An overview of the determinants of marine transport operations in Port Sudan Port

A thesis submitted in partial fulfillment of the requirements of M. Sc. in development planning

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ABSTRACT

Since Port Sudan Port is one of the important pillars of marine transport (formed from land, port and sea), it plays a vital role in marine transport, for it completes the process of exportation of local commodities to the international markets, and importation of foreign commodities to the local markets, beside of the other services.

Although the activities within the port may constitute almost only 10% of the total costs for transporting the commodities, Port Sudan Port is the same importance of the other Marine Transport pillars put together.

Because of the ever-increasing in the imports and exports of Sudanese foreign trade, and because of the persistent need for imports and the economists aim being the maximization of exports, the management of Sea Ports Corporation faces considerable tasks and responsibilities relating to the imports and exports and the ships used them, a thing which points to the considerable role of this port in rendering the various services relating to ships such as the provision, fuel, fresh water, diesel oil, gaz oil, storing cargoes and organizing the loading and discharging operations.

This role of the port has several determinants affecting, positively or negatively, the imports and the exports and the port itself. These determinants including: the Port Sudan movement cycle and it’s complementary items, the laws and regulations accompanying the Sudanese foreign trade, the handling equipments, the Ports Sudan Harbour Tariff and the resolutions and the publication of Marketing Department / S.P.C. These determinants reflect the role of the port in Sudanese foreign trade and at the same time constitute an obstacle towards the performance of the port so that it does not function as required or hoped for by the economists.

The study, accordingly, comes to the conclusion that all of the determinants of the Port Sudan port role are themselves the obstacles against the performance of the port, and the services offered so as for the commodities to reach the consumer both in it’s time and location utilities.
بأول لحظة: هذه النص يجب قراءته بعربية.

للموردين

للخدمات، وارتفاع الأضلاع، والتبين عن الأعاصير، وآلية الدوام، والمنشورة: 26 من التدابير الموضعية (ومن الحج).

الدور في دورها، وثبات الأقمشة، كي تتكاثر الصواريخ، وتحديد الأيدي، البدائل في الأكاليل، وارتفاع الأضلاع، والترميمات، ودورها، في دورها، وثبات الأقمشة، كي تتكاثر الصواريخ، وتحديد الأيدي، البدائل في الأكاليل، وارتفاع الأضلاع، والترميمات، ودورها، في دورها، وثبات الأقمشة.
DEDICATION

To the soul of my dear father and to my beloved mother whom encouraged me and always offering me their spiritual support.

Souzan
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INTRODUCTION:

1- THE SCOPE OF THE STUDY.
2- STATEMENT OF THE PROBLEM.
3- RESEARCH METHODOLOGY.
4- RESEARCH LIMITATIONS.
5- ORGANIZATION OF THE STUDY.
Introductory informations about the thesis are included in this introduction. It gives information about the scope of the study, details about the problem of the study, the methodology followed in the collection of information, limitations of the study and organization of the chapters included in the thesis.

1- The scope of the study: -

Marine transport is considered to be one of the most important pillars of contemporary economies.

Marine transport in Sudan is a composing word which contains many parties represented in “Port Sudan Port” which must be well prepared and equipped to receive the exports and imports, also “the shipping companies” which own heaps of vessels, and other companies which charter heaps of vessels to participate in cargo transport, some companies participate in cargo transport, other companies in the agency services, shipchandler, stevedoring, and others.

Marine transport in Sudan is immensely important in the Sudanese foreign trade, because marine transport is strongly connected to the Sudanese foreign trade and has a mutual dependence on each other. It is impossible to increase the volume of exports and imports without the availability of suitable vessels to accommodate the volume and type of goods required to be moved. On the other hand, it is not possible to build new modern vessels without the availability of cargoes to be transported.

Since Port Sudan Port represents an important side of the marine transport triangle “Sea, Port and Land“, where Port Sudan Port plays an active role in transporting the Sudanese foreign trade by completing the export operation of local goods to the international markets, also importing foreign goods in to the country.

Port Sudan Port is offering many services including, berthing, shifting, marshalling, handling equipment, storing cargoes, supplying fuel, water, provision and other services.

Port Sudan Port controls many activities being vital and essential link in the field of distribution.
Although Port Sudan Port activities comprise 10% of total cost of transporting the exports or the imports, yet it retains equal importance in comparison with the other two sides of the marine transport triangle “Sea, Port and Land“.

2- Statement of the research problem: -

Port Sudan Port role in the foreign trade is expected to be more sensitive in addressing the importance of the exports and imports.

Accordingly, the role of Port Sudan Port having this sensitivity, is though to be more capable in bringing about the quantitative changes in quantity of transporting exports and imports. They are expected to show the main determinants which determining the role of Port Sudan Port.

The problem of the study is concerned with the extent of determining the role of Port Sudan Port.

The study will focus on: -

- Over-viewing.
- Analyzing.
- Discussing the main problems of the 5/five determinants determining the role of Port Sudan Port, which are :-
  - Port Sudan movement cycle,
  - The laws and regulations accompanying to the Sudanese foreign trade,
  - Handlings equipment,
  - Port Sudan Harbour Tariff, and
  - The regulations and publications of Marketing Dept. (S.P.C).

3- Research Methodology: -

The study adopted a descriptive analytical approach. It relied mainly on secondary data. This includes the Annual Statistical Reports / Sea Port Corporation -Ministry of Transport, official publications and other published and un-published numerical materials.

Data in tables is collected from the Annual Statistical Reports for many years, and from last edition of the Sea Port Corporation Harbour Tariff, these together with conducting conversations with Land Operation Department of the S.P.C, senior staff of the Studies And Research Center / S.P.C, other data and information had been
collected from my post location in the maritime field, which keep me sb-posted around the same field.

4- Research limitations :-
The availability of data was a main limitation to the study. As the collection of the required data (especially the determinants of Port Sudan Port role) from the Sea Port Corporation offices and The Studies And Research Center was so difficult.

5- Organization of the study :-
The thesis consists of 3/three chapters.

Chapter one :-
The chapter reviews the meaning of the ship and shipping industry and shows historical background about the earliest ships and its kinds and types, also gives the history of the international trade and its developments.

Chapter two :-
Presents an overview of Port Sudan Port and the administrative form and organization.

Chapter three:-
Give over-viewing, analyzing, and discussing the main problems of the 5/five determinants, which determine Port Sudan Port role in the Sudanese foreign trade. This chapter consists of 5/five section.
CHAPTER ONE

HISTORICAL BACKGROUND AND THE DEVELOPMENT OF:

PART I:
THE INTERNATIONAL SHIPPING INDUSTRY.

PART II:
THE INTERNATIONAL TRADE.
PART I:

HISTORICAL BACKGROUND AND THE DEVELOPMENT OF THE INTERNATIONAL SHIPPING INDUSTRY.

Ship, vessel that is buoyant in the water and used to transport people or cargo from one place to another via rivers, lakes or oceans. Ships reflect the values and technologies of the societies that built them.

Traditionally, ships were distinguished from boats by size. Ship was considered a boat. However, common usage has blurred the distinction between boats and ships, and today the difference between them is arbitrary.

Ancient traders of the Mediterranean built swift sailing ships with large cargo holds. The Spanish and Portuguese built small, seaworthy craft to carry their best sailors to new lands, then huge merchant vessels to haul the newly claimed riches, and finally fleets of war ships to protect their growing wealth.

At the end of the 16th century, shipbuilders changed their focus to passenger service as they sought to accommodate the increasing number of people immigration to Australia and the Americas. They shifted from sail power to steam power and built ships that crossed the ocean in about one-fourth the time of their predecessors.

1-1-1/ The earliest ships: -

Historians surmise that the earliest ships appeared around 16000 BC in Europe, and perhaps earlier in Asia and Africa. Little archaeological evidence for these prehistoric vessels survived because they were made from perishable materials. Prehistoric drawings illustrate that reindeer hunters made hulls of animal sew together around wooden frame. The skin boat was followed by simple hull made from a hollowed out tree trunk. The oldest known dugout dates from about 6000 BC and was discovered in what is now the Netherlands.

In the earliest sailing vessels depends on the energy of wind to sail smoothly through the water, people catch the wind in sheets of cloth or fiber, called (sails), suspended from wooden or metal poles, called (masts). The invention of the sail revolutionized the ship and dominated the course of ship construction until the 19th century.

The earliest representation of a ship under sail appears on an Egyptian vase from about 3500 BC. Early Egyptian sailing vessels consisted of a wooden framework covered with papyrus or wood lashed together with rope. Large trees did not grow in the region, so Egyptians imported timbers from nearly Lebanon or lashed small wood blocks together and secured them with pegs. The smaller sailing vessel harnessed the wind with two sails. Larger Egyptian sailboats captured the wind with a
single square sail and were steered with two steering oars. Maritime historians know a good deal about ships of this period because the Egyptians sometimes buried pharaohs with ships to transport them in the after life. One such funeral ship was unearthed in 1954 during excavation of the Great Pyramid of Giza. This ship was constructed for the “Pharaoh Khufu” also called Cheops, around 2600 BC. Which was constructed from wood planks and timbers and measures approx. – 38 m.

The most able shipbuilders of ancient times were the Phoenicians. They constructed merchant vessels capable of carrying large cargoes between the colonies that rimmed the Mediterranean Sea, Phoenician merchants builds hulls from sturdy wood planks and partially covered them with a platform or deck, that protected the crew and cargo from weather and ocean spray. Merchant ship design steadily improved enabling the Phoenicians to navigate beyond the Mediterranean Sea as far as the British Islands and the Canary Islands.

After them, there were many kinds of ancient ships which appeared such as: -

A) “Galleys”:-

Competition for dominance in maritime trade between the pheonicians and the neighboring Greeks led to frequent skirmished at sea. Finding their merchant vessels clumsy and unresponsive in battle, the Phoenicians developed the war “galley”, to be an oared vessel and can attack when there was little or no wind to drive the sails. The Phoenicians built the “galley” from wood planks or blocks and equipped it with one or two removable masts. They travelled under sail power on long hauls between ports but lowered the mast and sail / switched to oar power for battles. “Galleys” proved enough for use in both trade and war.

* http://encarta.msn.com/find/concise.asp
ship, an encarta encyclopedia article titled”ship”
B) “Biremes”:
Experience soon proved that longer ships posed a new set of problems but in 8th century BC Mediterranean Sea shipbuilders eliminated these problems with the “bireme” a war “galley” built to accommodate two levels or banks, of oarsmen. Oarsmen on the lower level rowed oars from ports cut in to the side of the vessel, while those above rowed from the deck. This arrangement allowed more men to power to “bireme” without lengthening the ship.

C) “Triremes”:
The search for even greater power at sea to transport the row materials resulted in the creation of the “trireme”, a “galley” with three banks or oarsmen. These very expensive vessel carried as many as 170 oarsmen and dominated the Mediterranean from the 6th century to the 4th century BC. The problem with oared vessel could not carry sufficient food or water to sustain their crews long at sea, so the admirals ordered the galleys beached and sent the crew ashore for food and water.

D) “Roman Galleys”:
By the time ancient Rome rose to power the “trireme” had lost its position as the dominant war vessel. The aristocrat ordered to built about 300 vessels. Historians doubt that these ships had four and five banks of oarsmen, it is belived four to five men worked together to row each oar. These ships often carried 100 fighting men. Then appeared another Roman ship called the Roman navy also came to rely on Liburnian “galleys”, small, two-level ships known for their speed. The navy protected Roman merchant ships from enemies and pirates.

The sophisticated merchant ships were large, high-sided vessels with two or three masts that flew square sails. Many measured 500 tons, and historians theorize that special ships used to transport Egyptian grain to Roman areas. Roman galleys and merchant ships dominated the Mediterranean until the Western Empire broke up in 5th century AD.

E) “Dromans”:
As the Western Roman Empire fell, and the Germanic tribes had their own internal problems, the Roman Empire in the east called the Byzantine Empire arose. The Byzantine navy transported merchants and soldiers by fast “galleys” called “dromans” to accompany and protect the supply ships.

Early “dromans” had a single bank of oarsmen, but Byzantine shipbuilders later incorporated a second level for oarsmen.

F) “Lateen – Rigged ships”:
In the 7th and 8th centuries AD, Arabs inspired by their new religion “Islam”, repeatedly attached Byzantine ports. Substantial changes in ship construction began to appear in the eastern Mediterranean, due in part historians suspect to exposure to Arab ships and seafores. One such change was the adoption of lateen sails, previously used on Roman coastal vessels, but later seen an Arab sailing ships called “dhows”, triangular in sails shape, lateen sails enabled a vessel to sail almost directly into the wind— which is not possible with square sails. Arab merchants used this “dhows” also to bring the fruits of their war against the Byzantine.

G) Junks:-
In China and other areas of Asia, shipbuilders had developed an entirely different. The “junk” was a wooden, ocean going vessel. “Junks” carried four or more masts that sported sails made of fiber of small pieces of cloth.

Chinese “junks” open waters of China, Japan and southeast Asia, and by the 15th century, “junks” regularly traveled as far as East Africa to transport the animal lethers and Ivory from Africa and the Asian spiceses to Africa.

H) “Viking” ships:-
In northern Europe, Scandinavian shipbuilders had been practicing a vessel have a wooden backbone or a “keel “ then attaching successive over lapping strakes “ planks”.

By the 8th century AD, Nordic people called “vikings “ regularly traveled in Clinker – built vessels designed for trade, transport and warfare, “viking” long ships with 80 oars or more and a single removable mast with a square sail carried warriors in to the battle. Nordic traders used the “viking” to transport their imports, but the “viking” ship had no deck to offered little protection for the crew and cargoes loaded, from wind and water.

I) “Cog” :-
In the 11th century the “vikings” stronghold in northern Europe began to ships their maritime trade resumed in northern Europe, and with it arose the need for sailing vessels capable for transporting large cargoes. By the 13th century the “cog” had taken its place as the major cargo vessel in northern Europe. Developed over many centuries, the “cag” was clinker – built like “viking” ships. It had a flat bottom, high sides and a large carrying capacity. From the 13th to 15th century, the “cog” dominated trade between the Baltic sea and North sea ports.

