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## Containerisation in the developing countries : its implementation in the West and Central African countries

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WORLD MARITIME UNIVERSITY  
MALMOE - SWEDEN

CONFIDENTIAL

Containerisation In The  
Developing Countries:  
Its Implementation In  
The West And Central  
African Countries.

By

ATANGA PAUL  
( C a m e r o o n )

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

MASTER OF SCIENCE DEGREE  
In  
GENERAL MARITIME ADMINISTRATION

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

Signature

Date

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Visiting Prof. E. Mangels

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## ACKNOWLEDGEMENTS

The present study is carried out just a few months before the advent of the first UNCTAD REVIEW CONFERENCE ON THE LINER CODE OF CONDUCT that entered into force since OCTOBER 6, 1983.

My intention in writing this paper is to consider with a prospective point of view the development of the containerisation in the West Africa region.

While there is actually serious discussions on the issues of the implementation of the cargo sharing on the West African trade as aimed by the Code of Conduct in 1974, liner shipping has moved towards future trends with the container system.

It is now necessary to reconsider the last maritime developments in this region and the objectives to be achieved as related to the subject-matter and further, to appraise the issues of the regional cooperation.

For the keen interest, patience and support given all along this study; I must thank my Course Professor Dr ABDEL A. MONSEF.

I have tried to keep a list of all those, in one way or other, assisted me and will give a credit here the risk of missing a name or two.

In the Port of Hamburg, Dr HANS LUDWIG BETH, who has been very helpful in providing me, with recommendations all the precious informations related to the study.

From I.D.R.E.M. in Abidjan, Dr Jean Claude Kouassi, Director General who kept me abreast of the happenings in the west african maritime developments.

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## Abstract.

A brief survey of the last three decades features that containerisation has taken liner shipping industry to far reaching changes . The logistics which supports these fundamental changes have lead to the overall improvements that caused direct consequences in the implementation of new structures such as (innovative institutions and techniques) to the liner industry.

Shipping as an international business has seen the widespread of this new system of sea transportation on routes to Developing Countries ,and has particularly entered the small liner trade of the West and Central African region.

Hence ,it is not surprising that national carriers in this region have embarked progressively on a container expansion programme.

But,so far,there has not been appropriate measures which were implemented so as to keep abreast the development of liner shipping of the region and by to strengthen the maritime cooperation.

The strong presence of outsiders and the policy of certain operators to use their fleet as an aggressive commercial strategy,through a hidden rate war is weakening progressively the conferences structure,under which the national as well as the regional policy is still relying on .

This disintegration of the share of west african national carriers in the world trade, coupled with the relevant turndown of raw materials produced by these countries in the world trade there is no doubt that, as part of the national development, containerisation must be implemented if they do not want to face worsened problems than those prevailing in liner shipping before the advent of the Code of Conduct for liner conferences.

UNCTAD has already started preliminary consultations in the implementation of containerisation.

## ABBREVIATIONS

EEC = European ECONOMIC COMMUNITY

dwt: deadweight = cargo-carrying capacity of a vessel.

IDREM : INSTITUT DE DOCUMENTATION ,DE RECHERCHES ET  
et d'ETUDES Maritimes: Abidjan ( IVORY COAST)

GNP: Gross National Product.

FCL : Full Container Loaded as opposed to LCL  
which means less container loaded

LDCs : less developed countries

NICs: THE NEW INDUSTRIALISED COUNTRIES

NAIRA: Nigerian Currency =330Fcfa

OECD : ORGANISATION for ECONOMIC COOPERATION and DEVELOP-  
MENT. Based in PARIS, its role amongst its members  
is to coordinate economic policy, promote and coor-  
dinate aid to developing countries.

TEU : TWENTY EQUIVALENT UNITS

West & Central Africa: This notion will sometimes be used  
West Africa only.

m = meter

km = kilometer = 1000 meters

CAMSHIP = Cameroon Shipping Lines

CMB = Compagnie Maritime Belge

CMZ = Compagnie Maritime Zairoise

COBENAM = Compagnie Beninoise de Navigation Maritime

SOTONAM = Societe Togolaise de Navigation Maritime

COTRAM = Lignes Congolaises De Transport Maritime (not  
actually in existence, but is in expectation).

NNSL = Nigerian National Shipping Lines

## INTRODUCTION

All along this decade ,there has been a rapidly growing concern for organisational issues of West and Central African's containerisation .

Two major interrelated considerations outlined from various meetings and studies on the above subject matter are:

-Firstly ,the necessity of adapting West African shipping to the increasing competition and to the technological diversity by implementing the cargo sharing proposals as contained in UNCTAD's Code of Conduct for all the liner trade and particularly in containerised cargo.

-Secondly, given the fact that the number of empty boxes on the return leg is growing fast there is a necessity to adapt boxes to the West african commodities generally made of breakbulk cargo.

Previous studies carried out on the development of containerisation in this region were mainly viewed or oriented towards comparative traffic growth ,as if the only concern was on ports development, but neither with an impact on national economy nor on a regional cooperation.

The present study has a different approach in that,any improvement in the maritime transportation is the concern of the entire nation and the whole region that might benefit from these changes.

I have based my research on the following assumptions:

1/ Containerisation as defined is a system of transportation that implies a complete changes of attitudes

towards an integration of maritime transportation networks to all other existing means of development since the benefits are derived from its complete implementation and serve the interests of the nation;

2/ That containerisation is an essential tool to rationalise the national maritime strategies and policies to the overall national development ;

3/ The implementation of containerisation will help the West and Central African States to strengthen the regional maritime policies with regard of the recommendations of the Charter of Abidjan that has been ratified in 1975;

4/ That, the implementation of containerisation will take the liner shipping development of this region to the actual stage of the world liner evolution and hence, permit to the participation of this region in the Reviewing Conference of the Liner Code in a better position of negotiation.

For that a certain number of questions may arise:

- (a) -Which strategies to be applied for a competitive system of containerisation in the region ?
- (b) -What are the appropriate measures to be taken with the increasing number of empty boxes?
- (c) -What types of vessels and equipment are mostly suited for the liner trade of this region ?
- (d) -What are the regulations to be implemented in order to harmonise them with the trends of the containerisation development?
- (e) -What are the issues on the problems facing the landlocked countries ;with considerations of costs

,transit or the development of a multimodal system of transportation ?

(f) -To what extent the commodities of the region will be adapted to this system of transportation ?

With a diagnostic approach of the actual developments of containerisation in the region ,the aims of this paper are:

Firstly,to emphasize on some of the problems relevant to the attitudes of the West and Central African Countries in their participation in the liner trade; specifically with such factors (as the Liner Code of Conduct ,The Charter of Abidjan of 1975) influencing their strategies to improve productivity and opportunities available to profit.

Secondly, in the advent of the revision of the Liner Code of Conduct ,it is the occasion for the West and Central Africa ,with regards to the experience gained during these two decades to raise the problems of implementation of this system in the Code since the last developments in liner shipping were based on this system;which has not only brought on more uncertainties for the future trends in liner shipping ,but has deeply sharpened the pace of participation of the west and central Africa in the liner trade.

This study is not from a traditional standpoint whereby this system is against the conventional one; but from a modern approach which considers containerisation essentially as a tool for the efficiency of the liner trade in the region.

Part one of the study will deal with the above mentioned



questions developed throughout a theoretical approach of implementation as essential for a competitive attitude in liner shipping.

Then the study is devoted to an in-depth development of the regional containerisation and factors related such as trade volumes, port / terminal availability ,the problems of hinterland and multimodal systems ;the presence of conferences; the landlocked countries ;the imbalance in the trade. (Part 2).

Part three is related to the implementation as towards new attitudes.

The present study will not cover all factors involved within containerisation and by ,all the changes in the liner market .

It will lay on the analytical approach to business behavior in the containerisation development of the West and Central Africa.

Only some factors affecting the competitive attitude related to the subject-matter will be developed.

Discussions related to various philosophies either positive or negative on the introduction of the containerisation as a transfer of technology in the Developing Countries in general and in the West and Central Africa in particular will be excluded in order to avoid a voluminous content of this paper.

I have had difficulties in preparing this subject since there are also limitations in collecting all the proper and accurate informations and datas on all the countries of the region;

