable objectives.

He/she should always tell the group not only what they should do, but also why. Encouraging or building team spirit is another valuable skill for a manager to possess.

It is probable that there are few people who have all of these attributes, but it is necessary to bear in mind that the majority of these can be learned and developed with practice.
A ports and Shipping Department should be created in the Ministry of Sea Transport. This suggested department should be responsible for the long term formulation of policies and development programmes for the ports and shipping in Somalia.

A national transportation council or an advisory body comprising shipping executives, business men, and private commercial interests, representatives of the road transportation and other professionals involved in business, should be created to advise the Government, on the port issue, and on the entire transportation system in the country.

In order that the ports are operated safely and that pollution and other hazards to the marine environment are prevented it is recommended that the Government should ratify the relevant international conventions, including the International Convention for the Safety of Life at Sea, 1974 (SOLAS) and the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea 1974; the Internaitonal Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of the 1978 relating thereto (MARPOL 73-78); the Internaitional Convention on the Standards of training, Certification and Watchkeeping for Seafarers, 1978 (STCW); and the Merchant Shipping (Minimum Standards) Convention (ILO Convention 147). The Law of the Sea, 1982 should also be ratified to provide the basis for regulations of the activities on the country’s continental shelf and the Exlusive Economical Zone.

After their ratification and adoption the Conventions should also be implemented.
Port State Control should be enforced to ensure that substandard vessels are not permitted into the country’s ports and her internal waters.

There is an urgent need for the establishment or creation of an authority to be in charge of pollution control and abatement in the country under the Ministry of Sea Transport and Ports.

This authority has to be provided with the equipment, facilities and training to fight pollution on a large scale. There is a need for a contingency plan to be drawn for the country, mapping out the very vulnerable areas where fish, fish stock and other marine species breed as well as tourist attractions along the coast which are to be safe guarded. A plan for co-operation with neighbouring countries in emergencies and where to go to ask for help externally should an incident occur, should exist.

To make the ports safe in respect of cargo working, the International Convention for Safe Containers, 1972, International Convention on Tonnage Measurement of Ships, 1969, The International Maritime Dangerous Goods Code (IMDG Code) and IMO Recommendations of Handling of Dangerous Goods in Ports should all be adopted into port regulations to ensure that workers and cargoes handled in the ports are safe.

The Somali Ports Authority should train a core of security and safety personnel to protect cargo, port equipment and infrastructure and provide them with equipment and facilities to combat fire, pollution and other accidents which might occur in the ports. These men
should also be in charge of physical security of the ports and ensure that stealing, pilferage and other acts of vandalism are not committed in the ports.

The three main ports and other minor ports have to be properly maintained and modernized if the country hopes to make the ports contribute to the economic development of the country.

This calls for planned maintenance programmes to be drawn up, the master plans for the ports modified, enough to provide adequate levels of foreign exchange for the purchases of spare parts, new equipment and building of new facilities and infrastructure in the port.

One of the most conspicuous problems facing the ports in Somalia is the poor performance in container operations and handling. The ports should be provided with facilities to handle containers in the form of berths, cranes, terminals for stacking, trailers and tractor units and personnel adequately trained for this mode of cargo handling. The inland transportation network has to be modernized so that the boxes could be carried inland by road to the consignees’ door steps instead of the containers ending in the port. Research should be carried out to see how our exports could be shipped in containers instead of exporting empty containers.

In order to facilitate the container operation and other modern integrated transport systems, some ports should have multi-purpose berths providing the Ro/Ro and Lo/Lo facilities and all the modern handling equipment referred to in earlier chapters.
Bringing greater efficiency into the operations and administration of the ports requires that labour should be trained properly at all levels of the Port Authority in cargo handling and stevedoring. Staff must be sent on courses and on-the-job training should be arranged for all. Refresher courses, seminars and conferences should be organized for senior executives and intermediate levels of personnel and junior staff should be encouraged to improve their skills and talents.

Manpower development and training programmes should be linked to well-defined career planning programmes for the workers. Advantage should be taken of technical assistance programmes offered by friendly foreign countries and international organizations to train the staff, and a port training centre has to be established.

Major rehabilitation of the ports is required to be undertaken from time to time, therefore, since the present economic position of the country cannot permit such ventures by the Authority or the Government, then assistance from international financial institutions such as Worl Bank, the African Development Bank, the Islamic Bank, or any other institutions, or friendly foreign Governments through bilateral loans and financial agreements, if not any other sources for the projects should be sought.

To conclude, Somalia and other Third World countries should seriously consider economic cooperation and also development of some ports into modern efficiently operated ports to serve specific areas in their regions instead of each country along the coast trying to develop its own port which is very costly. With co-operation,
resources could be pooled together to fund the project and construct other less expensive infrastructures such as good roads and railway network to transport the goods to or from the port. Such co-operation would lead to greater utilization of the port infrastructure and equipment.

The developed countries could assist not only Somalia but also the developing countries in order to develop their ports and economies because the world is growing more and more into one big economic and social entity where the development and welfare of nations should be the concern of all. With the development and improvement of the ports and economies of the developed countries, the vessels of the developed countries would work more efficiently and turn round time in port would be decreased. This would mean substantial saving for the shipowners.

The developing countries would also benefit from such projects through reduced import costs, bigger revenues from exports and therefore capital for industrial development. This would eventually lead to bridging the gap between the developed and the developing nations and foster closer economic ties and understanding between the developed and the developing countries.
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