J) “Carrack”:-
By the end of the 15th century both the “cag “ had lost his popularity to the “carrack“. Probably first build on the Atlantic coast of Europe, the “carrack” blended elements of Mediterranean and northern European ship design. “Carrack” is
sail ships have three masts. The four and main masts carried square sails, after the mast carried a Lateen sail. Sail area and therefore ship speed was increased by flying top sails above the main sails. “Carracks” were commonly used for trade and war in the Mediterranean and northern seas.

K) “Gravel”:­
Fishing vessels called caravels, first appeared in Spain and Portugal in the 13th century. These small sea worthy sailing ships proved so agile and reliable that almost every European seafaring nations had adopted them by the end of the 15th century. “Caravel” carried cargo of all kinds throughout the Mediterranean, Atlantic, and Indian oceans and became a favorite of Portuguese and Spanish. “Caravel” carried three or even four masts with lateen sails. The ships sailed in to the wind well, were fast, and had a shallow draft that made suitable for coastal as well as ocean travel.

During the 15th and 16th centuries, hundreds of “caravels” sailed along the west coast of Africa and to the Americas. By the end of the 16th century, the “caravels”’s popularity had declined significantly. As European nations stepped up efforts to transport goods pilleged from far away land demand, for larger more heavily armed ships increased, efforts to enlarge the “caravels” proved unsuccessful.

L) “Galleon” :­
The 15th century exploits of the great explorers earned riches and power for the seafaring nations of Europe. Spain devoted much of its new wealth to building a corps of battleships to accompany and protect merchant ships (laden with treasures collected in the Americas) against piracy. Spanish ship rights developed the “galleons”, a modified, enlarged version of the “carrack” that became the premier ocean – going ship of the 16th and 17th centuries. Although developed as a warship, the “galleons” proved to be a fast and able sail with a large cargo capacity.

Most European nations adopted them to carry the treasures of Asia and the Americas back to Europe.

In “galleons”, the hull is longer and slimmer than in “carracks”. “Galleons” carried three masts and flew square sails on the fore and main masts. Some “galleons” had a Lateen sail and carried four sails.

“Galleons” fulfilled many famous missions. They were the principal fighting ships of the Spanish Armada of 1588.

M) “East Indiamen” ships :­
In the 17th and 18th centuries the East India companies of Western Europe devoted them selves to exploiting the wealth of south and Southeast Asia. Their home governments granted them the exclusive rights to import goods, such as spices, silks, precious stones and arts and crafts, from India, Japan, China, Indonesia, and the
Malay. The most successful of these companies reaped immense profits, year after year, for more than two centuries.

East India companies carried riches between Asia and Western Europe in ships called East India men. These huge, three – masted merchant ships measured 800 tons or more and were armed with guns on decks to protect their valuable cargoes from piracy. In many cases, East Indiamen served as monuments to the power and riches of the companies that owned them and the countries that owned them and the country from which they hailed.

N) “Frigates”, “Sloops” and “Brigs”:-
These ships classed to protected their own countries merchant ships, and attacked the merchant ships of enemy nations, these vessels carried about 100 men and were armed with 18 or fewer guns.

O) Last Days of Sail :-
Sailing ships of the later 19th century had dramatic changes. Hulls were built of iron and later steel, also replace wood in masts, and shipbuilders turned to replace chain instead of rope. The new used materials enabled the construction of huge sailing ships such as the German – built vessel “preussen” (1902).

1-1-2/ Ship’s developments in the 19th century:*
In the 19th century the ships rapidly grew larger more efficient, and more comfortable, making transoceanic steamship travel more palatable, and other ships appeared in the 19th century such as :-

(1) Steamships :-
The early steamships depended on coal power, the longer vessel need more and more coal to sail. Then sail power provided a necessary alternative to the ships world then steam engines. The efficiency and growing of the steam – powered vessels load to the end of the age of sail.

Moreover steam ships edged out sailing ships in the Chinese tea trade following the opening of the Suez Canal in 1969, and in the south American nitrate trade when the Panama Canal opened in 1914.

(2) Fuel – powered ships :-
Early –powered were unreliable and posed little competition to the graceful, highly advanced sailing vessels of the day. Until well in to the 20th century, sailing vessels and steamships coexisted. Fuel – powered ships grew faster and their schedules became more predicatable than those of sailing vessels.

(3) Paddlewheel Steamships :-

*http://encarta.msn.com/find/concise.asp
Shipping industry,an entarta encyclopedia article titled “shipping industry”
In 1905 the British government build a first paddlewheel steamships to deliver mail between the United States and England. The paddlewheel steamers where to replace Britain’s famous line of packet sailing ships, but latter on the paddlewheel steamships sold to aprivele British company to provide transatlantic mail services between England and U.S.A. then expanded its operations to include passenger service between the two countries. In spite of this successes, paddlewheel steamships faced main problem:-

i- Its lack for the stability in the water.

ii- The paddlewheel ships were impractical in millitary fieled as the other battle ships.

1-1-3/ Innovative ships of the late 19th century:-
The second half of the 19th century provided a prolific period for marine steam propulsion.

Shipbuilders introduced innovative solution to earlier problems with each new ship they built. They eliminated the need for paddlewheels turned to iron, but iron presented a new set of challenges to builders, where it was rigid and fractured easily and it rusted, shipbuilders found an alternative in steed:- a mixture of iron and other elements, which is stronger and easier to shape than iron. By the end of the 19th century, most of the great merchant featured steel hulls.

The steam engines also improved from boiler to a cylinder engines this expansion wasted some of steams energy, and for more efficient. They used double-expansion engines for one cylinder to power another cylinder. German people built an engine that ran an petroleum – based liquid fuel where early diesel engines could not match the speed of coal – fired steam engines, they were lighter and didn’t require boilers water and bulky coal to generate steam. Diesel engines could be operated by fewer crewmembers and did not require a team of firemen to shoved, after that diesel engines began to replace coal – fired engines.

1-1-4/ Types of vessels:-
The world’s merchants fleet of nearly 100,000 vessels of which cargo carrying ships account for roughly half. The rest are employed in non– trading activities like fishing, supporting the off shore oil industry and providing general maritime services, such as towage, dredging and surveying.

The composition of the world’s fleet today is very different from that of the 1940s. In these days a typical dry cargo was probably a 10,000 tonne* dead –weight (DWT). In this respect many cargo ships or carrying ships are appeared with highly specialized and very large, also have been introduced to meet the needs of expending and the

* Deadweight tonnage (DWT) : Total lifling capacity of a vessel ( in tons of 1016 kgs), i e, her possibility to carry cargo, pulsfuel, stores, freshwater.
extension of the international trade: these merchant ships are classified as: cargo ships, container ships, RoRo ships, tankers, crude carriers, product tankers and other specialized tanker, fishing vessels, research vessels, bulk carriers (dry bulk) and passenger carriers.

1\ Cargo ships :-
Cargo ships carry manufactured goods, foods, coffee, textiles, metals, minerals, and edible oils across the world’s oceans or other large bodies of water. Modern cargo ships usually feature derricks (on board-loading cranes) to expedite loading and unloading. Also they have refrigerate containers for carrying meat, fish, fruits or other vessels provision, and bulk liquids such as orange juice….. etc, for crew members.

Cargo ships may be designed to carry a single products, such as sea – going one carry or they may have a general design that enables them to carry a variety of cargoes.

Cargo ships may follow regular shipping routes or they may travel from port to port carrying any available cargoes. Cargo ships that follow established routes are called liners, they run along fixed routes and charge standard rates. Cargo vessels that move from port to port without following fixed routes are called tramps.

Tramps carry whatever loads is available. The work of a tramp is facilitated by brokers at maritime centers at London. England, New York and Tokyo, or by ship–agents in each port will calls. The brokers and ship – agents match available ships with shippers and negotiate prices.

2\ Container ships :-
Container shipping make a high technological change in cargo handling and linked the trucking industry to deep – sea shipping. These highly specialized ships carry large truck bodies and can discharge and load in one day. In contrast to the ten days required by conventional ships of the same size, these container ships capable to carry about 1600 containers, and this design of ships enables to deliver cargo to developed or undeveloped ports, without the need for berth.

3\ Ro-Ro ships ( Roll-on-Roll-off vessels ) :-
Alternatives to the container system include roll- on – roll – off vessels which have aside openings through which drivers drive wheeled containers, cars, trucks, house trailers, and other wheal cargoes that can be rolled a board.

4\ Tankers :-
Tankers designed specially to carry liquid cargoes usually petroleum, have capacity to carry million of metric tons and more. Despite their great size, their construction is imply, as is, tankers are essentially holding tanks or sometimes a series of tanks, shaped like ships and powered by engines. They are equipped with sophisticated piping systems for loading and unloading their contents, and with navigation equipment, central rooms and qualified crew.
Specialized tankers transport liquefied natural gas, liquid chemicals, wine, molasses and refrigerated products. Trackers have many kinds such as:

**a- Crude carriers:**
Crude carriers transport crude oil from oil wells or oilfields to oil refineries where it is converted into useful petroleum products. The largest tankers afloat are called (Ultra Large Crude Carriers – ULCCs) which holds or transport (or its capacity) is 275,267.000 tons.

**b- Product tankers:**
Product tankers carry refined petroleum products from oil refineries to ports around the world, where the products are transferred to trucks and rail cars to be distributed to consumers. Product tankers are much smaller than the crude carriers; the most recent are only around 20,000.000 tons. Besides being smaller than crude carriers, products tankers are more complex. Instead of consisting of a single giant tank, they feature multiple tanks that can carry a variety of refined products.

**c- Other specialized tankers:**
Other specialized tankers include chemical tankers, liquefied gas carriers, and ore / bulk / oil carriers. Chemical tankers carry various chemicals from port to port. Liquefied gas carriers transport natural gas and petroleum gas. These products are carried in a liquefied form rather than as gases because liquids take up less space than the same amount of gas. This type of tankers constructed of special types of steel that can withstand the stresses of pressure and cold.

**d- Tanker safety:**
Tankers of all kinds carry potentially dangerous cargo, and a few have caused environmental disasters of tragic proportions. The oil disasters led to international discussions about whether to institute regulations requiring that oil tankers must have double hulls and accompany with a local pilot boats with underwater to pagraphy accompany tankers when they reach coastal.

**5\ Fishing vessels:**
Modern fishing vessels are a wooden row boats equipped with hand or casting nets to large, steal –hulled ships that sail for from their home ports and track using the latest modern technology.
Three main types of fishing ships sail in the world’s oceans: trawlers, seniors and long liners.

6\ Research vessels :-
Scientific research ships date from the 1870s, when the U.S.A., Britain and Germany launched expeditions to conduct oceanic research.

The most significant of these was “HMS Challenger“ which spent four years studying the ocean and collecting information on thousands of marine species.

7\ Bulk carries (Dry Bulk) :-
Bulk carriers are designed to carry bulk solids or dry bulk cargoes carried in merchant ships are: - iron, ore, coal, phosphates, bauxite and grain.

These are all low value commodities and must therefore be transported as cheaply as possible. Transportation costs for dry bulk commodities are often less than one US. Cent per ton per mile.
Bulk carriers are usually large vessels designed both to carry full cargoes and they divided into four size range: Handy-size, Handy max, Pana max, or Cape size. Pana max vessels are the largest that can pass through the Panama Canal. Cape size vessels are too large for the Suez Canal.

Bulk carriers have large, clear holds and wide hatches to facilitate cargo loading and discharging by mechanical grabs, they also have substantial water ballast capacity, so that they can proceed to sea safely after discharging their cargoes, that when it necessary to make return voyages to loading ports without any cargoes.

The economics of bulk carrier operation are sensitive to cargo – handling, loading and discharging rate are therefore will be high in order to minimize the time spent in port.

8\ Passenger Cruise Ships :-

Cruising is an increasingly important shipping sector. In recent years many new cruise ships have been built. Many older vessels have also been converted for cruising.
Cruise ships are like floating resort hotels. The latest are very large with extrusive recreational facilities and amenities for 2000 or more passengers.

PART II:

HISTORICAL BACKGROUND AND THE DEVELOPMENT OF THE INTERNATIONAL TRADE.

Trade, exchange of goods that must be transported from one place to another. In ancient times, transporting commodities over any significant distance was an expensive and risky enterprise. This restricted trade mainly to local markets. As transportation networks improved, trade expanded considerably. Today trade takes place between neighboring countries. Reliable international shipping mail services and the Internet enable trade between people in any location in the world.*

In ancient times, the international trade was expanded gradually after the breakup of the Roman Empire, especially during the 12th and 13th centuries. Long – distance trade became safer once merchants began to form associations for the protection of travelers who journeyed aboard.

The main long – distance trade routes were from the Baltic and the eastern Mediterranean to central and northern Europe, from the forests of the Baltic came raw materials: timber, tar, furs and skins, from the east came luxury goods: spices, jewelry and textiles.

In exchange for these goods, western Europe exported raw materials and processed goods. The English sold woolen garments, the Dutch offered salted herring. Spain produced wool, and France exported salt, southern Europe was also rich in wine, fruit, and oil. The Italian and German cities straddling these routes promoted and financed the trade. None the less throughout the Middle Ages, trade between Europe

*msn.com/learning & research/encyclopedia article/commerce
and Asia was limited, because overland transport was expensive and because Europe possessed little of value for export to the east.

The rise of Transoceanic shipping :-

The development of oceangoing warship and efficient merchant ships in the 5th and 6th centuries led to a rapid expansion of trade. As the cost of transporting bulky cargoes over long distances fell, grain was imported on a large scale of Europe. New ocean routes between Europe and the East allowed imports from Asia at lower prices and in greater volume than had been possible by over land cavauan.

The discovery of the Americas created trade of new commodities such as tobacco and long wood. Spanish exploitation of the rich gold and silver deposits in Mexico and Peru transformed the character of international commerce.