Therefore ,most of the informations found in this study

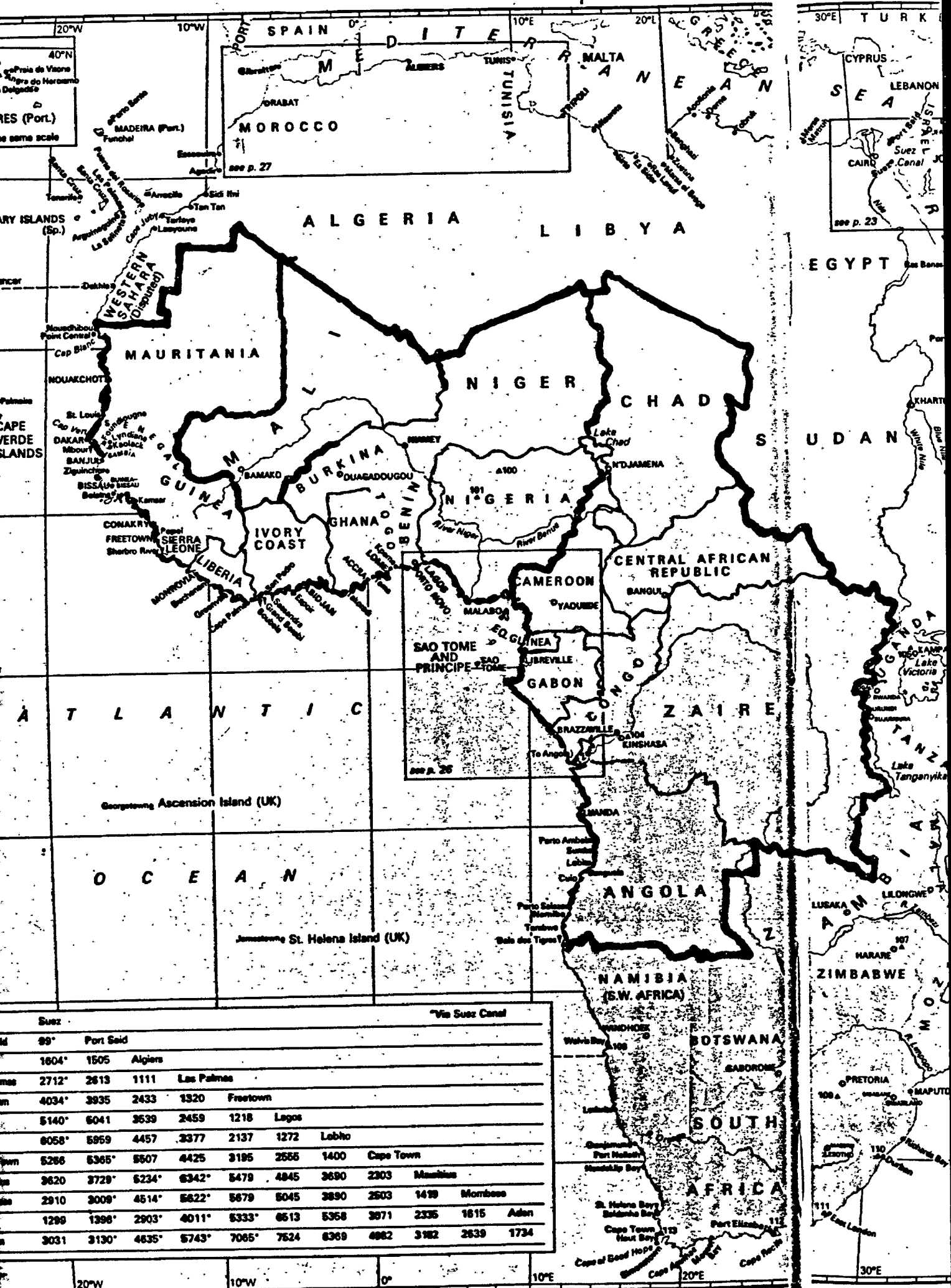
were acquired from various publications in French and in English ,in periodicals, IDREM studies ;publications of maritime authorities in Cameroon ;during my visit at the Bremen Institute of Statistics and Logistics (FRG); at WMU library; from discussions during various seminars and on my job-training at the Port Autonome Du Havre (France).

It is unfortunate that, with the big influence of national measures on shipping ,the shippers'behaviour in terms of business strategies is not fully discussed because of time and space constraints;

I also regret,once more that some of the countries Member states of the Charter of Abidjan will not be mentionned since there is no information available on them related to the subject-matter;

Meanwhile ,three countries of the region (Ivory Coast,Nigeria and Cameroon) above all,will have more developments. It is simply due to the importance of their participation in container activities in the region.

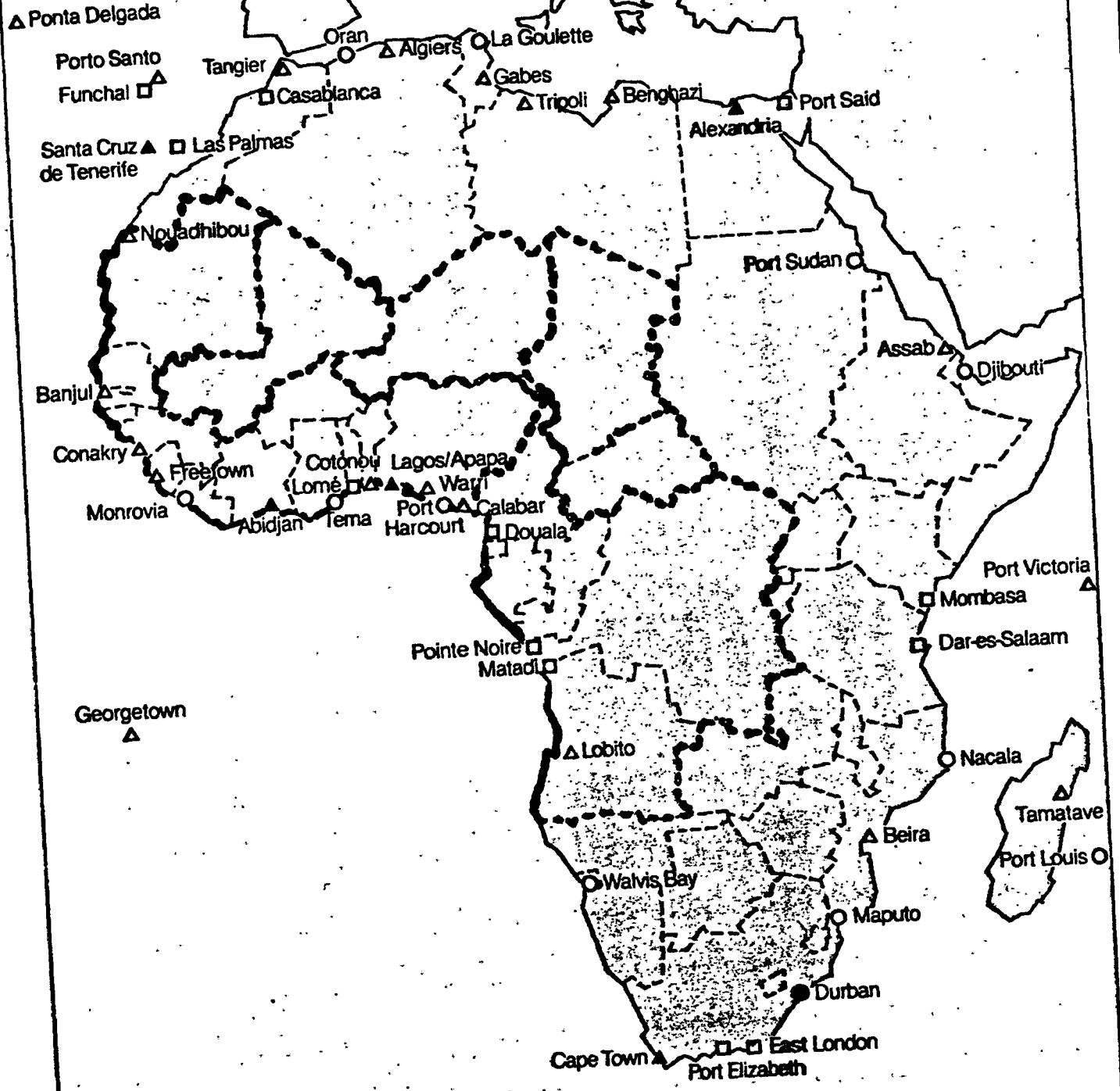
My wishes on this study are that, global cooperation must now be developed concretly by these countries at this first stage of containerisation in order to face the challenges that this region has to overcome in its participation in liner shipping.



\*Via Suez Canal

Suez	Port Said									
1604°	1505	Algiers								
2712°	2613	1111	Las Palmas							
4034°	3935	2433	1320	Freetown						
5140°	6041	3639	2459	1218	Lagos					
6058°	5959	4457	3377	2137	Lobho					
5286	6365°	5507	4425	3195	2556	1400	Cape Town			
3620	3729°	5234°	6342°	5479	4845	3690	2303	Mombasa		
2910	3008°	4514°	5622°	5679	5045	3890	2503	1419	Mombasa	
1299	1398°	2903°	4011°	5333°	6513	5358	3971	2335	1615	Aden
3031	3130°	4835°	5743°	7065°	7524	6369	4982	3182	2639	1734

# Africa



KEY	
●	One million TEU +
○	250,000 TEU +
▲	100,000 TEU +
□	25,000 TEU +
○	10,000 TEU +
△	Other ports

Source: Containerisation International Yearbook - 1985

## I- A Global Presentation of the West African Features.

West Africa as a maritime region in the making is located in the eastern part of the Atlantic Ocean.

Some 25 Countries of this region among which many have acquired independence between the '60s and '70s comprises the following States: ANGOLA, BENIN, BURKINA FASO, CAMEROUN, CAPE VERDE, CHAD, CENTRAL AFRICAN REPUBLIC, CONGO, GABON, GAMBIA, GHANA, GUINEA, GUINEA BISSAU, EQUATORIAL GUINEA, IVORY COAST, LIBERIA, MALI, MAURITANIA, NIGER, NIGERIA, SAO TOME & PRINCIPE, SENEGAL, SIERRA LEONE, TOGO, ZAIRE.

The West and Central African Region covers an area estimated at about 13.8 million square kilometers (almost half of the continental land), extending from Mauritania in the Northwest to Angola in the South West of the African Continent.

It is situated on latitude between the 20' North and 18' South of the Equator and on the longitude, extends from the 20' West to 35' East of The International Date-line.

The region has an estimated population of some 200 millions inhabitants composed of various ethnic groups such as Bantus, Haoussa, Arabo-berber etc ... just to mention a few.

Africa as a whole produces only a small fraction of the world manufacturing output and contributes surprisingly little to the total world trade. The continent accounting approximately 5 % of world imports and a little over 4 % of exports ; roughly as in the late 1960's. (1)

No doubt that the portion of this region is very little in the world trade.

Nonetheless, foreign trade is of considerable importance to most african countries as it is of a significant proportion of total GNP.

With the domestic manufacturing base, as yet as of exceedingly small volumes, many countries are still overwhelmingly reliant on one or two primary agricultural products. The derived revenues funding the purchase of imported manufactures as well as fuel and food.

Recent adverse developments in terms of declining costs in agricultural products, have affected the african economies. Declining export earnings accompanying steady increases in import prices. (see table 1 in annex 1)

Recurrent drought and other adverse climatic factors have also affected the agricultural sector. Per capita incomes, primarily dependant on natural resources, vary widely among these countries.

Undoubtedly, there has been considerable progress within this region since these countries became independant as structural changes in the economy are evident.

In 1960, agriculture accounted for the largest part in the exportations. The process of industrialization has not also been a smooth one proceeding in line with the expectations as forecasted by national planning or by foreign institutions such as The World Bank, OECD etc... The sustained pace of development is based on mining, crude oil production and other extractive industries. Nigeria, Cameroun, Congo, Gabon, in particular have benefi-

ted from oil production. The importance of mining activities has also increased in countries like Niger, Mauritania, Zaire, Gabon, Guinea, Togo which produce among others, - bauxite, manganese, iron ore etc...

Besides this, some countries in the region such as Chad , Burkina Faso, Mali are considered by the international community as the poorest countries in the world (as regards with their lowest income) .

Another aspect of development is the transport sector that has gradually become one the most important for investments. National plans have devoted a sizeable portion of the available budget to the development of the basic transport infrastructures since it is shown that a favourable economic advancement depends on a simultaneous growing transport system.

For that improvements have been made both on domestic and to a certain extent on international transport links; but landlocked countries still face considerable problems.

Some railway development projects have come to fruition; but the current network is rudimentary, especially in an international context. Many operate with traffic levels far below the minimum economic traffic capacity.

Political and economical problems have delayed the development of both international road and rail links. - Meanwhile work on the Trans-African Highway and the Trans-Saharan Highway continue.

Supra-national and regional organisations both political and economical exist. But only little real sign of significant integration has been established.

A number of political and economical rapprochments or unions between countries on regional basis do actually exist such as : The Economic Community of West African States ( ECOWAS ),The Customs and Economic Union of Central Africa ( UDEAC ) ; The Economic Community Central African States (CEEAC) etc ...

They are considered and foreseen as the most suitable for development.

This continuous process for a regional rapprochment was also made in the the maritime transportation field with the establishment in 1975 of a Ministerial Conference for the West and Central African States as aimed by UNCTAD as one the priority areas of development.



PART 1

The recent developments  
in containerisation as  
the implementation of new  
structures to liner shipping.

The chapters included in this part are an overview of the recent developments in the container industry as the implementation of new structures to the traditional liner shipping.

Guidelines for the structural scheme for any form of activity or any type of business as well as the competitive nature will be considered all along this development. For that, we will have to focus our study on the liner shipping developments and particularly with the containerisation as an innovative industry which is still developing.

An approach of definition is presented as the theoretical starting point; our analysis will continue with the scope of implementation.

The study will then be carried on the specific aspects of containerisation with their impacts on the actual and future trends of containerisation.

## CHAPTER I

### IMPLEMENTATION: AN APPROACH OF DEFINITION

1-1 What is implementation ?

1-1-1 Definition

Implementation is the act of implementing or the state of being implemented.

In general, to implement is to enforce, which means to fulfil, to perform, to accomplish or to realize.

However, in the WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY UNABRIDGED, "to implement is to provide implementation in the sense of legislation". (2)

Implementation as applied here in the legislative context, has been used by some authors with legal or administrative means.

According to SCHENDEL and HOFER, "implementation is achieved through a variety of administrative tools that can be grouped into three categories: (3)

(a) structures : including physical structures under which are methods of departmentation, coordination, specialisation in the delegation of authority and informal organisation.

(b) processes: including resource allocation systems, measurement and evaluation of systems, rewards and sanctions, personnel selection, development and promotion systems.

(c) behavioral: including interpersonal behavior leadership style and uses of power.

Therefore, under legislative purposes, implementation means either:

- fulfilment of the non existing regulations;
- enforcement or actualisation of the obsolete regulations or rules of procedure;
- establishment of regulatory procedures for the organization or of a structure by defining its boundaries of activities.

Meanwhile others have applied it in an economic aspect.

Then economically ,implementation covers :

- the regulatory structures of the market or of the production;
- the innovative aspect to develop a business or activities to be performed;
- the requisites to effecting the end of;
- to setting of tools for the new environment.

However, this concept has also been used for the managerial purposes.

According to GEORGES A.STEINER : "Implementation as such, is a process which covers the entire range of managerial activities including such matters as motivation, - compensation, management appraisal and control processes."

(4)

A general approach from the above mentioned shows that management process has two major dimensions:

- 1/ planning;
- 2/ implementation of planning and control.

Planning is essential in management, in that, it maxi-

mises profitability over the long term and permits to harnessing the resources of the business for the most effective pursuit of objectives.

The basic purpose of implementing planning in shipping industry is to identify commercial opportunities and exploit them by providing the necessary resources in the right place and in the right time.

While planning is concerned with the total organisation's mission, policies and objectives, implementation is dealing with the organisation structures, leadership, information system. (5)

Control is the evaluation of the systems used to ensure that the organisation objectives are effectively achieved.

It is therefore, to be seen, that the word implementation can be achieved through legislative or administrative, economical and managerial means.

The administrative and managerial aspects undoubtedly require a greater degree of economic functions.

Implementation of regulations either in law or in economics is always seen as static. Regulations even when applied, do not generally follow the dynamic trends of the continuously changing environment; and hence more, there is usually a gap between economic changes and legislative procedures.

Management, in combining the two, will constantly adapt the structures to the changing environment and by, increase the efficiency.

1-1-2 Implementation implies the consideration of various factors.

A/ Time factor and implementation.

The decision on the timing becomes a major issue, especially for economic activities, such as at present in the developing countries.

The importance of time in the implementation of new regulations has been developed by Gerstein and Reisman as "Time pressure for results" which means "needs for rapid assessment and decision making." (6)

a) -The challenges

As noted earlier and with consideration of the time factor, there is a big gap between a mature business and a newly emerging one since there are different challenges.

In the former, competitive dimension depends on efficiency and conscious management. This means that organisations living in a mature market are now placed on a higher growth potential level and companies in such an environment are more and more interested to consider the diversification of their activities. (7)

For the latter, the competitive battle relies on the ability to adapt effectively to a rapid changing environment.

A set of characteristics will outline this typical situation all along this study with regard to the West African infant shipping industry still in its embryonic stage of organisation, has started to invest in containerisation with limited resources; in liner business.

## B- POLICIES AND OBJECTIVES

### (a) Policies.

The policies provide guidelines within which objectives are established and strategies determined, implemented and controlled. Policies, as such, limit the space in which action should be taken.

### (b) Objectives.

These are defined as the results that the whole organisation wishes to attain during a given period. But the process that leads to the determination of strategic objectives is influenced by internal and external factors that the organisation has to consider.

### (c) Strategies.

Strategies may be considered as the way a given business is carried out according to the objectives which determined in advance.

## C- Implementation implies a diagnosis.

While facing many priorities, any organisation has to diagnose the degree of its involvement in the concern activity. The diagnosis will concern both the strategic and the operational aspects.

1/ -strategic diagnosis: has to evaluate the current organisation of strategies and to determine which changes are required.

2/ - operational diagnosis focusses on the evaluation of how effectively the current strategies are implemented and which changes in methods or processes must be applied to improve the current operations. This may result in

the changes of functional strategies (production, marketing or the management practises) etc... (8)

1-1-3 An approach of implementation in business.

According to Professor MICHAEL E. PORTER (9), three generic strategies (which can be used alone or in combination) are effective for creating a defensible position in the long run and outperforming competitors in the industry.

These main strategies referred to are:

- (1) overall costs leadership;
- (2) differentiation ;
- (3) focus.

-The first strategy i.e the overall costs leadership in an industry requires aggressive construction of efficient scale facilities; a vigorous pursuit of costs reductions ; tight costs and overhead control.

-The second strategy is based on the differentiation of either the product or the service offered to the firm in creating something that is perceived by all as being unique.

-The last strategy is focussing on a particular buyer group segment of the product line or geographical market, as with differentiation through focussing on a particular segment of a consumer group.

1-1-4 Implementation and competition

The implementation is for a business to develop strategies so as to cope with the industry competition. The objective for a business unit is to find a position that the company can best defend itself against the competitive environmental forces or can influence them in its



factors.

Following his analysis, Michael Porter outlines five factors which determine the competitive structures of industries.

These are:

- (a) - the threat of new entrants;
- (b) - the threat of substitute products or services;
- (c) - the bargaining power of buyers;
- (d) - the bargaining power of suppliers;
- (e) - the rivalry among current competitors.

If we apply the idea to the current container market the five forces can be explained as follows :

- \* competitors existing in the current market;
- \* potential carriers;
- \* oversupply of the shipbuilding market;
- \* competition from other modes of transportation;
- \* pressure from shippers or their councils;

In addition to these forces and indirectly intensifying the competition of the market are included:

- political aspirations to enter the liner shipping industry ;
- governmental subsidization to the shipbuilding industry or to the national shipping lines;
- influences of technological developments in the shipbuilding industry ;
- influences on the container market itself.

All the five competitive forces jointly determine the intensity of industrial competition and profitability.

This approach will further be analysed in the West African context.

Before taking my analysis to the features of containerisation let us have a look in the liner shipping situation with the environment.

### 1.2.1. Implementation in the liner shipping

Here I will present a specific national approach (A) and then a general in the West African (B).

#### A- A National Approach

Traditionally ,the method adopted to develop a new business in the maritime industry was to expand an existing operating base into new geographic locations or related business areas. But, before adopting such an alternative, there might be effective mechanisms to develop these new activities. This implies that one has to take into consideration changes in technology as well as strategic resources availability. since rapid changes in technology is one among the major problems facing the shipping industry today.

From the economical point of view, liner shipping activities are inevitably strategic in nature; in that, they enable the country to improve its balance of payment and furthermore ,ameliorate the position of the country in the world trade.

The strategies conjure up the idea that shipping services serving the international trade of any given country operate in the interest of that country.

This means that a combination of factors for long and

short-terms policies have been defined either by the government, its agency or by the shipping company and are implemented.

The strategy as well as the decision to invest in liner shipping must be considered.

For that the country should have an environment to offer an appropriate institutional framework and a potential for significant economic linkages to make possible efficient and economical operation of national sea going vessels in the carriage of its foreign trade.

The Country should also have a potential for substantial net foreign exchanges from shipping because of the size and nature of its trade and resources. As liner shipping is a high capital intensive industry, alternatives might be made either through the capital being available for the acquisition of new vessels on reasonable terms or through joint ventures or project loans. This implies:

(a)-that the country has good potentials for increasing its foreign trade with specific other countries and the volume of the trade is also sufficient to justify the acquisition of appropriate vessels;

-(b) that ,vessels and all shipping equipment currently used are the most economical from the total transport chain costs;and that the country is not inhibited by the costs and service limitations of its liner shipping;

(c)-that regular and reliable shipping services are available for importation and exportation for raw materials as well as for high value commodities;

(d)-that the Country is developing a major project which

will give rise to significant exports and imports whereby shipping services may be the most economical solutions.

Finally ,the existing organisation of the trade gives or can be modified in order to give national shippers a voice in shipping arrangements.