Europe finally possessed a commodity – precious metal – for which ample demand exited in East Asia.

In the return for Asia imports, Europe exchanged silver coin minted in Mexico, Spain, Italy and the Netherlands, using technology and skills developed in transoceanic navigation, the Europeans captured the Asian shipping trade. European vessels transported Japanese copper to China and India, Indian cotton textiles to southern Asia, and Persian carpets to India.

Trade in certain staple commodities grew with incredible speed. Imports of tobacco in to England from Virginia and Maryland, increased in the 17th century.

As long distance trade continued to grow, new from of trade organizations appeared, which allows to break down the social barriers among different classes of merchants and enabled individuals to divide their goods among ships destined for different ports.

After the 16th century the chartered trading company replaced the temporary partnership as the customary way for merchants to organize their affairs. These great companies created by the state but privately owned and managed, hold national monopolies over trade.

The Effect of Industrialization: -

By 1750 the spice trade had been for surpassed in importance by trade in primary products. In the years that followed, trade was transformed again, this time by the Industrial Revolution, because the first Industrial Revolution occurred in Europe, which textile a new network for much global trades till the 19th century.

European economies were dependent on foreign markets to supply raw materials and to demand manufactured goods. The growth of
industrial production was accompanied by a rapid expansion of trade. Between 1750-1914, world trade increased more and more in value. During the 19\textsuperscript{th} century alone, world-shipping tonnage grew from 4 million to roughly 30 million tons. European merchants carried the bulk of this trade.

Industrial growth affected trade in numerous ways. Where the increased production in the raw materials let the mechanization of European textile production be responsible for a dramatic rise in U.S. export of raw cotton. After 1850, trade in grain, meat and wool also expanded. Europe became a steady importer of wheat from North America, Australia, Argentina and India paying for its imports with the products of industry.

By the end of the 19\textsuperscript{th} century, primary producing regions were no longer important industrial region and the trade between the American and the European countries expanded than before.

The opposite happened in the primary producing region of Africa, Asia, and Latin America where many became part of European Colonial Empires and nearly all came to depend heavily on a few foreign markets.

The period of the world wars: -
Both internal and external commerce suffered setback during 1\textsuperscript{st} world war.

Trade taxes and quantitative restrictions were widely imposed and it took a series of international conferences during this period of time. The United States and many other countries adapted new customs duties in the 1920s.

During the Great Depression in 1929, the national trade policies remained basically unchanged through the end of 1929, but numerous import controls were imposed in 1930 and the following years. The sterling area, which traded primarily with Britain, central of France, the German and American trading area: all suffered more during the 1\textsuperscript{st} world war.
Within this framework, domestic and foreign trade recovered slowly but steadily during the 1930s, only to be interrupted again by World War II.

Expansion of International Trade: -
In order to increase trade volume, there are many associations appeared such as General Agreement on Tariffs and Trade (GATT) and the European Union. Accordingly, the world exports and imports more than doubled in volume and increased in value by 1954 and 1974 in some / many countries but not all countries showed equally this growth.

In the 1950s exports from the industrialized nations of North America and Western Europe expanded rapidly, while exports from the developing countries fell behind. In contrast, after 1965 the exports of the developing nations grew most rapidly, in part because of the rising value of oil exports from petroleum – producing countries.

For the world as a whole, the value of international trade (exports + imports) rose from US$. 643 billion in 1970 to more than US$. 11.4 trillion in 1999. In the early 1990s member nations of GATT signed a major new agreements in trading that struck down many free trade agreements and the free traders established the world trade organization (WTO).
In addition, the regional traders agreed to effect an agreement called North American Free Trade Agreement (NAFTA).

Electronic Trade: -
The rapid expansion of the Internet in the late 1995 let to a big growth in electronic trade (e-commerce)- the exchange of goods and services over the World Wide Web (WWW).

Industry analysis reported that North American business-to-consumer-e-trade transactions grew from US$. 11.5 billion in 1998 to US$. 44.5 billion in 2000.

The electronic trade does not follows the same basic principles that traditional trade follows- that is buyers and sellers exchange and transport goods from one place to another. But in e-trade the exchange is facilitated by networked computers.
Buyers order goods and services online, they enter the status of their orders via electronic mail, and in some cases, they receive the goods, they purchase directly over the Internet. Computer software, digital music and video, online information, and other products and services can all be distributed in electronic formats.

In other cases, products ordered online are delivered using traditional shipping methods. At the close of the 20th century, the transactions made up the largest part of e-trade.

Consumers purchased computers, airline tickets, reserved hotel rooms, automobiles, clothing, electronics, books, food, furniture and other commodities over the Internet. Business-to-business trade represented one of the fastest growing through the e-trade.

Business ordered supplies and coordinated complicated projects electronically.

CHAPTER TWO

PORT SUDAN PORT: -

- HISTORICAL BACKGROUND ABOUT PORT SUDAN PORT.

- THE ADMINISTRATIVE FORM AND ORGANIZATION.
Port Sudan Port :-

Sawakin was the only seaport that the Sudan had for countries on the Red Sea coast. But the port was blocked by coral reefs and posed a serious threat to the ships at that time.

Due to the notable increase of foreign trade and building of modern and larger ships, the need rose to construct a new port at Sheikh Bargoth area to replace Sawakin.

Port Sudan was constructed 1905 and officially inaugurated in 1909. It was administered by the Railways at first, and up to 18th March 1974 where it was operated by the Sea Port corporation, an officiated of the Ministry of Transport.

Port Sudan lies between latitude 19 – 35° N and longitude 13 – 37° E and about 650 miles from the capital Khartoum Port Sudan in a natural Port which lies between coral rocks.

The Sea Ports Corporation is one of the largest employers of work force in the eastern states. The corporation comprises many departments such as:-
A) Marine Affairs Department.

B) Land Operations Department: that is responsible for the movement of goods, loading, unloading (discharging) berthing and ship services.

C) Mechanical And Electrical Department. It holds a large number of workers who are responsible of the maintenance provision of equipments operating work shops (docks, electrical, cars work shops) , financial , administrate and other functions.

The port administration have worked to sustain the welfare of the work force so as to help them to generate their best efforts.

The port is divided in two arms as follows :

1\ The Eastern Arm which has 11\ eleven berths of 1663 meters long and varying depths a long-side the berths between 7 to 8 meters and 7to 10 meters.

2\ the Southern Arm of 4 berths1000 meters long and depths between 7 to 10 meters and 6 to 12 meters.

The depth of the ports entrance is 200 feet deep and 900 feet wide.

The total yard area and water surface in the northern port is 2845 meters in length and 300 meters wide, in the southern ports storage yard is 1765 meters long and 500 meters wide. The total storage area is 1,742,000 square meters. The water surface in use by the ports is 1.3 millions square meters.

The total storage area is 516,000 square meters of which 58,000 square meters are of covered storage by 27 warehouses. In 1981 the corporation opened a training center to serve its employees, and workers.

Since 1975 the corporation had endeavored to up grade contract with a British company which enlaced the role of the port. The preserve the safety and security of its work force, a number of persons was trained on safety and professional health measures. A fire-fighting unit was formed with all the necessary modern equipments.

This is a historical back ground of Port Sudan port since its construction and administration by the Railways up to the period of Sea Port Corporation which spared no effort to modernize the port so as to cope with the increasing in the foreign trade volume, and provide the facilities of a modern sea port to match with other international ports.
The administration form and organization of Port Sudan Port:-
IN the past the general administration of Port Sudan is under the operation of Sudan Railways Corporation, consisted of three departments mainly:

A) Marine affairs Department.
B) Land Operation Department.
C) Mechanical and Electrical Department.

After the modernization process of the port, the administrative tasks grew bigger and its duties developed greatly and the three departments could not cope up with them. The Sea Port Corporation management decided to dissolve them and introduce new ones to complete the reorganization of the port as follows:

First:

The General Department Of Marine Operation:

Tasks and duties:

1. The department is charged with vessels operation outside the port marshalling them in, supply them with marine charts, and take appropriate measures to ensure the safety of vessels alongside the berths.

2. To supervise vessel movements inside the port and offer any help needed in case of storms or accidents, supply them with water and facilitate handling operations by moving tugs according to the plan.

3. Supervise the vessels carrying explosives and oil tankers or carriers according to ports regulations.

4. Organize the wireless communication of the coastal station and make maximum use of the information received from the vessels to plan work inside the port.

5. Ensure the construction and maintenance of the means and equipments to facilitate navigation.

6. Carry out the hydrographic surveys and prepare charts of the coasts territorial waters, Sudanese ports and observe the daily tide movements.

7. Revise the vessel registration system, carry out vessels efficiency tests and grant permits to Sudanese merchants marine jobs.

8. Construct and support scientific measures to aid navigation and marine operations according to the international agreements.
(9) Define professional and technical measures for Sudanese personal working in marine activities in accordance with these measures and train marine cadets to obtain the degree (captain of high seas).

(10) Follow up the corporations policies and execute the directions used by the general manager or his representatives.

**Marine Operations Department consists of the following :-**

A) **Marine Marshalling Department :-**
   Responsible for marshalling in and out of vessels.

B) **Trains Section :-**
   Which operates inside the ports area.

C) **Berths Section :- ( Port Control Section )**
   **Which observes and maintains the berths.**

D) **Light – House Section :-**
   Which observes and maintains light houses.

E) **Marine Inspection Section :-**
   Which inspects and views vessels.

F) **The Coastal Station :-**
   Responsible of wireless communications and makes maximum use of the incoming informations to prepare the ports working plans.

**Second :-**

**The General Department Of Land Operation :-**

*Tasks and duties:-*

1- The Department applies the laws and regulations which regulate and organize the port’s activities and monitor any changes can occur in these activities that by issuing new directive. The laws are :-
   - Sea Port Corporation Law (1974)
   - Port Sudan Regulations (1974)
   - Port Sudans Explosives Regulations (1937)
   - Port Sudans Inflammables Regulations (1937)

2- Acquire the particulars and informations regarding the expected arrival of vessels. This informations included the following :-
   Cargo Manifest, Cargo Stowage Plan, Non Negotiable Bs/L (Bill of lading) of all cargoes loaded on the vessels.
3- Planning for vessels movements inside/outside Port Sudan harbour, and planning for her berthing and movements/shifting according to the regulations.

4- Receiving the imported goods (unloading, sorting, delivering).

5- Receiving the exported cargoes, handling it to vessels and prepare the necessary documentation.

6- Endeavour to achieve a maximum levels/records in loading/unloading operations and the speedy issuing of receipts.

**Third :-**

**The General Mechanical Department :-**
Consists of the maintenance, docks, berths, tugs and have a technical planning sections, so as to carry out these tasks:

1- Maintaining and operating all mechanical equipments.
2- Prepare operation of handling machines to achieve the highest possible producing level.
3- Programming of routine, light and protective maintenance.
4- Conduct technical studies and supervise external changes.

**Fourth :-**

**The General Electrical Department :-**

*Tasks and duties:*

1) Responsible for the operation and maintenance of all electrical equipments.
2) Ensure the efficient of electrical machines and equipments which include:

A) **Electricity Department:** consisting of both the generation and distribution sections.

B) **Sets and Communications Department:** comprised of the sets and communications sections.

**Fifth :-**

**The General Department Of Civil Engineering :-**
Prepares the plans for all civil engineering projects of the corporation which include construction of buildings maintenance, berths maintenance, rails inside the
corporations custody, execute housing projects for the personal, the corporations offices and supervise all construction projects.

It consists of two departments: -
A) Maintenance Department: - maintains building, berths and rails inside the port gate.

B) Construction Department: - prepares the maps/crooky for construction projects and supervise the execution programs.

Sixth: -
The General Department Of Personnal And Training: -
Which consists of the following department:

A) Personal Department: - Responsible for workforce planning and its distribution to various work activities and supervise personal needs regarding services, payments and services benefits, intensifies, end of service benefits, and supervise the conduct of personnel and labours and ensure the best productivity and utilization of the workforce that after their cooperation with the union of labour work inside the vessels.

B) Training Department: - supervise internal and external training of personnel, prepare training statistics, determine training requirements through contacts with other departments and prepare the training budget.
It consists of two sections: -
a)Training Section.
b)Training Center Section: which is responsible for convening of training courses and distribute than a amongst the sections and department.

Seventh: -
The General Department Of Financial And Economic Affairs: -
It carries out planning, laying out of financial policies in financing and supervises upon budgets and follows up their execution, and ensure the collection of the corporation revenues and pressure its rights, and collect suitable fees against services rendered by the corporation in accordance with a clear tariff. The department consists of two sections namely: -
A) Account Section:- which embodies : expenditure, revenue and payments.

B) Financial Section :- that comprises budget and costing.

Eighth :-
The General Department Of Stores And Purchases:-
Its tasks and duties include :-
1) Apply the Ministry of Finance systems and regulations.

2) Supervise the budget.

3) Supervise and amend the stored items and it minimum level of stores.

4) Supervise the general and branch stores and the examination of materials in use.

5) Register any deviations due to non-compliance with quality control measures (standard measures).

6) Prepare catalogues for the cargoes which were not stored before and issuing of departmental clothing (departmental uniform).

The department consists of :-
A) Purchases Department.
B) Stores Department.

Ninth :-
Social Services Department :-
Established in 1975 with the objective of developing and promoting the social life of the employees and their families.

The department is concerned with the following tasks: -
1) Supervise the rendering of social services, its development and efficiency.

2) Look in to the suggestions and demands of the employee or the gangs labours and discuss them.
3) Conduct researches and studies to promote social services.

4) Supervise the services of the corporation hospital, construct schools and guidance centers.

5) Participate in promoting the community social activities in Port Sudan and other social activities and projects.

Tenth: -
The General Department Of Planning And Research: -
Established in 1977 of two sections namely: -
1- Information and statistics section.
2- Administrative services section.

Its tasks and duties are: -
1) Executes the studies and research embodied in the budget of the general department of planning and research.

2) Answer any inquiries related to the research and studies.

3) Plan and follow up seminars and workshops of the department.

4) Collection, registration and analysis of statistics.

5) Preparation of monthly, quarterly, half yearly and yearly reports.

6) Present studies, suggestions and recommendations to help forming the corporations policies and proposed plans, work programs and the development of the resources of the corporation.

7) Follow up the execution of the projects and phased work programs. (e.g :Bridge and cranes projects).

Eleventh :-
The General Department Of Projects:-
In follows the technique of project administration for the best utilization of manpower and material resources, and supports the project through administrative and technical requirements from the civil and mechanical departments. As an example for (the Bridge cranes project ) an efficient work schedule was prepared by the help
of a Chinese expert who conducted the training of the operation of the bridge cranes.

The same process was applied in the communications project where the training of communications engineers on operating and maintaining cables was embodied in the study.

The tasks and duties of the department are :-

1) Layout the general policies for the department programs of the corporation.

2) Conduct feasibility studies.

3) Phased evaluation of a project to detect deviations for prompt remedy.

4) Supervise and coordinate for the relations between the financing bodies and the consultant companies.

5) Follow up project execution to ensure the compliance with the set plan and according to the timetable.

6) Conduct the necessary steps to execute a project starting from advertising the project up to its completion.

Twelfth: -

The General Department Of Systems And Information:-

In consists of the systems department and the information department.

The department is concerned with execution designs and analysis of the various systems of all the corporation activities .

- It conducts the training of personnel on computers.
- It is the technical authority as regards: purchasing, installing and distributing of sets to the various departments.
- Design the programs, analyze and execute them.
- Supervise the maintenance of devices, programs and systems.

There are other departments like the legal department Fire – Lighting Department, head office at Khartoum.
These are the main departments responsible for carrying out the work at Port Sudan, which is the main port. Each department functions under the direction of the general manager of Sea Port Corporation who is aided by the following departments:-
1\ Police Department.
2\ Legal Department.
3\ Civil Defense.
4\ The Khartoum office.
5\ The Executive Office And Public Relations.
6\ Internal Auditing.
7\ Safety Department.
8\ Marketing Department.

CHAPTER THREE

THE 5 /FIVE DETERMINANTS WHICH EXPLAIN THE MARINE TRANSPORT OPERATION IN PORT SUDAN PORT:
THERE ARE 5/FIVE MAIN DETERMINANTS, WHICH EXPLAIN THE MARINE TRANSPORT OPERATIONS IN PORT SUDAN PORT OR THE ROLE OF PORT SUDAN PORT IN THE SUDANESE FOREIGN TRADE. THIS CHAPTER EMBARKS ON THE DISCUSSION BY:

- OVER-VIEWING,
- ANALYZING AND
- DISCUSSING THE MAIN PROBLEMS

OF:-

(3-1) 1ST DETERMINANT:
PORT SUDAN MOVEMENT CYCLE AND IT’S COMPLEMENTARY ITEMS.

(3-2) 2ND DETERMINANT:
THE LAWS AND REGULATIONS ACCOMPANYING TO THE SUDANESE FOREIGN TRADE.

(3-3) 3RD DETERMINANT:
HANDLING EQUIPMENTS.

(3-4) 4TH DETERMINANT:
PORT SUDAN HARBOR TARIFF.

(3-5) 5TH DETERMINANT:
RESOLUTIONS AND PUBLICATION OF MARKETING DEPARTMENT / S. P. C.

(3-1): 1st Determinants:

Port Sudan movement cycle and it is complementary items

Port Sudan, through its long history, witnessed many events, which forced it into the whirlpool of demurrages. In the seventies, an accumulation of goods took place on the berths which lead to over storage in the warehouses, and the port areas, this in turn lead to an unacceptable delays and demurrages imposed on Port Sudan port by the vessels-owners and their agents.

Port Sudan movement cycle :-
Hereunder is an explanatory drawing showing Port Sudan movement cycle representing the weakly working port (Port Sudan Port) compared with the good working ports (other ports), and explain the performance of each one, also the effect of each on exports and imports will be examined:

Cycle no. (1) – Port Sudan Movement Cycle

- The good working port (other ports) is:
  The port that operates efficiently and helps the vessels to berth for minimum time, so as to give extra time for other transportation trips, and receive imported cargoes without any delay.

At the same time to complete loading on a so short time in order to enable vessels to sail carrying the exported goods to international markets.
The weakly working port (Port Sudan Port) is:-

The port operates inefficiently and with much weakness, which affect directly on the exports and imports also operates with many berthing days for vessels and minimum number of trips, all lead to the following :-

1) Accumulation of imports outside the port.
2) Weakness in the exports movements to the international markets.

So, the most important indicators for the movement cycle are:-

1) The speed of handling operation.
2) The speeds of vessels cycle.
3) The speed navigation / sailing.

The above indicators need to be as leader to the following complementary items which must work in the Port Sudan movement cycle:-

1) Volume of exports and imports.
2) Ports equipment’s.
3) Number of calling vessels.

1) Volume Of Exports And Imports :-

Sudanese exports and imports are most important items in the Sudanese economy. Exports including: live stock, ground nuts, sesame seeds, melon seeds, sugar, cotton, gum arabic, meat, animals feed, natural fertilizers, dour, edible oil, molasses, hides, dry limon and other.

Imports including: edible oil, sugar, wheat, fertilizers, urea, flour, chemicals, coffee, tea, timber, paper, jute, iron, steel, agricultural productions, cars, asphalt, machines equipment’s and others.

Here below is a record of Sudanese foreign trade through all stations and ports like Port Sudan and Wadi Halfa and the border stations, the record is for a different number of years :-

Table no (3-1/1)

<table>
<thead>
<tr>
<th>PORT SUDAN</th>
<th>WADI HALFA</th>
<th>BORDER STATIONS</th>
</tr>
</thead>
</table>

Sudanese foreign trade through different stations
Source: Sea Port Corporation / annual reports
From the above record it is clear that Port Sudan is the main entrance of Sudanese foreign trade in these chosen years, also Port Sudan received about 90% of the foreign trade volume, while the other stations like Wadi Halfa Port and the Border Stations received only 10% of the foreign trade which concluded that, despite of the presence of numerous means of transport to more the Sudanese foreign trade about yet. Port Sudan port comes to the forefront in any competition with other transportation means or other stations, where the railways through Wadi Halfa are considered to be more safe and secure but vehicles through the border stations are save more and better, but the limited capacity of vehicle transport is serious drawback.

The transportation through Port Sudan comes on top of the list as it can transport greater quantities to longest distances at a very low cost, which is the main target for the foreign trade. Another records (table no. (3-1-2)) is showing the movement of activities of Port Sudan Port from (1953- 1960), at that period the port was administrated by Sudan Railways Corporation. This record includes the number of visiting vessels beside the volume of imports and exports:-

Table No (3-1/2)
Volume of exports and imports and number of vessels in 1953 – 1960
Source: Sea Port Corporation / annual reports

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NUMBER OF VESSELS</th>
<th>TOTAL OF EXPORTS YEAR/TONS</th>
<th>TOTAL OF IMPORTS YEAR/TONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>1.202</td>
<td>713.556</td>
<td>528.194</td>
</tr>
<tr>
<td>1954</td>
<td>1.101</td>
<td>677.746</td>
<td>408.428</td>
</tr>
<tr>
<td>1955</td>
<td>1.159</td>
<td>789.685</td>
<td>539.027</td>
</tr>
<tr>
<td>1956</td>
<td>900</td>
<td>839.325</td>
<td>578.620</td>
</tr>
<tr>
<td>1957</td>
<td>1.206</td>
<td>1.087.716</td>
<td>520.698</td>
</tr>
<tr>
<td>1958</td>
<td>1.164</td>
<td>858.020</td>
<td>580.471</td>
</tr>
</tbody>
</table>
After the Second World War, the movement at Port Sudan increased and the number of vessels was decreased gradually from 1202 vessels in 1953 to 1101 vessels in 1954 to 900 vessels in 1956, but showed a mark of increasing by the end of the 1950s until it reached 1312 vessels by 1960, this due to the Sudan government had signed an agreement to extend the length of the berths up to 495 meters and maximize its capacity to receive huge vessels up to 50,000 m/t per vessel, and the construction operation had finished by 1960, and the port can receive ten large vessels at the same time.

In the last 10 years as shown in the table no. (3-1-3) the number of vessels and the volume of exports and imports which increased gradually except the years 1995-1996, and mentioned that the volume of imports is more than the exports during the period of 1996 – 2001, the period which witnessed heavy investments in the petroleum field and imported all the petroleum equipment’s:

Table No (3-1/3)
Volume of exports and imports and numbers of calling vessels during the period 1992 – 2001
Source: Sea Port Corporation / annual reports

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NUMBER OF VESSELS</th>
<th>TOTAL OF EXPORTS YEAR/TONS</th>
<th>TOTAL OF IMPORTS YEAR/TONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>1173</td>
<td>2,743,998</td>
<td>555,538</td>
</tr>
<tr>
<td>1993</td>
<td>1182</td>
<td>2,449,720</td>
<td>1,294,463</td>
</tr>
<tr>
<td>1994</td>
<td>1047</td>
<td>2,939,633</td>
<td>657,230</td>
</tr>
<tr>
<td>1995</td>
<td>981</td>
<td>2,585,373</td>
<td>849,070</td>
</tr>
<tr>
<td>1996</td>
<td>998</td>
<td>1,333,288</td>
<td>615,007</td>
</tr>
<tr>
<td>1997</td>
<td>1028</td>
<td>1,353,816</td>
<td>606,050</td>
</tr>
<tr>
<td>1998</td>
<td>1260</td>
<td>1,707,537</td>
<td>659,541</td>
</tr>
<tr>
<td>1999</td>
<td>1258</td>
<td>1,737,718</td>
<td>871,711</td>
</tr>
<tr>
<td>2000</td>
<td>1035</td>
<td>2,073,485</td>
<td>540,485</td>
</tr>
<tr>
<td>2001</td>
<td>1112</td>
<td>2,354,782</td>
<td>752,655</td>
</tr>
</tbody>
</table>
More over, it is expected that the volume of exports from the petroleum productions after year 2001, when the commercial exploitation of Sudanese oil would be an essential item in Sudan economic development. This most welcome development will permit Sudan to obtain a fair share of the International Oil Market, also enjoy the membership of OPEC. These two major events will help to promote Sudanese foreign trade.

2) Ports equipments: -
At the beginning of the fifties the Sudan government signed an agreement to extend the length of the berths (as mentioned before) and to increase the number of operating ports equipment’s, which acting in the loading and discharging operations. The ports equipments divided to the following :-
1) Marine equipments :- Tugs, digging machines, pantoons and lunches.
2) Handling equipments :- shore crane, transport crane, yard handing cranes, forklift truck, internal railway, wagons and tractors.

In the last period the handling equipments were limited and the work on Sudanese foreign trade was run smoothly, all the exported and imported goods were excellent. The exports were raw materials for industrial utilization* and the imports were mainly projects equipments. At that time there were no handling problems because the handling equipment were new, some equipments were brought in 1927 others in 1941, 1951 and 1955, and the handling of goods is good when the equipment’s were new, at present the efficiency of all equipments are decreased and some equipment’s reached their expiry dates, and not adequate for heavy duties, and suffer more from several breakdowns, and operate inefficiently, which reflected on the discharging and loading operations and indirectly on the volume of exports and imports. As a result, Port Sudan port is described as a weakly working port.

3) Number of calling vessels: -

*It is worthy to mentioned that the United Kingdom was the main country to import from the Sudan and most of Sudanese imports came from U.K. at that time.
In table (3-1-3) as mentioned before, the number of calling vessels were decreased and followed by a decrease in the volume of exports and imports where both were so related to each other, due to the governmental policies which had been imposed to increase the using of local production which in turn led to increase the volume of exports in a so low levels.

The efficienctcy of the port can be determined by the number of calling vessels call Port Sudan (in a period of time) and the volume of imports and exports and the ports equipments.

(3-2): 2nd Determinants:

The laws and regulations accompanying to the Sudanese foreign trade:

The existence of laws and regulations is imperative to regulate foreign trade either imports or exports, since any lack of control will result in negative consequences which will be a heavy burden on the balance of payment. To practice a commercial enterprise, either to import or to export, one has to get a license from the Ministry of Commerce and supply in collaboration with the central bank. The Ministry is responsible for organizing all commercial activities through issuing of license for any importer or exporter who is required to submit certain documents such as:

1. Certificate from Elzakat advising that this exporter or importer have not any obligation or legal action with Dewan Elzakat as the same as another one must issued from the Taxation Department.

2. Certificate from the banks, certifying that this exporter or importer have a financial capability to export and import goods and confirming this financial position.

3. Certificate from the local council advising same information about his character.

4. Certificate from the legal accountant confirming the same as no (2).

These documents allow the exporter or the importer to register his name as an exporter or importer.

According to the law, the importer or exporter has to choose either to deal in all or some of the groups of commodities. These groups are divided according to the type of commodity like foodstuffs or building materials …etc.

There is demurrages imposed on any exporter or importer who deals in a commodity not already authorized for him to deal in.
General procedures of the commercial dealings: -

First of all the exporter must agree with the foreign buyer before exporting the goods and sending him a sample of good to draw his acceptation, then sign and stamp the commercial contract (agreement) including the following:

1- Name of exporter and importer.
2- Kind /type of good and its descriptions.
3- Quantity.
4- Their Banks.
5- Date of loading.
6- Port of loading.
7- Port of discharging.
8- Means of payment / price.
9- Freight payment.
10- Demurrages amount for unloading, cancelling the contract or any other definitions.

After signing and stamping the commercial agreement or the commercial contract the exporter has to present his documents to the Ministry of Commerce, the documents include:

1) Certificate of origin.
2) His license.
3) Certificate of export.
4) The commercial contract.

All documents have to be signed and stamped officially by the Commercial Registration Office / Ministry of Commerce specially the part of the goods prices where this price obligatory must be defined and determined by the Ministry for each commodity, where the exporter may sell at a higher price, but can not sell at lower price than the defined one by the Ministry, that because the Ministry follows up international prices movements round the clock, that through the communications representatives and agents, thus the Ministry is well informed of what goes on in international markets.