B- The scope in the West African Countries.

The criteria which West African Countries have to consider in their effort to establish their merchant marines take different forms, including:

(1) -various economic, social and political factors;and also taking into account the effects of the balance of payments situation in the short and the long terms.

(2) -The prerequisites which must be established and expanded before and within the policy are amongst many others, the need for awareness of the population to understand the values and significant influences of maritime and allied activities on national economic and socio-political performances.

This will in turn create the necessity of building up larger sectors of public awareness and interest in shipping.

(3) -The efficient use of national ports and facilities;  
(4) -The expansion and further development of existing local,regional and international trade ;along with the level of industrialization projected as part of an overall economic development strategy.

These fundamentals ,if found and implemented,will make the best use of factors endowments for these coun-

tries in the long run ,leading them to specialisation and division of labour in the maritime field,which further will help to sustain a healthier balance of payment situation.

#### 1.2.2 Containerisation and Liner Shipping.

The advent of container shipping has brought large changes in liner shipping, but not extinguishing the concept.

Container services are still recognised as liner services. The terms "cargo liner" and "liner services" are distinct:

##### A. Liner Cargo.

Liner cargo is generally determined by quality in that the most common types of cargoes are manufactured goods which are of high value comparatively with the raw materials which are of low value. High value cargo means that high freight rates are collected from her transportation by sea.

The idea to consider liner cargo as such is due to the competition that is raised by other modes of transport.

Meanwhile and from the nature of the cargo, commodities suited for liners could also suit for tramp vessels in certain circumstances and nowadays, it exists a certain competition between liners and bulkers. It is then difficult to make a strict difference between liner cargo and tramp cargo. But tramp cargo is concerned with large volume or quantity. Liner cargo is heterogeneous, which means that various kinds of cargoes and volumes will be shipped by various shippers from various loading ports to various ports of discharging.

By its nature as being of high freight rates value, liner cargo has now expanded competition to other modes of transportation such as airfreight or land transport since its value has necessitated a service with fast transit time.

B- Liner services:

The essential elements of liner services are regularity and stability.

Liner services are based on a fixed schedule on particular routes. From its regularity aspect, a carrier has to deploy vessels regardless of the cargo availability in the short-run. This means that to be considered as liner service, potential shippers should be offered a regular service with scheduled departures on a particular route by shipowners sailing on that particular trade route. This regularity aspect is outlined with the idea of adequacy in liner services.

Adequacy means that shippers find a ship suitable for his cargo, ready to sail whenever they are ready for shipments. On the other side, shippers must also provide a regular shipment of cargo in order to meet the shipowners willingness to establish a regular service. But, to maintain a good quality on regular services, shipowners have to make huge investments to the route to build market networks. This means that the fixed costs of liner services will inevitably be higher than in the tramping market. Shipowners would like to meet enough cargo to be assembled in order to fill his ship.

The regularity of liner services will vary from the disponibility of cargoes and affect the service configuration and by then the ship's size, its speed, the number of sailings and the frequency in the given route.

Freight rates are not subjected to various changes

even when there is a change in the mode of transportation.

This means that there is no real elasticity in the cost of transportation. This makes the freight rates stable in the market. Stability in fact implies two dimensions:

(a)-The conditions of the market;

(b)-The freight itself.

-The market stability is essential for the liner carriers to have in a long run period, the payback of the high capital investment that had been tightened in order to provide services in a given route.

-Considering the freight itself:

For the liner carriers and shippers, the freight rates are of greater concern since this enables the shippers to calculate their productions more accurately.

Therefore, stability in liner services can be formulated by supports from two angles:

-the market stability from the carrier's standpoint;

-the freight stability from the shipper's point of view.

Furthermore, in the costs structure of liner services, most of the costs are fixed costs except few factors such as cargo handling costs etc.

This loading factor has played a role in the implementation of new methods of handling general cargo.

Thus, liner carriers require the stability of the market so as to provide a better regular service. This is the reason for the introduction of the conference system to secure the market stability through various tying devices. The strong tying devices are mostly concerned with loyalty agreements vis a vis of shippers and in different-tariff rates within the conference. Without these tying devices, the economies of ocean shipping will force lines

into rate wars among themselves. That might result in the destruction of common ocean carriage. In order to keep relative stability of freight rate, it should be set higher as much as the amount of the cost for stability to compensate the negative figure of this cost later. Especially in the conference system it takes long time to undertake General Rate Increase (GRI) which needs various time lags such as the recognition lag, the administration lag and the implementation lag. (10)

### 1.2.3 Implementation In Containerisation Industry

MC LEAN, the founder of the container system, saw a means of simplifying the whole process. The shipper loaded the container and then sealed it, he filled out a bill of lading and there liability certified to the carriers concerned that certain items, only those items, were within the box so long as the seals were not broken, the shipper's declaration were binding, and no verification was needed.

His thinking from previously efforts to improve the procedure followed in break-bulk shipping was his appreciation of the whole process as a single distribution system in which every part was interrelated and had a definite function.

The idea behind containerisation as a method of unitization of cargo is to consolidate numerous items into one standard size unit which can be handled faster, stowed better, and moved more efficiently. This was to save the vessel expensive time in the port, and sharply cuts the stevedoring costs.

Changes have occurred or are taking place in shipping technology and in the institutional environment.



Technological developments in liner shipping have been accompanied by significant institutional changes. Advanced nations' shipowners have quickly and successfully absorbed containerisation, in adapting the institutions and commercial practices to this system. This was possible only through means of rationalisation and mechanisms to shape consortia.

The principal economic forces that have helped to shape the shipping forces within the container system on the deep sea trade are :

- The switch of technological developments in liner shipping;
- large economies of scale that lead to the use of much larger vessels,
- the amalgamation of both lines and services.

This produces concentration both in routes structures and sellers participation;

The use of technology enables liner carriers to expand their activities in the container system. This involves the expansion of this technology in the terminal to improve productivity; which is beneficial for terminal operators as well as for suppliers to increase their activities.

#### 1.2.4 The development of new structures in the liner industry.

The introduction of container services in liner trades brought a profound structural change not only in cargo handling methods but also in all operations related to general cargo transportation. In this sense, an organisation in the business has several transportation related options including :

-vertical integration ,along with the industry supply chain .For example an ocean carrier could become an equipment supplier ,as EVERGREEN has done.

-horizontal integration which means the motion into other transportation modes such as the bulk industry.

As analysed by BOOZ,ALLEN (11),diversification,to be successful the following conditions have to be fulfilled:

- Unique strengths can be leveraged into the new business areas;

- a sufficient cash flow or a capacity to finance other activities is available from the core business;

- the investment will yield the desired impact on total financial performance and and shareholder returns;

- skills needed to succeed in the new activity,must be available or can easily be obtained ,as well as the time required to develop the new business,must be understood or accepted.

### 1.3 The multimodal system and conferences

#### 1.3.1 The multimodal system.

The introduction to varying degrees integrated intermodal container transport and handling systems by developed world operators provided a variety of challenges and problems among which figured high systems of costs, complexity of productivity etc..

Mc Lean first had the inspiration of an integrated transportation system using existing railroad, trucks, ships, containers.

Contracts of carriage then followed to obtain the greatest possible efficiency and economy with horizontal and vertical integration and the merging of powerful groups through joint ventures; consortia, cartels or containers syndicates etc...

The intermodal nature changes freight rates practices. The effect of a door-to-door through transport by taking responsibility for inland transport movements

#### 1.3.2 Conferences under containerisation .

Various influences bringing out the rapid growth of competition show the extent of the increase of outsiders in the container trades. The degree of such competition is now such that in many trades, conferences ability to rationalise and to maintain a differentiated price structure is vanished. Conferences have been somewhat slow to react to the fact that the entry barriers to the container business have eased sharply. It is now easier to enter the container business than it was to enter the liner shipping in the conventional days. Most, though not all, of the reasons have to do with containerisation.

Advantages enjoyed by the early container operators included new technology, control of terminals, and inland network. With wider access to technology, improved inland and port facilities outside the control of conference lines, and the growth of container ship chartering, potential entrants to the industry were able to take advantage of a number of benefits not available before the container era.

The major changes which have occurred or are taking place are mainly related with the shipping technology and its institutional environment.

Among the significant institutional changes we can note:

(a)- the development of consortia, whereby two or more liner companies on a trade route join together for the operation of container vessels as one way of spreading the heavy investment costs in such vessels, assuring an efficient operation and reduce possible overtonnaging.

(b)- The second institutional development has been the growing emphasis by users that shipping conferences should consult or even negotiate with shippers' organisation regarding freight rates increases and other service matters;

(c)- A third major institutional development has been the adoption in 1974 of the Convention on a Code of Conduct for liner Conferences. Actually, some 67 countries have agreed to be bound by the Convention.

(d) - The fourth institutional development in liner shipping has been the growing involvement of government-owned or controlled shipping companies.

On the technological side, this has been particularly significant in liner shipping whereby a revolutionary development took place with containerisation.

There has been a gradual development of the conventional liner vessel, including the use of pallets, and the development of new vessel types, ro-ro; barge carrying vessels.

The productivity of a modern containership in terms of tons-miles per annum is between five and eight times that of a conventional cargo liner. Full container vessels have been introduced to all major trade routes.

As a system of transportation of these recent years, the container development has rendered shipping a more capital intensive industry. Its sophistication has issued in changing patterns and demands; ship design and size as well as employment of operational factors.

#### 1.4 The Competitive Strategies Developed by Containerisation

##### 1.4.1 The different operators and the competition

The involvement of government owned or controlled shipping companies in liner industry both from Communist Block and from the developing countries, with the NICs (with commercial ability and low costs labour), the advent of independent lines, who generally as outsiders operating with simple pricing structures and with lower rates, added with the presence of Non Vessels Owners Container Carriers (NVOCC) have greatly affected the traditional maritime competition in liner shipping. (12)

##### 1.4.2 The Operational Strategies. (13)

Nowadays, some 16 operating strategies have been developed as competitive measures by the different larger liner operators either in the developed or in the developing countries.