The exporter is given a grace period of 90 days in order to complete the transaction, but if the period expires without exporting the goods, then he has to apply for a new export certificate.

The Central Bank: -

As for the Central Bank role concerning foreign trade, the Bank receives the mentioned documents from the Ministry of Commerce and mainly the contract between the exporter and the foreign buyer, the Bank gives the exporter 45 days grace period starting from the
date of loading the goods. The exporter is obliged to deposit the foreign currency at the Central Bank and to receive the same amount in local currency.

Sudanese Authority for Measurements and Quality Control:-
Another party involved in the export operation is the Sudanese Authority for measurements and Quality Control, it has its own laws and regulations which enable it to follow up imports and exports and its fitness for use be it food stuffs, constructional materials, industrial materials … etc.

The import operation: -

The import operation is carried out through the laws of the Ministry of Commerce and the Monetary Control Laws of the Bank Of Sudan according to two sets of procedures:-

1- Imports within the current Monetary Budget: -
It is accomplished by transferring foreign currency to another foreign commercial bank. This system is called “import through currency transfer”.

Import through currency transfer has certain preconditions, where the importer must issue a letter of credit through a bank to transfer the foreign currency is opened in favour of the contracting parties.

2- Imports without currency transfer:-
It simply means importing through own resources of persons namely expatriates, investors of foreign origin, diplomats, international organization either voluntary or humanitarian and these are not required to have a commercial record.

The following documents should be presented namely:-

-Commercial invoices (original).
- Bills of lading, if not, a 1st class bank guarantee or slipping guarantee or letter of indemnity issued by the ship – owner and signed and stamped by the ship – agent at the port of loading.

- Certifications.

- Permissions for various parties.

- Certificate of origin.

- Quality certificate.

- Importer registration certificate.

- Delivery order, issued by the ship agent in the port of discharging.

The importer can complete his customs clearance formalities through his clearance agent in Port Sudan.

In the past and up to 1991, it was imperative to obtain an "Import Permit" issued by the Ministry of Commerce before any goods were shipped from abroad, this policy was amended in 1991 and it is possible now to import through opening a letter of credit (L/C) in any commercial bank and cancelled all restrictions on imports of all kinds except those prohibited by the Sharriaa law. The prevailing economic conditions have lead to abolishment of imports license and to contend with issue of letter of credit, regarding imports, and form (EX) for exports according to the contracts due to economic openness and the liberalization policies.
Over-view of the main problems facing the 2nd determinants :-

1) Some of the commercial contracts failed for the in-ability of loading in the nominated time for loading, which led to renewing the contracts (some contracts had an exact limitations in its terms, like the price term …etc) and spared more efforts, money and time.

2) Some of the imported / exported companies failed to settle the foreign funds to the central bank, which led to stop their commercial activities.

3) Some of the procedures of the Sudanese authority for measurements and quality control are long and bureaucratic nature, thus, do not help the foreign trade to grow and flourish.

4) Some laws and regulations are not helpful to promote foreign trade and needs to be revised like the excises impose on imports and exports at the crossing points, and lengthy customs procedures.

5) The role of the quality control authority which impose it self in all directions.
6) The quality control authority must be confined to a certain item only, that to decrease procedures against the foreign trade.

(3-3): 3\textsuperscript{rd} Determinants:

Handling equipments :-

It is the function of the port to provide the services required by the foreign trade through berthing of vessels preparation of different kinds of handling equipments, preparation of stores, storage areas and yards for all imported and exported goods.

This section will deal with the handling equipments and its impact on foreign trade and if it has positive or negative impact. If it is positive then how to maintain it, and if it is negative then how can we design the appropriate mechanism to up lift the performance of the equipments to an excellent level.
All are fully aware that handling equipments are confined to load and discharge (stevedoring) goods, and this is not an easy task, where the port can not stop working except in heavy critical circumstances. Therefore the handling of goods is continuous process.

These equipments can be confined to the following :-

1- Marine equipments : like, tug, digging machines, pantoons and linches.

2- Handling equipments : like, shore cranes, transport crane, yard handling crane, forklift truck, internal railway, wagons, tractors, mobile cranes of different loads, bridge cranes for containers, lifting machines, pulling machines.

Recently, the port authorities exerted great efforts to up-grade the efficiency of existing equipments like shore cranes, mobile cranes and their maintenance, and two bridge cranes were imported, another crane for containers and lifting machines and a number of towing with the aim of enabling the land operations department to perform its duties. The department is responsible about these equipments its maintenance, installation and the supply of spare parts in order to cape up with the increasing quantities of imports and exports and to ensure the perfect and trouble free flow of imports and exports.
The import operation of handling equipments has helped a great deal in speeding the handling operations. This development was introduced by phases, two phases are already completed and now work is being conducted on phase 3 to increase the number of equipments, which result a speedy and efficient handling.

Any delays or break downs of handling equipments will result in delays of loading and discharging which will negatively affect the transport of foreign trade which entails serious consequences on foreign trade.

There are a complementary role between the equipments and the berths, where vessels berthing along-side the berths the equipments carry on the handling or the stevedoring operation.

Table No ( 3-3/1)

The average of berthing days for years 1992-2001

Source: Sea Port Corporation / annual reports

<table>
<thead>
<tr>
<th>YEARS</th>
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NO. OF
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<table>
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<th>1</th>
<th>9</th>
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<td>4</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>SUDAN PORT PER YEAR</td>
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<td>7</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>AVERAGE OF BERTHING DAYS</th>
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<th>3.</th>
<th>3.</th>
<th>3.</th>
<th>3.</th>
<th>3.</th>
<th>2.</th>
<th>2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO. of days occupied by vessels per year</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

The above table explain in the 1st row; the number of days occupied by vessels in years from 1992 –2001 and the 2nd row: the number of vessels call Port Sudan port in the same years, the 3rd row explain the average of the berthing days which resulted by :-

No. of days occupied by vessels per year = Average of berthing days for each vessels.
All classified the time spent by vessels alongside the berths in 1992-2001, it is clear that since 1992 up to 1996 the aggregate of berths utilization consumed more days (average of 3.5 days), then this average decreased on 1997 to be 3.2 days per vessel, it is noticeable that the average on 1997 is less than those in 1992, 1993, 1994, 1995 and 1996. And / On 2001 is less than in 2000 and so on.

This progress is attributed to the modernization of handling equipments which had been purchases by the Technical Dept. In order to develop the ways of handling of exported and imported cargoes, and increase the quantities.

**Over-view of the main problems facing the 3rd determinants :-**

1) The stevedoring operation is done by the ship agents (private or public) through local labours (gangs labours) and by renting ports equipments, some of those agents use this equipment bad / rough using, ex : to let the mobile crane of 15 m/t capacity carry cargo weight of about 20 m/t a rented equipment not owned by them selves.
2) The local labours / gangs labour are illiterate people and know nothing about using of the handling machines also the drivers of this equipment’s does not know about the importance of these equipments for the handling of cargoes.

3) The unavailability of the spare parts of the port equipments which must be imported from abroad, that beside the searching operation for such parts where all the using equipment’s are old made / models.

4) The difficulty of re-changing of the spare parts which need a technical foreign team.
(3-4): 4\textsuperscript{th} determinant:

Port Sudan Harbour Tariff:

The Port’s Authority imposed many charges which are levies against the services rendered by the port; these charges are called Tariff and defined as charges collected against services rendered by the Port to the vessels or cargoes owners.

The Port works according to the laws and regulations issued by the U.N. through INCOTERMS organization. These laws regulate the work inside the Ports and turn it into an intermediary body between agency companies and the vessels or the loading and discharging parties and ship-owners, to offer the services from one end to the other, so that the shipments arrive safety.

Sea Port Corporation Harbour Tariff are set after proper consultations between the Port Authority and the concerned U.N. organization.

There are three sets of Tariff:

3-4-1: Sea Port Corporation Tariff for vessels calling at Port Sudan Port.
3-4-2: Sea Port Corporation Tariff for cargoes pass in/out to/from Port Sudan Port.
3-4-3: Sea Port Corporation Tariff for containers pass in/out to/from Port Sudan Port.

That means the Tariff imposed on all vessels call Port Sudan and all import cargoes and export cargoes, these tariff are being revised continually in order to cope with the economic situation of the Sudan.

Previously the Commercial Department was responsible for setting and applying the tariff, but now-a-days this has become the responsibility of the Marketing Department which operates directly under the management of the General Manager of the Sea Port Corporation, due to its great importance.

3-4-1: Sea Port Corporation Tariff for vessels call Port Sudan Port:
This is divided into different items which are sets according to the type of vessel, and each item have a code called “service code”, these items including the following:

(1) **Port Dues:**
Charge for the use by ship of the general port facilities including the channels and the navigation aids, hereunder table no. (3-4/1) for the Port Dues/ S.P.C. Harbour Tariff:

Table no. (3-4/1) + exemptions  
Port Dues / Port Sudan Harbour Tariff  
Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>SHIPS TYPE</th>
<th>BASIS OF CHARGE</th>
<th>RATE PER GRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>D/1-1</td>
<td>GENERAL CARGO</td>
<td>FIRST 3 DAYS OR PART THEREOF</td>
<td>USS. 0.17</td>
</tr>
<tr>
<td>D/1-2</td>
<td></td>
<td>SECOND 3 DAYS OR PART THEREOF</td>
<td>USS. 0.11</td>
</tr>
<tr>
<td>D/1-3</td>
<td></td>
<td>THEREAFTER PER DAY OR PART</td>
<td>USS. 0.04</td>
</tr>
<tr>
<td>D/2-1</td>
<td>CONTAINER SHIPS</td>
<td>FIRST 49 HOURS OR PART THEREOF</td>
<td>USS. 0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ANY OTHER 49 HRS OR PART</td>
<td>USS. 0.07</td>
</tr>
<tr>
<td>D/3-1</td>
<td>ROLL ON/ROLL OFF SHIPS</td>
<td>FIRST 50 HOURS OR PART THEREOF</td>
<td>USS. 0.13</td>
</tr>
<tr>
<td>D/3-2</td>
<td></td>
<td>ANY OTHER 49 HRS OR PART</td>
<td>USS. 0.11</td>
</tr>
<tr>
<td>D/4-1</td>
<td>CAR CARRIERS SHIPS</td>
<td>FIRST 36 HOURS OR PART THEREOF</td>
<td>USS. 0.08</td>
</tr>
<tr>
<td>D/4-2</td>
<td></td>
<td>ANY OTHER 36 HRS OR PART</td>
<td>USS. 0.05</td>
</tr>
<tr>
<td>D/5-1</td>
<td>BULK CARRIERS SHIPS (DRY)</td>
<td>FIRST 3 DAYS OR PART THEREOF</td>
<td>USS. 0.15</td>
</tr>
<tr>
<td>D/5-2</td>
<td></td>
<td>SECOND 3 DAYS OR PART THEREOF</td>
<td>USS. 0.11</td>
</tr>
<tr>
<td>D/5-3</td>
<td></td>
<td>THEREAFTER PER DAY OR PART</td>
<td>USS. 0.07</td>
</tr>
<tr>
<td>D/6-1</td>
<td>BULK CARRIER (LIQUID)</td>
<td>FIRST 3 DAYS OR PART THEREAFTER PER DAY OR</td>
<td>USS. 0.15</td>
</tr>
</tbody>
</table>
| PART | US$.
|------|------
| LASH BARGES SHIPS | 0.04 |
| SHIPS | EACH 48 HOURS OR PART |
| US$.
| 0.15 |
| FIRST 50 HOURS OR PART |
| THEREAFTER PER DAY OR PART |
| US$.
| 0.12 |
| US$.
| 0.04 |
| FISHING SHIPS | 15.00 |
| PER CALL (LOADED) CALL 6 DAYS |
| PER CALL (EMPTY) CALL 7 DAYS |
| US$.
| 10.00 |
| YUACJTS & PLEASURE BOATS | 15.00 |
| PER VISIT (VISIT 5 DAYS) |
| Meyer |
| BARGES ETC | AS GENERAL CARGO SHIPS |
| LAID UP SHIPS | FOR THE FIRST 3 DAYS OR PART |
| THEREAFTER EACH 3 DAYS |
| US$.
| 1.00 |
| US$.
| 0.00 |
| COASTAL SHIPS | 0.08 |
| FIRST 3 DAYS OR PART |
| SECOND 3 DAYS OR PART |
| THEREAFTER PER DAY OR PART |
| US$.
| 0.05 |
| US$.
| 0.04 |
| CRUSISES SHIPS | 15.00 |
| EACH 50 HOURS |

Exemptions for:

- WARSHIPS (D/15-1)
- CRAFTS LICENSED UNDER SERVICE CODE. (D/15-2)
- SUDAN GOVERNMENT SHIPS WHICH ARE NOT USED IN COMMERCIAL BUSINESS. (D/15-3)
- THE FIRST 12 HOURS OF A VISIT FOR MEDICAL ATTENTION (D/15-4)

The above table explain how to calculate the final amounts of Port Dues depending on the basis of charge multiplied in the tariff rate and the GRT* of the vessel:

Port Dues for any kind of vessels depending on the basis of charge that is calculated as:

*GRT : Gross Register Tonnage: A vessel’s total internal space in units- (1 GRT unit = 100 cubic feet).
rate per each GRT unit x total GRT of the vessel.

For example: the Sea Port Corporation Harbour Tariff charge each general cargo vessels which berthed in the berth for 3/three or part of day, as follows:
- US$.0.17 (rate per each GRT unit) x total GRT of the vessel

- If the vessel berthed for 7/seven days, it will charges the rate of:
The charge of the first 3 days (US$. 0.17) x total GRT of the vessel +
The charge of the second 3 days (US$. 0.11) x total GRT of the vessel +
The charge for any more day (US$. 0.04) x 1/one day x total GRT of the vessel.

- If another vessel berthed for 4/four days, it will charges the same as the 6/six days, that means for the forth, fifth, sixth days is the same rate.