The classification of the containerline operating strategies is as follows: (13)

- 1 / Traditional multiport itineraries
- 2 / Geographical specialised overlapping itineraries
- 3 / Interlocking sets of multi-port itineraries,
- 4 / Mailine services with feederships extentions,
- 5 / Line-haul interchanges;
- 6 / Cross route strategies;
- 7 / Interlines cross route strategies
- 8 / Specialised market strategies;
- 9 / Integrated networks;
- 10/ Triangular itineraries;
- 11/ Bulk/container operating strategy;
- 12/ Uni-directional round-the -world services;
- 13/ Counter rotating round-the-world services;
- 14/ Horse-shoe shaped itineraries;
- 15/ Minibridge services;
- 16/ Landbridge services;

The summary of some 5 strategies is as follows-

- 1/ Traditional extensive multi-port itineraries.

Typified by HAPAG-LLYOD on their North Atlantic service, it applies with small ship size and small box exchanges at individual ports with a relatively short time spent in the port (one day for each port).

- 2/ Geographical specialised multiport itineraries:

Atlantic Container Line achieves a broad market coverage not by mounting a serie of over lapping services with some main cargo generating ports as keystones like New york and Le Havre,which enjoy higher service frequency.A sub-division of the services necessitates smaller ships than would otherwise have been the case.

### 3/ Integrated networks:

The operating strategy is based on the interaction generated by a line's separate services,with feeder connections not only acting as extensions at each end of the route but also linking into a route along its entire length rather like the tributaries of a river.In adopting a fully integrated network, a line can deploy a relatively large ships,at a workable frequency,and yet requires only modest uplifts of cargo at any one port.

### 4/ Bulk/container operating strategy

This is another rather more sophisticated strategy that has been developed to combat the problem of heavy trade imbalance.For example,Antwerp Bulk Carriers tackles this problem by combining bulk cargoes in carrying mineral sands from Western Australia to the US Gulf.Since a return with bulk cargoes from the US Golf to Australia are scare,additional bulk cargo plus containers are uplifted for onward carriage to Northern Europe.The third leg,in what is basically a round-the-world service,takes containers from Europe to Eastern Australia,picking up the mineral sands in Western Australia while en route.

### 5/ Land bridges and minibridges

Containerization has encouraged the development of land bridges using high capacity railway links between ports at opposite sides of land masses for onward

movement by sea or minibridges using railways to substitute for sea portion of the journey, which by far largely confined to developed countries due to the requirement of advanced rail-transport infrastructures. The United States land bridge links US east and west coast ports and is mainly for containers moving between EUROPE and Japan. This route reduces the sea transit by 7 to 12 days compared to the all-water route via the Panama Canal.

It is also used as a minibridge for cargoes from Europe destined for the US West Coast, and from Japan for the US East coast. A few lines possessing both Atlantic and Pacific services are offering this type of services.

#### 1.4.3 The World Scale Container System: The Round-The-World Service

Significant developments occurred in the world liner shipping industry in 1984-85 with the ordering by two major shipping companies (Evergreen Container Lines and United States Lines) of very large, cellular container-ships (ranging from 2,000 to 4200 Teu) and the introduction of new global operating patterns known as the Round-the-world services. This system of operation may be defined as vessels which circumnavigate the globe on a fixed liner schedule providing services on several sectorial routes.

Basically, four major operators are offering these services either in both or in one direction but with different itineraries, schedules and vessels. The introduction of an integrated global service is based upon three key considerations:

- economy of scale,



- mitigation of trade imbalances and diversification of markets;
- the increase in the size of the vessels and volumes of cargo carried permits lower unit costs to be achieved.

In operating on a circumnavigational pattern, the round-the-world service companies are also able to limit the usual directional imbalances found in the traditional routing, thus permitting less empty haulage and high load factors per voyage. Considering their operations in the various markets for a global service, companies involved in this system are less exposed if a particular trade leg declines.

As this system has been introduced by new operators coming in with additional tonnage, the disequilibrium between supply and demand on many containerised liner routes has been accentuated. With the round-the-world development, liner shipping has reached the stage of planetary economy. Thus, this system of transportation even though still new, may lead to a situation of oligopoly whereby few operators may dominate or eventually control several markets.

The round-the-world service is now of considerable concern to the whole shipping community.

In the developing countries with less maritime experience and less means to invest into this competitive operational system, there is a dual feeling between the shippers and the liner shipping companies.

These latter are afraid to reduce their operations only as feeder services to round-the-world operators. The competition may largely erode the position that these shipping lines have been able to secure during this last decade on a number of routes.

For the shippers, the introduction of round-the-world services is generally more favourable, particularly in

view of low freight rates.

This appears as a challenge not only for the continuity of the existing conference system in the traditional-maritime community or the implementation of the LINER CODE OF CONDUCT (which might have helped the developing countries to benefit in terms of trade participation and by then strengthen their position in the liner shipping.

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## Chapter 2

### Container Developments and its Impact on Liner Competition.

International trade is becoming an ever-more important factor in the economic growth and development of many countries. Unless the transportation facilities and technologies of these countries develop in line with the other trading patterns, it will greatly impede effective trade and make the costs of such trade for the given country more expensive than necessary.

The impact of this system is to be seen on:

- a) The world trade;
- b) The shipping industry;
- c) The harbour role;
- d) The inland transport.

These will constitute the four following paragraphs of this first section. The second section is devoted to the consequences in the developing countries.

Containerisation has developed at an extremely fast pace both in quality and quantity. The initial introduction of the system by U.S operators stemmed largely from the length of time and the cost of handling conventional break bulk cargo. Its appliance on domestic routes originated in 1957 with the US Atlantic coastal services . The following decade saw its expansion on trade involving the US Pacific Coast, Australia, New Zealand, the Carribean and Northern Europe . Continued development o containerised trade brought involvement in such areas as the Far East ,Mediterranean, Central America and West Africa.

## 2.1

## The world trade .

From 1965 to 1978, the Container Revolution was characterized by a rapid takeover of the major routes between developed nations.

Containerised traffic growth levelled by some 37 million tons over the period 1970/1982 .It accounted in 1982 for 13 % of the world total liner traffic ; as compared with less than 1 % in 1970. (14)

Table 1                      World Containerised Trade      Development  
1970 / 2000  
( '000 Teu)

year	TEU	Index	% Change
1970	3158.5	100	
1975	9173.0	290	24
1980	18655.5	591	12
1985	27873.5	883	7
1990	37990.6	1203	6
2000	57298.5	1814	4

Source : Ocean Shipping Consultants

Although it was of a small percentage of the total liners' movements prior to 1971, containerisation has grown at a very rapid stage. the table above illustrates the outpacing of container movements in the world and the prospectives for this industry.

If liner trade accounts only for 1/4 of the total volume

of the world trade, it involves by far the largest portion (around 1/2) of the world freight revenues when measured by value .

The container traffic consists mainly of manufactured goods and consumer products.

Generally speaking, liner routes penetrate all the world's trading areas according to the needs of trade, mainly from developed countries to developing countries, and between developed countries.

According to a survey carried out by Containerisation International in 1986 , the world total slots in movements in container vessels is estimated to be at around 56.1 millions Teus in 1987. (15)

The annual demand for loaded and empty container movements for the same period has increased from 12.2 millions TEUs in 1982 to 16.4 millions TEUs in 1987.

While the total number of containers was 4.96 million TEUs in 1986 and out of which EVERGREEN and USL RTW services supplied for less than 5 % of the total volume of general cargo carried by sea. The 117.500 TEUs belonging to the above mentioned major operators , because of their low costs per slot undercut the rates of their rivals in the trade routes.

From the differences in the average annual growth estimates for supply and demand, it is evident that the disequilibrium will continue to be a major industry problem. For example, in 1982 overcapacity was about 30.3 % while by 1987 the surplus is expected to be 46.9% (16).

The introduction of larger container vessels by outsiders into static freight markets has created intense competition, particularly because these large vessels have a high proportion of fixed costs and low marginal costs. The competitive strategies pursued by these two self-made shipping entrepreneurs is something that the traditional-

ly minded container carriers fear . Evergreen is offering rates that are 20. % below conference rate.(16)

Sometimes these big operators diversify investment into activities unrelated to shipping or transport ;for i.e the selling off non transport assets to release cash flow and ease capital loan repayments to the industry.

The actual world 's annual container trade stands approximatively 250 millions tons of cargo carried in a total population boxes whose capacity is equivalent to some 25 millions 20 ft units.

Predictions since the advent of the round -the - world services stated that the next coming years are to be a complete revolution of structures and operations of deep-sea liner trades.

According to DREWRY SHIPPING CONSULTANTS LTD,(LONDON), whose study was focussed on the implications of this system operated by EVERGREEN and UNITED STATES LINES,this new operational system has afflicted liner shipping to about 30 % of the current overtonnaging. This, as a challenge for all operators in liner business since it will jeopardise the operational deep -sea liner services as well as, to a great extent,will threaten some to extinction. (17)

Container services have nowadays taken over a large share of the general cargo traffic on major routes between developed countries.

Containerisation between these countries has been almost completed up to 95 % and globally it was raised up to 75 % by 1984 in all trade.

It is estimated that about 60 % of global container traf-



fic is handled by fully cellular and other craft such as ro ro ships and semi-containers.(17)

The distribution of containers is concentrated and clearly defined .Approximatively,80 % of fully cellular ships capacity is deployed on routes serving the trade of North America ,Europe and Asia.

The major liner trades Far East / USA ;Far East /Europe and USA / Europe are now fully containerised.

Origins /destinations account for the vast majority of containerised traffic as follows:

North European ports handle	25 % ;
North America	23 % ;
Far East excluding Japan	18 % ;
Japan itself accounts for	9 % ;
Southern Europe	7 % ;
Middle East	5 % ; (18)

The major changes which have occurred in the deep sea trade were not the launch of new services and withdrawal of existing ones, but the range of strategies adopted by operators to maintain the market share and to stay in business.

These fall in four main categories.

- acquisition of bigger vessels through newbuildings;
- jumboising existing vessels,
- acquisition of second hand vessels
- chartering / leasing of vessels

-From the operational side:

- joint operations with other lines by take overs;
- joint ventures;
- joint sailing and slot or space agreements;

- and chartering .

All these have helped to increase cargo catchment areas, while spreading the risk and keeping capital outlay relatively low.

The construction of intermodal links by road, rail and waterways has offered a total door-to-door services as efficient, rapid and cheap as possible.

Land transport can represent as much as 75 % of door-to-door cost on some deepsea routes. But in rationalizing sea and land transport activities the multimodal operators is making economies in operations and administration.

Table no 2 ESTIMATES OF CONTAINER PENETRATION IN SOME MAJOR TRADES. (1984)

	IN %
ATLANTIC	96 %
PACIFIC (U.S.-FAR EAST)	96 %
OPEC (IMPORT FROM DEVELOPED COUNTRIES	77 %
EUROPE -FAR EAST	95 %
ARGENTINA ,BRAZIL, MEXICO TRADES with developed countries	60 %

Source :p. 195 containerisation in the eigties .M .G.  
GRAHAM D.O. HUGHES LLYOD'S OF London Press Ltd.

a/ Traffic configurations.

The highest box capacity is the transpacific NORTH AMERICA /FAR EAST trade. During the period of the decade 1974-1984 and despite its steady decrease due to the diversification of the trade route, it has been atop of the trade ,reflecting the significance of this route in the world trade.

The North America-Europe/MEDITERRANEAN route which had been occupying the second place in the share ranking up until 1982 gave its position away to the FAR EAST-EUROPE /MEDITERRANEAN route in 1983.

Table no 3 Container penetration of world liner trade (1984).

Category of trade	% total liner trade	% of con- tainer penetration
Between developed countries	39	95
Developed to / from developing countries	49	65
Between developing countries	12	51
Total	100	75

1/ figures are based on IMF DIRECTION OF TRADE STATISTICS

2/ OPEC exports ,trade with EEC and trade between US and CANADA are excluded from this table ;

developed countries are IMF & industrial countries together with South Africa

Technical development has been in the increase of some five times in ship TEUs capacity and the early development of integrated intermodal networks; further development in semi-bulks (For e.g., forest products, steel, chemicals).

- (a) -Technological evolution of container systems, in terminals and in the development of intermodal networks;
- (b) -The major development of flexible systems in the form of even larger ro-ro ships and semi-containerships to carry containers in association with semi-bulk cargoes, and the introduction of 5th generation container vessels (4,218 TEU);
- (c)- the beginning of container penetration into developing countries followed by a rapid general growth towards the end of the decade.

#### 2.1.2 The impact in the role of ports.

All these changes in maritime transport systems have inevitably resulted in the transformation of the role of ports.

In the past, port development responded mainly to requirements of the users. Ports seldom initiated new technologies.

While evaluating the impact of new shipping technologies upon port development, one has to bear in mind that the impacts differ according to whether the port is located in a developed country or in a developing country.

Different types of vessels will create different impacts. Any analysis will have to take into account political and social/human factors, which have a major influence in the developing countries.

Ports have always been a major link in any country's trade; therefore, they play an essential part in a country's economic activities. All economic activities always lead to economic growth in the long term.

Modern trading concepts changed the function of ports into becoming one link in integrated, intermodal transportation system, connecting ocean shipping to the various modes of inland transportation, including air. To adapt their new role, ports and terminal operations have had to introduce new operational concepts.

The development of all modern cargo-handling and shipping systems lay in the need to escape from the slow rate of cargo handling and the high labor costs of the conventional system. With the new cargo handling system, ships' time in ports is reduced to 25 % compared to 60% a year spent in ports by break bulk conventional vessels.

The process behind its development was based on the main assumptions efficiency productivity and costs-saving.

The main trends, are in the further evolution of inland transport networks, the development of new types of flexible ship (mainly the bulk/container-ship), and the refitment of existing types of vessels.

High-speed cargo handling, substantially reduced labor requirement per ton of throughput, and reduced capital investment per ton of throughput in long-run terms.

The pure container systems have been associated with sizeable change-over investments in the ports. Containerships provide more transport capacity per unit of capital and almost all general cargo ships now being built are of modern design and incorporate a substantial container capacity.

When container penetration begins to approach 20 % of the potential of a particular route, the capacity of conventional ships is insufficient and full cellular vessels have to be introduced.

With a limited traffic of 40,000-60,000 TEUs /year, most ports can operate more or less efficiently with simple equipment: forklift trailer, tractor-trailers, and even by using ship's gear exclusively. When Container traffic begins throughputs of 70,000-100,000 TEU per year, need to move towards the established technologies for container terminals (i.e., shore cranes, transtainers, etc...

The inherent logic of the modern container and its integral intermodal transport system prevail when Customs and bureaucrats understand that modern intermodal transport is the least cost and the most efficient solution even for developing countries.

### 2.1.3

### The Shipping Industry

Technological choices are not simply a function of the port sector but are controlled by the configuration of the whole system as it affects ship choice and inland transport.

Containerisation removed the limits on ship size imposed by the rate of cargo handling in conventional systems, a new limit superseded it: the size of traffic flow became an important limitation on some routes.

In order to fill the new, large containerships, four modifications to existing service patterns had to take place:

(a) service amalgamations;

(b) elimination of certain port calls;

(c) concentration of large quantities of freight at a few ports;

(d) All-round, efficient land/sea interface terminals.

All these factors lead shipowners to believe that with containerization, a highly concentrated route structure would ensure, with very large container ships sailing between a limited number of super ports; secured by a feeder network of smaller ships, plus the use of inland transport.

Container systems never, in fact, developed into highly concentrated route structures. The initial thinking on concentration never wholly materialised for a number of reasons:

a) The economies of size of large container ships were not as powerful as first anticipated;

b) The economies of scale in terminals were much weaker than expected;

c) To achieve wide network distribution by feederships, costs become exorbitant;

(d) Certain classes of high-value cargoes lure lines from rigid, concentrated route structures.

The present-day reality of container-line operating practices is far removed from the philosophy surrounding the original concept. The services that developed became hybrid, with a mix of various strategies that included

multiporting exercises of the main vessels together with feeder-ship extension, cross-route transshipment etc. The overall strength of which was stronger than the sum of its individual ports. This combination of service proved to be more economical and financially rewarding for the shipping companies.

The contact between vessel and shore becomes an intricate interface operation, since the port has ceased to be the terminal point of cargo interchange.

The junction of the port and its facilities are now so complex that without the use of advanced technology, managers are unable to obtain all objectives and conditions for surviving in highly competitive environment. To name just a few of the objectives:

- (a) Minimization of ship turnaround time in port;
- (b) Minimization of holding time of cargo in the port area, with reduction or even elimination of cargo-holding costs;
- (c) Minimization of unforeseeable delays, including the effects of strikes, human errors ;
- (d) Minimization of integration of port services with other transport modes interfacing at the port;
- (e) Minimization of ability of port operations to cope with changing technology of the port users (ships, transport systems, packaging) etc...

These objectives must be achieved in order to meet the



competition of other similar facilities aiming at capturing the same market.

To survive, port facilities must be fully integrated into the intermodal transportation system, of which the ship and the port are only a part. In recessive competition, strides have been made by some ports in raising berth throughputs and land utilization.

Therefore, long container dwell-time, slow operations in the container park, ship waiting time caused by random arrivals, customs, and all the actual limits are invariably curtailed.

New technology will not only be applied in infrastructure and equipment, but will also play a major role in management planning, decision-making, and development of overall policies and strategies.

These latter, in turn, will lead to improved output and productivity of operations and cargo handling; a better use of facilities, equipment, manpower and all transport modes.

The importance of towards technological planning as an integral part of the physical master planning has not yet been fully recognized.

But the new realities in planning, apply equally to shipowners and the port industry. Among these are included:

- (a) The risk analysis of traffic forecasts to determine the uncertainty of demand projections;
- (b) The transport and cargo-handling technology forecasts;
- (c) The institutional and political development

projections, including forecasts of regulatory changes;

(d) The environmental analysis and impact assessments;

(e) The market and competition trend projections;

(f) The intermodal technology and choice forecasts;

(g) The cargo form projections;

(h) The operational and interface development forecasts;

(i) The Computerized Stacking Control, optimum stacking and unstacking sequences (this system is usually coordinated with computerized containership cargo planning, minimizes container rehandling requirements) ;

(j) The Automated Container Inventory and Storage systems;

(k) the Container Elevators and Sideload Devices, similar to shipside pallet loaders, are designed to transfer containers to or from pier-side to ship decks. The elevators are fed by side-load devices.

#### 2.1.4 Multimodal Developments and Computerisation

These developments are all designed to facilitate

container-transfer sequence controls and ship or feeder turnaround.

One of the recent developments in gate handling is the introduction of remote TV inspection stands permitting trucks with correct documentation to proceed immediately to the container storage areas, without waiting in line with other trucks for problem of documentations. Many other developments, such as self-consolidating / de-consolidating containers, collapsible containers, inflatable containers, disposable containers, etc... All of these have an impact on cargo handling, transfer technology, and operating requirements and will continue to demand dynamic changes of port facilities, equipment, and procedures. Container control and logistic systems optimize container utilization by following the containers' movements from arrival to departure. The containers' location within the intermodal transportation system is immediately available by (on-line computer), thus permitting maximum efficiency. Container-handling equipment suppliers (notably, crane manufacturers) are now offering equipment that is largely automated, including transmission receipt, and communication with terminal operators.

As the routes between developed market economies is effectively containerised its penetration is increasing rapidly on routes to the developing countries.

## 2.2 The Consequences in the Developing Countries

These countries are broadly classified in three groups: LATIN AMERICA, AFRICA and SOUTH ASIA . (19 Emerging industrial countries including South Korea, Japan and Taiwan ,are characterised by a relatively high share of manufactures productions.

Shipping routes to developing countries require vessels to call at a multitude of ports; mainly because of the limited cargo to and from those ports.

The recent development of containerised traffic in the Developing Countries has proceeded at a very rapid rate.

As shown in table no 4 below ,traffic rate quadrupled over 1972 - 78 ;and its volume doubled over 1978 -82.

The rapid expansion of this traffic volumes has not increased not only the North -South box trade;but also the one between South-South.

If in 1970, Developing Countries were involved in around 2% of world container trade .By mid 1980s ,the proportion has risen to 33% .(19)

Table no 4 Developing Countries Containerised Traffic.