(2) Accostage of berth:
Charge for the occupation of berth or charges for approaching berths or be alongside the berths to commence the loading or discharging operations. This charges divided according to the types of ship and details of calculating are shown in the following table:

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>SHIPS TYPE</th>
<th>BASIS OF CHARGE</th>
<th>RATE PER GRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/1-1</td>
<td>GENERAL CARGO</td>
<td>FIRST 3 DAYS OR PART</td>
<td>US$. 0.54</td>
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<td>THEREAFTER PER DAY OR PART</td>
<td>US$. 0.15</td>
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<td>A/2-1</td>
<td>CONTAINER SHIPS</td>
<td>FIRST 48 HOURS OR PART</td>
<td>US$. 0.30</td>
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<tr>
<td>A/2-2</td>
<td></td>
<td>ANY OTHER 49 HRS OR PART</td>
<td>US$. 0.27</td>
</tr>
</tbody>
</table>
| A/3-1 | A/3-2 | ROLL ON / ROLL OFF | FIRST 49 HOURS OR PART ANY OTHER 49 HOURS OR PART | US$. 0.30  
| A/4-1 | A/4-2 | CAR CARRIERS SHIPS | FIRST 48 HOURS OR PART ANY OTHER 49 HOURS OR PART | US$. 0.27  
| A/5-1 | A/5-2 | BULK CARRIERS SHIPS (DRY) | FIRST 3 DAYS OR PART SECOND 3 DAYS OR PART THEREAFTER PER DAY OR PART | US$. 0.15 US$. 0.45 US$. 0.13  
| A/6-1 | A/6-2 | BULK CARRIER (LIQUIDS) | FIRST 3 DAYS OR PART SECOND 3 DAYS OR PART THEREAFTER PER DAY OR PART | US$. 0.36 US$. 0.45 US$. 0.15  
| A/7-1 | A/7-2 | LIFESTOCK SHIPS | EACH 50 DAYS OR PART ANY SECOND 50 HOURS OR PART | US$. 0.31 US$. 0.29  
| A/8-1 | D/8-2 | LASH BARGES SHIPS | FIRST 48 HOURS OR PART ANY OTHER 48 HOURS OR PART | US$. 0.40 US$. 0.30  
| A/9-1 | A/9-2 | BARGES AFTER MOTHER SHIP DEPARTURING | EACH 3 DAYS OR PART | US$. 0.25  
| A/10-1 | | YUACJTS & PLEASURE BOATS | PER CALL (CALL 5 DAYS) | US$. 25.00  
| A/11-1 | | CRUISES SHIPS | EACH 50 HOURS | US$. 0.30  

The above table explains how to calculate the final amounts of accostage of berth depending on the basis of charge multiplied in the tariff rate and the GRT of the vessel:
Accostage of berth for any kind of vessels depending on the basis of charge:
\[ \text{rate per each GRT unit} \times \text{total GRT of the vessel}. \]
(as the same as the calculations of the Port Dues, after changing the figures of the rate).

Special Type of vessels (Bulk carriers):
The Sea Port Corporation Harbour Tariff impose fees called the Royalty Fees and re-named to The Using Port Facilities & Special Berths (U.P.F.& S.B.) this fees are pay for all bulk carriers vessels carrying cargoes to be loaded or discharged at Port Sudan Port:

- dry bulk like: Cement, fertilizer, crops in bulk, mining products, and crome.
- Liquids bulk like: crude oil, petroleum products, molasses, edible oil and natural gaz.

Which had been classified as mentioning in the following table:

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<thead>
<tr>
<th>SERVICE CODE</th>
<th>SHIPS/VESSELS TYPE</th>
<th>CARGOES IMPORTED</th>
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<td><strong>H6-1: DRY BULK</strong></td>
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<td>H6-1-1</td>
<td>CROPS</td>
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<td>H6-1-2</td>
<td>FERTILIZER</td>
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<td>CEMENT</td>
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<td>US$. 0.50</td>
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<td>H6-1-4</td>
<td>MINING PRODUCTS</td>
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<td><strong>H/6-3 : LIQUIDS</strong></td>
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<td>PETROL OIL</td>
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<td>US$. 0.25</td>
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<td>US$. 0.75</td>
<td>US$. 0.50</td>
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Table no. (3-4/3)

Bulk cargoes handling fees for Using Port Facilities & Special Berths (U.P.F.& S.B.)

**Source:** The Marketing Department circular no. 1/2002.

These rates mentioned in the above table should be multiplied by the total tonnage loaded or discharged, for example:
The (U.P.F.& S.B.) fees for a vessel will discharge about 26,500 m/t of cement is:
26,500 m/t* cement x US$.0.75 per each ton = US$. 19,875.00

(3) Pilotage charges:
Charges pay for Pilot attendance or guidance attendance to inner the vessel to take berth and outer her to sail, that means a compulsory charge for services render to Pilot, according to law 10-1 of Sudanese Harbour Regulations 1979.

Table no. (3-4/4) + detention + special rates for the Pilotage charges.
Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>SHIPS CAPACITY</th>
<th>ORDINARY RATE</th>
<th>OVERTIME RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SATURDAY</td>
<td>SATURDAY TO THURSDAY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SATURDAY</td>
<td>FROM 18 HRS TO 6 HRS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SATURDAY</td>
<td>FROM 18 HRS TO 6 HRS</td>
</tr>
<tr>
<td>P/1-1</td>
<td>FROM 51* GT UPTO 500 GT</td>
<td>US$. 75</td>
<td>US$. 112.5</td>
</tr>
<tr>
<td>P/1-2</td>
<td>FROM 501 GT UPTO 2,000 GT</td>
<td>US$. 125</td>
<td>US$. 187.5</td>
</tr>
<tr>
<td>P/1-3</td>
<td>FROM 2,001 GT UPTO 4,000 GT</td>
<td>US$. 180</td>
<td>US$. 270</td>
</tr>
<tr>
<td>P/1-4</td>
<td>FROM 4,001 GT UPTO 6,000 GT</td>
<td>US$. 250</td>
<td>US$. 375</td>
</tr>
<tr>
<td>P/1-5</td>
<td>FROM 6,001 GT UPTO 10000GT</td>
<td>US$. 280</td>
<td>US$. 420</td>
</tr>
<tr>
<td>P/1-6</td>
<td>FROM 10001GT UPTO 20000GT</td>
<td>US$. 300</td>
<td>US$. 540</td>
</tr>
<tr>
<td>P/1-7</td>
<td>OVER 20,000 GT</td>
<td>US$. 500</td>
<td>US$. 750</td>
</tr>
</tbody>
</table>

**DETENTION:**

* m/t : Metric tonnage.
IF A PILOT HAS BEEN APPLIED FOR AT A GIVEN TIME AND THROUGH NO FAULT OF THE PORT AUTHORITY DOES NOT REQUIRE HIS SERVICE WITHIN HALF (½) AN HOUR OF SUCH TIME 50% OF CHARGES SHALL BE PAID, AFTER HALF AN HOUR FULL CHARGES SHALL BE PAID.

IF THE PILOTAGE OPERATION EXCEEDS 1 HOUR OR IF A PILOT IS REQUIRED TO MEET OR ACCOMPANY A SHIP BEYOND THE LIMITS OF THE OUTER HARBOUR, CHARGES SHALL BE EACH 20 MINUTES A FULL OPERATION.

SPECIAL RATES
P/2-1 SHIPS COMMENCING A MOVE NOT FULLY UNDER COMMAND 100% INCREASE

P/2-2 SHIPS CEASING TO BE FULLY UNDER COMMAND DURING A MOVE 200% INCREASE.

The pilot charges calculated depending on the vessels capacity by her GRT in the ordinary rate from Saturday up to Thursday or in the overtime (Friday or Holidays/whole day) so,

= GRT x ordinary rate from Saturday up to Thursday (from 18:00 hrs to 6:00 hrs) or the overtime (Friday or Holidays/whole day) + 8% for Pilotage allowance, risk, VHF.

(4) Tug attendance:-
A charge for attendance and use of tugs, they use 2/two tugs to inner the vessel inside the harbour to take berth and other 2/two tugs to outter the vessel outside harbour to sail, in some cases, use another 2 tugs to shift the vessel from berth to other.

Table no. (3-4/5) + special rates + OVERTIME RATES
Tug Attendance
Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>SHIPS TYPE</th>
<th>BASIS OF CHARGES LESS THAN 299 FEET PER FT LENGTH OVERALL</th>
<th>BASIS OF CHARGES LESS THAN 299 FEET PER FT LENGTH OVERALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>T/1-1</td>
<td>GENERAL CARGO</td>
<td>OVERTIME ORD. 100% 50%</td>
<td>OVERTIME ORD. 50% 100%</td>
</tr>
</tbody>
</table>

*VHF : wireless communications between the coastal port station and vessel navigation or the captain.
<table>
<thead>
<tr>
<th>T/1-1</th>
<th>GENERAL CARGO</th>
<th>US$.088</th>
<th>US$.132</th>
<th>US$.176</th>
<th>US$.1</th>
<th>US$.15</th>
<th>US$.2</th>
</tr>
</thead>
</table>

(ACCORDING TO NUMBER OF TUGS USED)
SPECIAL RATES
1 / SHIPS COMMENCING A MOVE NOT FULLY UNDER COMMAND 100 INCREASE
2 / SHIPS CEASING TO BE FULLY UNDER COMMAND DURING A MOVE 200 INCREASE
3 / SHIPS SHIFTING ALONG THE QUAY WITHOUT ATTENDANCE OF TUGS BUT WITH PILOT 175 $ + 8%
4 / SHIPS SHIFTING ALONG THE QUAY WITHOUT PILOT AND WITHOUT TUG 160 $

OVERTIME RATES
50% FROM 18 HRS UPTO 6 HRS - AS SHOWN ABOVE
100 % HOLIDAYS AND FRIDAYS - AS SHOWN ABOVE

The tug line attendance calculations depends on the basis of charges less than 299 feet (that after equivalence the LOA* of the vessel to a number of feet) either in the ordinary rate or overtime (50% or 100%).

The rates can calculated on overtime rates of 50% when the vessel moves from 18 hrs up to 6 hrs, and on 100% more rate if the vessel moves in the holidays and Fridays.

(5) Anchoring and reporting fees:
Fees for ships anchoring at pilotage zone waiting order for exports or imports or waiting to advise the exporters or importers the Notice Of Readiness.
The anchoring fees calculated according to the ships LOA per feet not by meters: under 150 feet and over 150 feet and over, as mentioned here-below in the table:

Table no. (3-4/6)
Anchoring and reporting fees.
Source: Sea Port Corporation harbour tariff book

*LOA : Length Over All : length over all of the vessel per meters.
<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>SHIPS CATEGORY</th>
<th>BASIS OF CHARGES</th>
<th>RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/1-1</td>
<td>UNDER 150 FEET</td>
<td>FIRST 3 DAYS OR PART</td>
<td>US$.70</td>
</tr>
<tr>
<td>Y/1-2</td>
<td></td>
<td>SECOND 3 DAYS OR PART</td>
<td>US$.110</td>
</tr>
<tr>
<td>Y/1-3</td>
<td></td>
<td>EACH ADDITIONAL 3 DAYS</td>
<td>US$.200</td>
</tr>
<tr>
<td>Y/2-1</td>
<td>FROM 150 FEET AND OVER</td>
<td>FIRST 3 DAYS OR PART</td>
<td>US$.100</td>
</tr>
<tr>
<td>Y/2-2</td>
<td></td>
<td>SECOND 3 DAYS OR PART</td>
<td>US$.175</td>
</tr>
<tr>
<td></td>
<td></td>
<td>THEREAFTER EACH 3 DAYS OR PART</td>
<td>US$.250</td>
</tr>
</tbody>
</table>

(6) Security and police charges:

Charges pay to look after the vessels security, and keep the vessel secure inside harbour and after her berthing, this fees pay for the Port police inside the port yard.

Table no. (3-4/7)
Security and police charges.
Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>SECURITY AND POLICE CHARGES</th>
<th>RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/3-1</td>
<td>UNDER 150 FEET PER CALL</td>
<td>US$.125</td>
</tr>
<tr>
<td>Y/3-2</td>
<td>FROM 150 FEET AND OVER SHIPS UNDER SEIZER PER CALL</td>
<td>US$.250</td>
</tr>
<tr>
<td>Y/3-3</td>
<td>SHIPS UNDER SEIZER PER DAY OR PART</td>
<td>US$.15</td>
</tr>
</tbody>
</table>
Its calculations depending on the vessel’s length by feet under 150 feet and over.

(7) Garbage collection fees:
Fees impose for the cleaning of the port yard.

Table no. (3-4/8)
Garbage collection fees.
Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>GARBAGE COLLECTION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>G/1-1</td>
<td>UNDER 150 FEET PER CALL</td>
<td>USS. 75</td>
</tr>
<tr>
<td>G/2-2</td>
<td>FROM 150 FEET / OVER PER CALL</td>
<td>USS. 125</td>
</tr>
</tbody>
</table>

Fees calculated depending on the vessel’s LOA per feet.

(8) Hire of marine crafts:-
The port may provide the vessel complete with crew by any other services such as provision, fresh water, gaz oil, diesel oil and tugs or pantoon to move the vessel. This services can offer either to move the vessel inner or outer the harbour, where they can use the tugs or pantoon or hawser for tow the vessel.