YEAR	Volume		
	(,000 tons)	Index	% World trade
1970	1,149	100	2.4
1972	3,187	277	4.1
1974	9,862	858	8.0
1976	18,757	1,632	11.9
1978	37,294	3,246	17.4
1980	59,357	5,166	23.2
1982	72,737	6,330	25.4

Source : C.S.R. Consultants Ltd.

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Containerisation in the Developing World 1970/1990  
 An appraisal of containerised traffic growth and potential.  
 Leonard J. Goss

C.S.R. Consultants Ltd.

From the present approach I intend to focus on the developing countries which face a number of problems.

Among the most important problems faced by these countries are the following:

- a) The difficulty in raising funds for port investment. This is particularly the case when ports are owned by the public sector, and the shipping lines and other private interests, which are the terminal operators;
- b) Lack of tradition for planned maintenance, which is essential for the operation of complicated and high-cost container-handling equipment;
- c) Physical and administrative difficulties in the integration with inland modes of transport, leading to problems in the operation of integrated systems and container control;
- d) Problems in cargo balance and the movement of empty boxes;
- e) Customs and other bureaucratic delays, leading to potentially long inland container turnaround times and container dwell times in port.
- f) Social difficulties in dealing with a reduction in labor requirements in the ports, stemming from the introduction of containerization;

The West African region, is among these latter. In the following chapters, my developments will be made on the containerisation implementation.

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chapter 2

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PART 2

## CHAPTER 3

### The WEST AFRICAN MARITIME POLICY & CONTAINERISATION DEVELOPMENT

#### 3.1 Considerations on some International Factors Related to the Liner Development in the West Africa.

By the 60's, the emerging independent countries of West Africa, as most of the other developing countries, were depending on foreign trade. But no longer, they were caught by the vagaries of the international market structures, out of which maritime transport was an integral part.

This problem was exacerbated as their major exports consist of primary commodities which are of low value and have to be shipped over long distances.

Importers of shipping services, these countries have experienced a considerable deficit in their balance of payments.

The problems faced by these countries relating to shipping can broadly be itemised as follows:

- the unilateral fixing of freight rates;
- the discriminatory shipping conference practises;
- the inadequacy of shipping services. (20)

3.1.1 UNCTAD whose role is to deal with shipping matters and particularly the promotion of the developing countries in this field has played a major role in the participation of West African Countries in the liner shipping.

The establishment of national shippers' councils in the



developing countries and hence for West Africa by a resolution adopted at the 2nd meeting held in New Delhi (India) in 1968.

Another step of this evolution is the adoption of the Code of Conduct for Liner Conferences.

The objectives of this Code are among others to see the participation of these developing countries in the liner trade and to build up their maritime policies.

The beginning of participation of these countries in the maritime and shipping activities were developed later with the building up of their national shipping lines.

Meanwhile, there was a necessity to see the development of regional cooperation. The liner trade serving the regional market, has been seen in particular as a priority area for investment in order to assert some control over the expenses incurred from the carriage of these products in the foreign trade.

### 3.1.2 The Liner Code and Liner Practices.

The Code is a legislative structure in the international community at large and in particular for the developing countries in the realisation of one of the major targets in the shipping industry i.e. to help the developing countries to reach the level of 20 % share of the world tonnage. (21)

The provisions of the Code of conduct directly reflect the shipping policy preoccupations of developing countries during the late 60's and in the early 1970's.

For instance, the existence of closed conferences; the restrictive practices concerning the admission of developing countries fleet in liner markets; the level and structures of freight rates; the need for the protection

of shippers' interests and consultation machinery implied a big concern for changes.

Since the Code was negotiated, adopted and entered in force in 1983, liner shipping has undergone considerable changes, connected with technological and organisational developments. One of the most important development is related to technological innovation in liner shipping and transport organisation changes.

The needs to increase productivity called for a capital intensive transport system in which technological changes brought about a capital labour substitution.

The complexity of organisational forms in containerisation and multimodal transport resulted towards the concentration of operators in individual routes .

Another phenomena actually is the overtonnaging ,linked to technology developments has led to new forms of cooperation as we have seen in the first part of this study All the new marketing strategies coupled with the activities of non-conference carriers ,have affected the traditional liner conferences in their structures and hence the future importance of the Code both as a regulatory instrument and as the instrument to promote the participation of developing countries in the carriage of their foreign trade.

Although considerable changes have taken place in liner shipping since 1970's, the ideas and concepts underlying the Code remain of crucial importance for the attainment of the shipping policy goals of developing countries; particularly to increase their share in the liner trade as aimed by the International Development Strategy of The Third United Nations Development Decade in the field of transport.

Some considerations were taken into account in order to

bring these countries to adopt a maritime common policy. Among these, were the ever deteriorating terms of trade on the developing countries ;

The incessant increases in freight rates by foreign maritime conferences which placed the balance of payments of these countries in a most precarious state and with the advent of the oil crisis the economies of these countries were monstrously devastated.

The attitude of the so-called traditional maritime countries as expressed by their representatives in the UNCTAD COMMITTEE on Shipping ,that developing countries might better serve their interests by investing their available capital resources to develop their port facilities and general cargo equipment rather than in ships and shipping services;which could be provided more efficiently -hence more economically by those who traditionally,had the expertise and organisation.

Such an approach ,from the point view of the policy makers of the subregion seemed to be sound as constituting a challenge.

Another aspect underlying the desire for a common policy of the region is the African Declaration on Cooperative Development and Economic Independence adopted by the OAU in May,1973 which recommended the establishment of a consortium of african shipping companies that will coordinate operations ,share terminals and influence the level of ocean freight rates.

Another possibility adopted was the establishment of a mixed consortium between developed and developing countries. (22)

### 3.2. The Shipping Policy in the Region.

Three aspects have to be considered and are outlined successively below.

#### 3.2.1 The specific situation in West Africa

The West & Central African Subregion is one of the poorest regions of the continent. Great disparities in relative wealth exist both among and within countries.

Each differs from the other in circumstances which puts some in a more promising position in the long run to specialize in maritime transport.

The West and Central African subregion comprises the following 25 States: ANGOLA, BENIN, BURKINA FASO, CAMEROUN, CAPE VERDE, CHAD, CENTRAL AFRICAN REPUBLIC, CONGO, GABON, GAMBIA, GHANA, GUINEA, GUINEA BISSAU, EQUATORIAL GUINEA, IVORY COAST, LIBERIA, MALI, MAURITANIA, NIGER, NIGERIA, SAO TOME & PRINCIPE, SENEGAL, SIERRA LEONE, TOGO, ZAIRE.

These countries, with a shortage of past maritime experience and infrastructural base have entered into liner shipping in running with their national lines and have participated in a partial containerisation of their trade.

On the 6th of May, 1975, the "Charter of Abidjan" (Ivory Coast) was established by a Ministerial Conference for the West and Central Africa subregion. This was created under the auspices of the Ministers of transports of the respective countries.

The Convention institutionalising this Conference as a regional organisation was signed in Douala (Cameroon) on the 21st ,February 1976. A year later were adopted in Accra (Ghana), resolutions creating permanent bodies for this organisation.

### 3.2.2 Structures and responsibilities of the Ministerial Conference as a Regional Organisation.

The Conference is made up of the following bodies:

- 1) The basic bodies
  - the General Assembly;
  - the Permanent General Secretariat
- 2) Specialised Agencies
  - Association of National Shipping Lines ;
  - The Union of National Shippers 'Councils;
  - The Ports Management Association;
  - The Regional Maritime Academies of Ghana and Ivory Coast.

#### A- The General Assembly:

It is the Supreme Body of the Conference; and by these means has to define the general policy of this institution; to study and approve the programmes of activities of the Permanent General Secretariat and its Specialised Agencies.

The Ministerial Conference is to foster and promote an integrated maritime development programme in the subregion by -coordinating the policies and development in matters concerning maritime transport.

The objectives of the " Abidjan's Charter" are in fact to promote an integral maritime development programme in the

region through:

a) The harmonisation and coordination of the policies and development of the member states in matters concerning maritime transport;

b) The promotion and development of appropriate machinery and bodies for the improvement of maritime transport, especially by:

- The setting of national and sub-regional maritime structures;
- The setting up of National Shippers' Councils or equivalent bodies;
- The negotiation of freight rates for the whole region through a regional Negotiating Committee;
- The development of National and / or multi-national merchant fleet;
- The efficient organisation of maritime services in the subregion on the basis of increased participation in all traffic by national and subregional shipping lines cooperating as closely as possible;
- To look for cost reductions by rationalising services and the choice of vessel types;
- The co-ordination at the subregional level of maritime industries;

- The improvement of port efficiency;
- To adapt all measures for the improvement of port operations;
- The harmonisation and modernisation of maritime legislation on sub-regional basis on trade matters including administrative and customs formalities in order to foster maritime cooperation among member countries;
- The accordence of preferential treatment and adequate transit facilities to landlocked countries for their external trade by coastal countries;
- The cooperation with international, regional and even national organisation in the interest of the promotion and facilitation of international trade on more equitable terms;

B- The Role of the Secretariat General:

- To implement the policies defined and to coordinate the activities of the various specialised agencies.

C- The Union of the National Shippers' Councils:

a) its objectives are:

- The strengthening of mechanisms for consultations and negotiations with liner conferences;
- Measures to take against unreasonable freight rate increases;

- The study of any problem relating to freight rates;
- The rationalization and maximisation of services of lines of member states;
- The rationalization of the traffic;
- The cargo sharing application according to the 40-40-20 formula as stipulated in the International Convention on a Code of Conduct for Liner Conferences (which was adopted in Geneva in April, 1974 entered into force on the 6th of October, 1983).

The most important Body of the Organisation is the Freight Negotiating Committee as we will see in the coming analysis.

D- The Association of National Shipping Lines:  
has to harmonise and coordinate the activities related to the trade policies of National lines in view to make an optimum and economic use of the transportation capacity.

E- The Port Management Association :  
Its role is for the improvement of the operational and financial efficiency of ports and harbours by means of coordination the activities of all ports in the region.

All these objectives were basically influenced by the UNCTAD resolutions for the liner development in the region. This was merely sustained by the Liner Code of



Conduct which, adopted in 1974, which implicitly directed towards the challenges posed by the conference system. It was under these guidances that each country of the region had to implement its maritime policy. The differentiation of interest in foreign trade participation was shown through the development of maritime strategies and policies of each country.