Table no. (3-4/9)
Hire of marine crafts
Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>TYPE</th>
<th>INNER HARBOUR PER HOUR OR PART</th>
<th>OUTER HARBOUR PER HOUR OR PART</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ORDINARY</td>
<td>OVERTIME*</td>
</tr>
</tbody>
</table>

*overtime rates : holidays / Fridays and from 18 hrs to 6 hrs.
<table>
<thead>
<tr>
<th>M/1-1 TUGS</th>
<th>US$. 400</th>
<th>US$. 600</th>
<th>US$. 600</th>
<th>US$. 900</th>
</tr>
</thead>
<tbody>
<tr>
<td>M/1-2 LAUNSH</td>
<td>US$. 80</td>
<td>US$. 120</td>
<td>US$. 200</td>
<td>US$. 300</td>
</tr>
</tbody>
</table>

**TUGS FOR MOVING BARGES**

M/2-1 WITHIN INNER HARBOUR 2.75 US$ PER TONNAGE CAPACITY
M/2-2 WITHIN OUTER HARBOUR 3.50 US$ PER TONNAGE CAPACITY

( TILL PILOTAGE ZONE )

**TUGS FOR MOVING PONTOON**

M/3-1 WITHIN INNER HARBOUR 1.50 US$ PER PONTOON CAPACITY
M/3-2 WITHIN OUTER HARBOUR 2.35 US$ PER PONTOON CAPACITY

**HAWSER FOR TOWING**

M/4-1 INNER HARBOUR US$. 500 PER TOW – SHALL NOT EXCEED 12 HRS
M/4-2 OUTER HARBOUR US$. 750 PER TOW – SHALL NOT EXCEED 12 HRS

**BOUYS**

M/5-1 SHIPS OF UNDER 150 LOA 15 US$ PER HOUR
M/5-2 SHIPS OF 150 LOA & OVER 24 US$ PER HOUR

(9) Pantoon :

The port authority may provide Pantoon inclusive the services of tugs for moving vessels on the conditions and at the rates here shown:

**Table no. (3-4/10)**

**Pantoon**

Source: Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>ORDINARY RATES</th>
<th>RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE CODE</td>
<td></td>
</tr>
<tr>
<td>P/1-1 PER HOUR PER PONTOON CAPACITY</td>
<td>9 CENT INNER HARBOUR</td>
</tr>
<tr>
<td>P/1-2 PER HOUR PER PONTOON CAPACITY</td>
<td>18 CENT OUTER HARBOUR</td>
</tr>
</tbody>
</table>

**SPECIAL RATES**

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th></th>
</tr>
</thead>
</table>
(10) Hire of equipment:-

The port authority may provide equipments to the ship stevedore for much assistance in the discharging or loading operations, this equipments is: quay/shore cranes, mobile cranes, forklifts, trailers and tug-masters, using the following rates:

**Table no. (3-4/11)**

**Hire of equipments charges**

**Source:** Sea Port Corporation harbour tariff book

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>KIND OF EQUIPMENT</th>
<th>ORDINARY RATES FROM 6 A.M –14 A.M SAT.- THUR</th>
<th>OVERTIME RATES FRIDAY / HOLIDAY 2(^{nd}) AND 3(^{rd}) SHIFT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>USS. PER HOUR</td>
<td>USS. PER HOUR</td>
</tr>
<tr>
<td>E/1-1</td>
<td>QUAY CRANES</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 TONS</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>TWO OR MORE</td>
<td>16</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>15 TONS</td>
<td>25</td>
<td>53</td>
</tr>
<tr>
<td>E/1-2</td>
<td>AREA MOBILE CRANES</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UPTO 15 TONS</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>E/1-3</td>
<td>OVER 15 TONS UPTO 30 T</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OVER 30 TONS OVER 70 T</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E/2-1</td>
<td>QUAY CRANES</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 TONS</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>E/2-2</td>
<td>TWO OR MORE</td>
<td>16</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>15 TONS</td>
<td>25</td>
<td>53</td>
</tr>
<tr>
<td>E/2-3</td>
<td>AREA MOBILE CRANES</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UPTO 15 TONS</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>E/2-4</td>
<td>OVER 15 TONS UPTO 30 T</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OVER 30 TONS OVER 70 T</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FORKLIFTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-----------</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>E/3-1</td>
<td>UPTO 3 TONS</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>E/3-2</td>
<td>8 TONS</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>E/3-3</td>
<td>12 TONS</td>
<td>29</td>
<td>44</td>
</tr>
<tr>
<td>E/3-4</td>
<td>15 TONS</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>E/3-5</td>
<td>35 TONS</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>E/4-1</td>
<td>TRAILERS</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>E/4-2</td>
<td>30 TONS</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>E/5-1</td>
<td>TUG MASTERS</td>
<td>15.38</td>
<td>23</td>
</tr>
</tbody>
</table>

3-4-2: Sea Port Corporation tariff for cargoes pass in/out to/from Port Sudan
Port:-
The port tariff imposed on the imported cargoes or exported cargoes, this tariff had been revised to many amendments in order to be cope up with the Sudanese economical situation and to be under the command of the Ministry of Foreign Trade, the Ministry of Commerce and the Sea Port Corporation.

(1) Quay Dues:
A charge for the general port facilities, including infrastructures security and other services:
Ordinary rate:
According to the value which apply under the customs ordinance 1939, dues will be imposed on cargoes loaded or discharged in the port at the rate of:

Table no. (3-4/12)
Quay dues charges for cargoes
Source: Sea Port Corporation harbour tariff book
**SERVICE CODE**

<table>
<thead>
<tr>
<th>Service Code</th>
<th>Type</th>
<th>Basis of Charges</th>
<th>S.D. per head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q/1-1</td>
<td>Imports</td>
<td>2% CIF</td>
<td></td>
</tr>
<tr>
<td>Q/1-1</td>
<td>Exports</td>
<td>0.5% FOB</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL RATES**

**FOR LIFE STOCK REVERTED**

<table>
<thead>
<tr>
<th>Service Code</th>
<th>Basis of Charges</th>
<th>S.D. per head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q/2-1</td>
<td>Small Animal I.E Sheep</td>
<td>0.3</td>
</tr>
<tr>
<td>Q/2-2</td>
<td>Big Animals I.E Cows, Oxes</td>
<td>1.5</td>
</tr>
<tr>
<td>Q/2-3</td>
<td>Others</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**CARGO**

<table>
<thead>
<tr>
<th>Service Code</th>
<th>Basis of Charges</th>
<th>S.D. per M/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q/3-1</td>
<td>For Transit Cargo</td>
<td>60</td>
</tr>
<tr>
<td>Q/3-2</td>
<td>For Cargo and Equipment Related Projects or Investment Companies or Exhibitions Etc.</td>
<td>60</td>
</tr>
<tr>
<td>Q/3-3</td>
<td>For Cargoes, Equipment Re-exported for the Purpose of Maintenance or Repairs or Refilling</td>
<td>45</td>
</tr>
<tr>
<td>Q/3-4</td>
<td>Cargo Receives at the Custody of Port and Re-shipped Back to Origin</td>
<td>60</td>
</tr>
<tr>
<td>Q/3-5</td>
<td>Sudan Export Those Reverted</td>
<td>60</td>
</tr>
<tr>
<td>Q/3-6</td>
<td>Motor Cars and Belonging of Tourists</td>
<td>60</td>
</tr>
<tr>
<td>Q/4-1</td>
<td>Transshipment Cargo</td>
<td>US$. 3 per ton</td>
</tr>
</tbody>
</table>

**Exemption:**

Q/5-1 Fuel for Re-shipment as Bunker.
Q/5-2 Spices Current in Sudan.
Q/5-3 Gold Coins Current in Countries Other Than Sudan.
Q/5-4 Passengers Belongings Which are Exempted from Customs Duty.
Q/5-5 All Postal Matter Including Port Parcels.
Q/5-6 Overlanded Cargo.
Q/5-7 Overstowed Cargo.
Q/5-8 Ship’s Store Recognized as Such by the Sudan Customs Transferred from Ship to Ship.
Q/5-9 Diplomatic Goods Which are Not Charged with Customs Duty.
Q/5-10 Empty Containers Re-shipped.

These charges are levied on cargoes either loaded or discharged at port as follows:

1- Import cargoes, 2% as charges according to CIF value.

---

1CIF : Cost, Insurance and Freight : that means all the insurance and sea-freight amounts must be paid by the sellers.
2FOB : Free On Board : that means the seller is responsible to deliver all the goods on board of the vessel at the port of loading.
2- Export cargoes, 0.5% according to FOB value.

And it is noticeable that exports enjoy more facilities than imports, this is intended to support the exports and give better competing in the international markets, and for more supporting for exports the S.P.C. Tariff embodies special rates for the livestock, and different rates for small animals like sheep and goats, and another rate for big ones such as camels and cattle.

(2) The storage charges:
The storage charges are collected on cargo stored in store-houses or open areas. They are also levied on cargoes remaining at the port yard.

There are some kinds of goods not permitted to store in the store / ware-houses, which must be discharge or load on direct delivery basis, such as: cement cargoes, chemicals, sugar, wheat flour, bitumen and the rice etc. other cargoes can be store in the ware-houses on charges which became effective after the free time allowed or after the expiry of the time allowed for transit through the port.

The free of charges period commence from the time of issue /turn out the receipt to the ship. The charges will be as follows:

**Table no. (3-4/13)**

**Storage & demurrage charges**

*Source: Sea Port Corporation harbour tariff book*

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>OPEN STORAGE</th>
<th>COVERED STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST 7 DAYS</td>
<td>S/1-1 FREE</td>
<td>S/2-1 FREE</td>
</tr>
<tr>
<td>S/1-2 1.8 DINNAR</td>
<td>S/2-2 3.4 DINNAR</td>
<td></td>
</tr>
<tr>
<td>NEXT 15 DAYS</td>
<td>S/1-3 2.0 DINNAR</td>
<td>S/2-3 3.6 DINNAR</td>
</tr>
<tr>
<td>THERE AFTER FULL RATE</td>
<td>S/1-4 3.0 DINNAR</td>
<td>S/2-4 3.8 DINNAR</td>
</tr>
</tbody>
</table>

**PERSONAL EFFECTS:**

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>OPEN STORAGE</th>
<th>COVERED STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST 10 DAYS</td>
<td>S/3-1 FREE</td>
<td>S/4-1 FREE</td>
</tr>
<tr>
<td>S/3-2 2.6 DINNAR</td>
<td>S/4-2 2.6 DINNAR</td>
<td></td>
</tr>
<tr>
<td>ANY OTHER 15 DAYS</td>
<td>S/3-3 2.8 DINNAR</td>
<td>S/4-3 2.8 DINNAR</td>
</tr>
<tr>
<td>THERE AFTER FULL RATE</td>
<td>S/3-4 2.5 DINNAR</td>
<td>S/4-4 4.5 DINNAR</td>
</tr>
</tbody>
</table>

**MOTOR CARS / TRUCKS / TRAILERS / MOBILES:**

<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>OPEN STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST 7 DAYS</td>
<td>S/5-1 FREE</td>
</tr>
<tr>
<td>NEXT 7 DAYS</td>
<td>S/5-2 6 DINNAR</td>
</tr>
<tr>
<td>NEXT7 DAYS</td>
<td>S/5-3 7.5 DINNAR</td>
</tr>
<tr>
<td>THERE AFTER FULL RATE</td>
<td>S/5-4 9 DINNAR</td>
</tr>
</tbody>
</table>
Free period of charges: this period is given free of charges to the import or export cargoes, this free time calculated after a receipt of the cargoes issued by the vessel or by the Storage Dept. Both imports and exports pay the same storage charges.

For general cargoes:
As mentioned above in the table there are kinds of charges classified as follows:
1/ Charges for open areas storage.

2/ Charges for sheltered storage, this charge is expensive than the first.

3/ Special charges for over time:
When the documents are being prepared outside the working hours, holidays or official festivals.

Beside all the previous mentioned charges there are many other charges for the following items:
1- Cargo handling charges.
2- Heavy lift charges: which imposed for employment of additional equipments for large packages, and calculated per kegs or tons.
3- Rail and road wagon loading charges: which levy for loading and stowing cargoes in rail way wagons inclusive of use of equipments, and calculated per kgs/ tons multiplied on the ordinary rates or overtime rate.

4- Charges for sundry cargo services: where the port authority may provide services in some conditions, such as:
A/ Charges per tons for separating or selecting consignments for purposes of marking, remarking any loose cargoes or badly marked cargo.
B/ Charges per tons for selecting one consignments or separate pieces of cargoes from others by numbering.
C/ Charges per tons for weighting some cargoes.
D/ Charges per package for opening packages, re-packing contents and re-closing packages.
E/ Charges per package for repairing outter cover or providing new outter cover.
F/ Charges per hours for supervision.
G/ Charges per gang per hour for each employment of labour in other jobs not specified in this section.
H/ Charges per tons for direct delivery cargoes.
I/ Charges per weight for live stock.
J/ Special charges/ rates of:
- 100% if the above treated cargoes are dangerous.
- 50% if the services offer during Friday and holidays.
5- Essential office services: this charges pay for up normal cases of working such as:
A/ Charges per hour /tons for opening bills office after normal working hours.
B/ Charges per hour / man for opening area or any other port closed after the working
hours.
C/ Charges per document for issuing of a duplicate document on request to a person
duly authorized to receive it.
D/ Charges per certificate for issuing a certificate on request to a person duly
authorized to receive it.
E/ Charges per item for essential office services amendments, cancellation, correction
or bill return or supplementary bills.

3/ Sea Port Corporation Tariff for containers pass in/out to/from Port Sudan
Port:

Containers have became an important element
for imports and exports because they are
safely, secure and easily handled, and they
help speed up turn round trips for the vessels
and decrease the berthing time at the port.

Containers have many types:
(1) LCL containers: this type store cargoes for
several persons at the same time.
(2) FCL containers: it is used by one person
only.
(3) ICD containers: it is for depot only.

Containers have three standard international
sizes:
(1) Container 20` - feet.
(2) Container 40` - feet.
(3) Container 60` - feet.

Here-under the Sea Port Corporation handling flat rate for containers:
<table>
<thead>
<tr>
<th>SERVICE CODE</th>
<th>CONTAINER SHIPS:</th>
<th>NON CONTAINER SHIPS:</th>
<th>EMPTY CONTAINER:</th>
<th>COASTER FEEDER SHIPS:</th>
<th>OVER-HEIGHT, OVER-WIDTH, OVER LENGTH CONTAINERS:</th>
<th>HAZARDOUS CONTAINER AND EXPLOSIVE CONTAINER:</th>
<th>SHUT OUT CONTAINER:</th>
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</thead>
<tbody>
<tr>
<td>CT/A-1</td>
<td>CONTAINER SHIPS:</td>
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<td></td>
<td>LOADING OR DISCHARGING</td>
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<td></td>
<td>OPERATION TO/FROM VESSEL / PANTOON TO MARSHALING YARD OR VICE VERA. (PER CONTAINER)</td>
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<td>20' -FEET</td>
<td>40' -FEET</td>
<td>120</td>
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<tr>
<td>CT/A-2</td>
<td>NON CONTAINER SHIPS:</td>
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<td></td>
<td>LOADING OR DISCHARGING CONTAINERS IN/OUT NON CONTAINER VESSEL TO/FROM HATCHES (PER CONTAINER)</td>
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<td>20' -FEET</td>
<td>40' -FEET</td>
<td>180</td>
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<tr>
<td>CT/A-3</td>
<td>EMPTY CONTAINER:</td>
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<td></td>
<td>LOADING OR DISCHARGING OPERATION TO/FROM VESSEL / PANTOON TO MARSHALING YARD OR VICE VERA. (PER CONTAINERS)</td>
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<td>20' -FEET</td>
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<tr>
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<td>COASTER FEEDER SHIPS:</td>
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<tr>
<td></td>
<td>LOADING OR DISCHARGING OPERATION OF CONTAINERS TO/FROM THE MAIN VESSEL. (PER CONTAINER)</td>
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<tr>
<td>CT/A-5</td>
<td>LOADING OR DISCHARGING OPERATION OF CONTAINERS TO/FROM COASTER FEEDER VESSEL OR RE-CARRIER VESSEL (TRANSSHIPMENT CONTAINERS). (PER CONTAINER)</td>
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<td>130</td>
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<tr>
<td>CT/A-6</td>
<td>OVER-HEIGHT, OVER-WIDTH, OVER LENGTH CONTAINERS:</td>
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<td>HANDLING WITH SPECIAL GEAR. (PER CONTAINER)</td>
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<td>340</td>
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<tr>
<td>CT/A-7</td>
<td>HAZARDOUS CONTAINER AND EXPLOSIVE CONTAINER: (PER CONTAINER)</td>
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<td>255</td>
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<tr>
<td>CT/A-8</td>
<td>SHUT OUT CONTAINER:</td>
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<tr>
<td></td>
<td>TRANSPORT OF SHUT OUT CONTAINERS FROM QUAY TO MARSHALING YARD OR VICE VERA. (PER CONTAINER)</td>
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<td>20' -FEET</td>
<td>40' -FEET</td>
<td>70</td>
<td>90</td>
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</tbody>
</table>

Over-view of the main problems facing the 4th determinants :-

1- The cargoes charges have to be less than 2% from the total cargo cost, but the Harbour
tariff for vessels is very expensive and in it’s way to reflect many negative effects.

2- The vessels’ Harbour Tariff forced (indirectly) most of the vessels to escape away from Port Sudan Port.

3- The vessels’ Harbour Tariff will limited the number of calling vessels.

4- The vessels’ Harbour Tariff affect indirectly the Sudanese economics if the number if calling vessels increases in order to load and discharge exports and imports, that will have a positive effect on other services like: the storage areas, customs duties, clearance agencies, ship agencies, stevedoring agencies, insurance companies, and etc., which will increase the economics activities automatically. In the same time the goods will be in the markets and in customers hands in suitable time and price.

(3-5): 5th determinant:
Marketing administration is affiliated to the office of the General Manager of Sea Port Corporation which is subject to the direct supervision of the general manager due to the magnitude and sensitivity of the tasks pertaining to it.

It is invested with the task of issuing some resolutions and publications of loaded and discharged cargoes in order to:

- Suit the state of the port, or
- To go with the request of labours and below Union inside the vessels, or
- Answering to the protests submitted for the union of gangs labours*, or
- Amendments of the S.P.C Harbour Tariff (for vessels or goods), but this amendments are scarcely appear.

The shape of Resolutions and Publications:

These resolutions have a definite number and date to be as reference later and on / and / after they take force. They issued from the administration of marketing and addressed to the ship-owners, ship-agents.

*Gangs labours: A 14 – labours union, headed a supervisor, and distributed each to his work or according to the supervisors instructions. The ship-agent advise for Labours from Labour office, for example: they advise for two gangs; one to work inside the vessels and the other is to work outside, or they may advise for four gangs or more but according to the quantity of the daily work.
These decisions issued as an amendment of items or decision concerns one or more of the following units:

1) Labours.

2) Loading and discharging operations.

3) Cargoes.

4) Perths, port or its stores or more-houses.

The decision or publications concerning each of these units will be discussed.

1) Labours: -

On 24/1/2002 the Sea Port Corporation issued a pamphlet under Ref. No L / AM secretary / 23, under the number (1) of the discussions of the ports labours affairs, for ship-agents acting in Port Sudan, concerning the non – payment of wages of the gangs labours. These discussions are about the following:-

a) The stevedoring agent must be committed to collect during or within before anchoring.
b) The daily wages of the gangs labours must be paid during or within 48 hours from the date of the shift.
c) The labour union and labour office have all the rights to suspend any ship-agent or stevedoring agent fails to pay the labour wages.
d) The labour union and labour office have all the rights to suspend the licenses of any ship – agent or stevedoring agent, failed to pay the labour mages.
e) Non – renewal of the stevedore – agent licenses unless have a recommendation from the labour union explanation of the reasons there of.
The decision mentioned above is issued from an accountable committee, defending the rights of gangs labours, therefore the stevedoring agent have to pay them their wages due for fear that:

1) Work should be suspended.
2) Licenses will be withdrawn.
3) Non-renewal of any license of stevedoring agent failed to pay the wages.

2) Loading and discharging operations:

The administration of marketing issued an publication on 15/7/2001 to all ship-agents or stevedoring agents to the affect that vessels which are not work on holidays and weekends, which is contravention to the general port regulations, in such cases, the following is to be imposed:

- The stevedoring agent will pay amount of 25,500 Dinar per each shift*.
- The ship-agent will pay amount of US$. 100,000 per hour.

When this pamphlet is issued, all parties are to commit to confirm with what is mentioned.

The aim of this publication:

Is to expedite the loading and discharging operations so as not to berths the vessels longer than others which are waiting for their turn, considering that the berths in

*shift: It extends over 3 hours there are 3 shift per day: 1st shift from 7 a.m. to 3 p.m., and from 3 p.m. to 11 p.m., and from 11 p.m. to 7 a.m., so the shift is 8 hours. The last shift called over night shift and pay on doable rate.
the port are limited, and any delay is to affect the arrival of commodity in consumers hand.

One of the publication regarding the loading and discharging cargoes is as follows:

1- The cargo manifest*: is to include all the particulars of the cargoes loaded on the vessel, and number of bills of loading, all bills of loading details shippers receivers, notify party, marks, number of packages, cargo weight on gross tonnage and net tonnage, and cargo measurements.

2- The cargo manifest must be clear and legible.

3- The cargo manifest must be inclusive of all loaded cargoes.

4- The cargo manifest must be stamped and signed by the ship – gent in the port of loading.

5- The weights are to be real.

3) cargoes :-

*manifest : is a table explain the number of bills of lading, the shippers, the receivers, the notify party, the description of goods, number to packages, weight of each and the sea-freight amount for each B/L, and all must be signed and stamped by the ship-master.
Section (4) of this chapter, negotiate the Port Sudan harbour tariff of the Sea Port Corporation I mentioned that here are fees pay to Using Port Facilities And Specialize Berths for the dry and liquid bulk imported and exported cargoes.

Previously these fees were called Royalty fees, but now and after an amendment according to the publication dated 3/3/2002 it is called Using Port Facilities And Specialized Berths.

Like-wise, some instructions from the General Department For Land Operations may be issued concerning these fees imposed on, according to the current economic situation is Sudan, strategic cargoes which are not subject to any competition in local markets, and not liable to the rise or fall in prices, which means that their prices are to be stable in the long term.

However, after the imposition of such fees the price of the commodity to the consumer will increase. (These fees, however, may not come in to effect if the loading is manual using the buckets instead of machines silos.)

4) Berths, port or it is stores or warehouses :-
Some publications issued concerning the protection of goods stored in the port, which can be for the interests of goods in the same time to secure the legal. Position of the port against any complaint that come from the storing ones.

One of these publications was issued according to the general regulation for Sudanese ports, which states that:-

“The port authorities will not be responsible for any losses or damage, if these are ascribed to a bad typing of cargoes, or the lack of labels, numbers or the distortion of it or for, undetectable defect in the cargoes, or the natural decay these of, or the leakage of liquids or the fire, no matter what the cause, or waters used in putting out fire, or earthquakes, or floods, or waves, or rains, or pests, or strikes or due to works by the enemy or compelling circumstances”.

The above publication is a clear declaration that to push the exporter and importer to clear and receive his cargoes as soon as possible for any damage should accrue for any of the above causes, has is teed of that receive more fees as previously mentioned.

*Sea Port Corporation / marketing department publication
Nonetheless, this publication is regarded as a protection for the S.P.C against any complaint that many be expected from the exporter or importer who stores his goods in the warehouses.

**Over-view of the main problems facing the 5th determinants :-**

1) Regarding the publication of the labours, it is clear that the manger of labour office in the Red Sea State sees it a priority to pay for the labours promptly this is issued under the power and pressure of the labour union, where the work in shifts done by gangs who are a small tribal category ( Hadandawa – Bani Amer …) who object to cooperate with any other labours, supported by the labour union in the Red Sea, and union of gang labours, that is because they working in the port in monopoly system.

2) Concerning the port requirement of the cargo manifest, such, needs a high degree of precision in performance and practice in shipping work which is not to be found at the same time in the ship – agent, also the cargo manifest may be unclear and illegible, due to bad communications with the loading port.

3) Regarding the publication issued for cargoes loaded and discharged at Port Sudan port, specially the publication for the Using Port Facilities and Specialized Berths, which act to increase the expenses of loading and discharging for both the shippers and receivers.
CONCLUSIONS

The major aim of the Microeconomics is to satisfy all the interests of the consumer, and to ensure easy access of the commodity to the consumer hands with it’s both utilities (time utility and location utility), is the main objective of the economies of Marine Transport.

**Location utility:**
It is the economic value added to the commodity produced. This value results from its shift from the location in which its value or economic interest is low/absent to the location where the value is high or where a higher economic interest is achieved.

**Location utility in terms of cash**

<table>
<thead>
<tr>
<th>The price of commodity in:</th>
<th>The price in commodity in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>the location where it is required</td>
<td>the location of its production</td>
</tr>
<tr>
<td>or its price in the location, where</td>
<td></td>
</tr>
<tr>
<td>the level of the demand for it is higher or its utility is higher.</td>
<td></td>
</tr>
</tbody>
</table>

**Time utility:**
This is the economic value added to the produced commodity when shown once it is needed.

The study comes to the conclusion that the determinants of the role of Port Sudan Port are themselves the obstacles towards facilitating the performance of the port as required, which affects the services for exportation and importation in the location and time required, a matter which is necessary for the provision of commodity to the consumers hands in both its location and time interests / utilities.

Therefore, all of the determinants mentioned in chapter three which determine the role of Port Sudan Port are regarded as the obstacles to the same role, for:

1.- The incompetent Port Sudan movement cycle, and the shift of Port Sudan from a weekly working port to a good working port, work towards regarding it as a not good port that can provide the services required to ensure the arrival of the commodity to consumer it an import or export in the location and time determined/ required.

2.- Rules and regulations of foreign trade: these work to determine the role of the port indirectly, for they make clear the role of foreign trade and importers and exporters and the regulations governing their work in this field, and accordingly determine the role of Port Sudan Port, for most of the imports and exports pass through the port, so any delay in the trading procedures is to affect the performance of the port and delay its role.

3.- The port equipments is the determinants of the role of Port Sudan Port, and, at the same time, if not provided as required, will be as an obstacle to the role of the port.

4.- The Sea Port Corporation Harbour tariff for vessels forced (indirectly) most of the vessels to escape away from Port Sudan Port, and in the near future Port Sudan Port will be deposed port.
Some of the resolutions and publications issued by the management for marketing in the sea ports corporation are too strict and hard to carry out, a thing that leads the preference on the part of ships of other ports than Port Sudan. Also, some of the importers and exporters prefer air navigation to marine navigation if the nature and quantity of the commodity permits.

RECOMMENDATIONS

To work towards making Port Sudan Port an effective port to achieve its role through the following: -

- The sufficient influx of imports.
- The sufficient supply of exports to the international markets.

These are to be done by: -

1- Exploiting the port resources by hard currency for purchasing good handling equipment instead of the old one, or the renewal there of.
2- Increasing of the number of the vessels call Port Sudan Port through the provision of some facilities for ships and better service in terms of shipchandelling and berthing dues and other matters. That if the calling vessels increases in order to load and discharge exports and imports, that will have a positive effect on other services like: the storage areas, customs duties, clearance agencies, ship agencies, stevedoring agencies, insurance companies, and etc., which will increase the economics activities automatically. In the same time the goods will be in the markets and in customers hands in suitable, so vessels must be encouraged by all means to call the port.

3- Co-operation between the Sea Port Corporation and Ministry of Foreign Trade, where the Ministry can lighten its procedures in terms of imports and exports to enable the port to play its role in importation and exportation.

4- The lightening of bureaucratic procedures on the Port Of Quality Control Authority, Ministry of Foreign Trade, and the Sea Ports Corporation Departments.

5- Eradication of the tribal system within the port and dismantling of the monopoly of work by some tribes rather than others, and making available opportunities of work for all on equal terms.

6- To easy the complicated procedures for requesting of berths (in the Port Control Department).

7- Withdrawal of some powers given to Labourers Union and Labour Office, and transferring them to a specialized department in the Sea Ports Corporation.

8- The port is to reduce some of the fees imposed on the ships and cargoes, so as for the port to be attractive port, not repellent port.
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