### 3.2.3 The National Maritime Policies

The framework of maritime development was based at the national level, with the ports development, the creation of National Shippers Councils.

Some of the countries, with financial advantages have, progressively, entered into joint ventures in building up National Shipping Lines; while other have given the sailing rights to foreign going vessels; those with less capital means have entered into slot/space charter agreements etc.

The Maritime Administration is devoted to maritime transport to bring in all regulatory structures related to the promotion of maritime transport.

Sustained by the World Bank and other International Organisations, ports development was by far ahead of other maritime projects as problem of congestion as well as containerisation have gained a certain importance in the region.

Some governments have started to build structures for the beginning of the Multimodal system of transportation; as the institutionalisation of national carriers as sub-contractors for the carriage of containers in the hinterland operations.

But as the shipping policy was to control conferences

all national lines became members of various conferences within the region trade area. And it is under the conference system that container rates were fixed in the West African Trade.

As noted by LAMINE FADIKA<sup>(23)</sup> :

" We must be prepared to further develop the Code of conduct ,at least as far as its application is concerned to take into account any new constraints emerging in liner shipping .The maritime conferences which by far have not lost their purpose as far as the consortia are concerned will no doubt endeavour to reinforce their political role and their functions as a link between all participants in maritime traffic and will not contest the financial economic and commercial role of newly grouped companies."

Although, the objectives would have have meaning of the implementation of all forms of development in the liner shipping, containerisation which has started to develop with its specifications has been embodied in the general development of liner shipping.



The development of national lines and their participation in different trading areas corresponded to their entry in the conferences covering their areas of activities. Well supported by their respective governments, some national lines have become members of the conferences operating in the region as to combat the tendency to engage infant borne national fleet in a ruinous competition. Furthermore, the loyalty tie as implemented by each country towards shippers, was to be sure that the cargo is under the conferences control in West Africa.

Conferences tend to dominate the trade as most of the national lines are conference members. The two main conferences operating on the European trades to West Africa are UKWAL (UK/West Africa Lines Joint Service) from the UK /Eire and Cowac (Continental West Africa Conference from the European Continent; Associated to Central West African Lines, serves West African ports, South of the range).

Both control a sizeable proportion of the cargo carried.

### 3.3.2 The Aspects in the Major Conferences

#### 3.3.2.1 Cowac

This Conference is sub-divided into two sections which in many ways operate as separate entities with differing memberships and port range.

The Northern Section is based in Hamburg and operates in Deutschmark serving North/Cape from the Belgian ports to the Mauritania /Angola Range.

The Southern Section is headquartered in Paris and utilises French Francs and covers from French ports and in the Continent from NOUADHIBOU to Lobito (ANGOLA) .

Although most lines are members of both sections, it is

not mandatory;and several belong to just one of the two sections.

These two sections roughly divide the Continent West Africa Conference trade between them;with the southern one taking slightly more or around 55 % to 60 % of the cargo.

Operating a joint tariff ,and despite there being a certain amount of informal slot/space or chartering agreements,between Cowac member lines ,the conference does not operate as a pool.

### 3.3.2.2 The UKWAL's Situation.

UKWAL functions as a totally integrated joint service.Eleven lines are members ;but only five provide vessels, while the other operate on charter basis.

It is estimated that some 70 % of the trade between the UK/EIRE and West Africa carried, belongs to Nigerian ports.

#### - UKWAL DEVELOPMENT.

Prior to the coming in force of the Code of Conduct For Liner Conferences,and until December 31, 1986, the cargo sharing pool within UKWAL was based on a southbound criteria.

This means that the methods employed for freight calculations,instead of considering either the northbound cargo or the southbound cargo or the combination of both ;the British Companies apparently preferred using the southbound figures as basis for the calculations,because their exports trade was by far more important qualitatively as well as quantitatively;whereas,the northbound imports are the reverse.

This point of view was shared by the Nigerian Negotiators but for a completely different reason.

With their dominant position as accounting for over 70 % of UKWAL'S southbound cargo, but with a negligible and declining exports; they saw the combination of north and southbound figures having beneficial results for BLACK STAR bearing in mind that GHANA'S significant but low freighted exports and that the British position will not change much whether with the south or the north.

### 3.3.2.3 Basis used for the Calculation of Shares in UKWAL:

The following assumptions were made by the secretariat in arriving at the freight percentages.

The British Lines basic interest is assumed at 40%;

- the percentage shares of african countries has been restricted to those participating in UKWAL as full members.

- The balance has been split on a 50 :50 basis between British and Non-British lines with the Non British portion . For e.g. Ghana and Nigeria, split according to their percentage shares.

- no allowance is made for cross-traders.

### 3.3.3 The problem of cargo sharing as to the implementation of the liner Code of Conduct for Liner conferences.

The determination of the Developing Countries in general, and the West African countries in particular to promulgate a Code of conduct for liner Conferences was not to abolish the conference system but to remove its defects.

The Code aims then to provide an accepted framework

within which conferences would operate.

Cargo sharing is based on the belief that, participation in national trade by national shipping is necessary beneficial for trading patterns. The cargo sharing or other forms of cargo reservations is not new nor is the Code of conduct for liner shipping the first proposal for international acceptance of the concept. Cargo sharing, including limited bilateral cargo access has been used to reserve cargo to national shipping lines since colonial days.

The widespread of bilateral agreements for access to cargo by centrally planned nations, whose foreign trade consist essentially of only government controlled (or owned) cargoes is de facto one example of cargo reservation. This can be illustrated by far for foreign trade of Communist Nations which is organised under unilaterally imposed or enacted trading rules.

The actual preoccupation of the west african countries with their participation in international shipping and the integration of shipping with national commerce and other transport modes have increased the regulations of cargo access in international shipping (particularly) in liner shipping ;which is characterised by practices of charter agreement; but with respect of the UNCTAD 40 :40 :20 protocole of the Code of Conduct that entered in force since October 6, 1983.

### 3.3.3.1 The problem of Cargo Sharing and the freight booking centers.

The 40:40:20 principle is applied on cargo sharing on the trade between Europe and West Africa.

The trade from EEC countries to WEST AFRICA accounts for

only 2 % of EEC world trade and the WEST AFRICAN countries currently purchase some 80% of their total imports from EUROPE and that, out of this 80 % of their total imports some 65% emanate from the Netherlands, Belgium and West Germany.

To control this southbound cargo transportation, some of the francophone West African Countries such as Benin , Cameroon, Togo Ivory Coast and Senegal as member states of COWAC , have introduced freight booking centers in the ports of Hamburg, Bremen, Rotterdam and Antwerp. This was advocated as an effort to ensure cargo allocation on a 40:40:20 basis.

Under this arrangement, all waivers for the carriage of cargo are issued directly from the main national port the quantity to be carried for carriers. This is considered as a way to control the shipment from Europe to West Africa and to secure cargo of high value to the national lines.

In fact, the widespread of this system instituted by Cameroon with The Netherlands, was because of the hard line taken by the Dutch against freight bureaux.

Actually among the problems facing the trade relations between West African and Europeans is that these latter wish to see the abolition of these Freight Booking Centers by the establishment of a neutral body representing the two parties.

#### 3.3.4 An analysis protective measures with the advent of containerisation

Prior to the Charter of Abidjan, freight rate increases were unilaterally imposed by the conferences along the west african trade route .These increases have at time averaged between 25 and 30 % per annum.



In addition to these imposed rates, charges were levied for bunkering.

An action was therefore to focus the implications of the Code for the West African trade. In an effort to safeguard the trade, several resolutions aimed at rationalising the trade of the whole region.

It was then established the regional freight committee. The membership of this committee is currently made up of Shippers' Councils of 9 members including Nigeria, Ghana, Gabon, Guinea, Ivory Coast, Cameroon, Burkina Faso (former Upper Volta), Senegal and Zaire.

Under this committee, freight rates and other conditions of shipment were negotiated with a number of conferences. A quantitative formula for negotiations was adopted and based on the following broad principles.

(i) - it was declared that confidential information on the operational results of member lines of each liner conference must be disclosed to independent accountants appointed by the two parties ;

(ii) - that a report compiled by the joint accountants be submitted to the Negotiating Committee and the liner conferences on the operational results in a agreed form. This report was to reflect the current and projected operational surplus or deficit of the lines of the different conferences. The accountants report was to include on a commentary form, the following:

(a) - Figures submitted by the lines as to their general liability;

(b) - Assumptions on which forecast results are based.

(c) - A broad reconciliation of the reasons for any variation in the financial voyage results of one period compared to the next .

(iii) - The final freight rate reviews agreed by the

parties are based on the joint accountants report and involve compromises between the projected revenue deficit of the lines for a given period ,and the calculations of the regional freight rates negotiating committee on the relationship between costs and revenues for the shipping companies concerned.

The Negotiating Committee in its operation has so far achieved dramatic results in reducing the level of freight rates increases from an average of about 30 % in 1975/76 ,to about 6% in 1983/84.

Although the success and achievement of the Negotiating Committee is readily noticeable, it should be pointed out that its task of continued negotiations for the region ,remains its primary objective.

In the early days ,some of the liner conferences refused to consult with the negotiating committee and /or apply unilateral increases of freight rates and related charges which was seen as having negative effect on the economies of the region.

The Ministerial Conference instituted the following retaliatory measures to be taken against liner conferences that continues to perpetuate the status quo:

(a) - The blacking of ships belonging to offending conferences, except those of member states;

(b) - The imposition of of a levy on the offending lines' vessels amounting to 15 % of the freight carried (or any other taxes) on any blacklisted ship ,according to the regulation in force in each State .

(c) - The denial of cargo carrying and bunkering facilities to ships of offending conferences; except those of member states.

(d) - The freezing all transfers of payment freight and other charges for ships of offending conferences; except those of member states.

As a direct result of the possibility of retaliatory measures, certain conferences which had earlier adopted negative positions in their dealings with the committee, eventually realised the consequences.

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## Chapter 4

### Development of the traffic in the subregion.

4.1.0 A survey of the african container traffic growth is certainly helpful in order to appraise the development of the trade (para. 1); then other aspects related to this situation will be analysed.

4.1.1 A profile of the west african containerised traffic development.

West african countries are still reliant on the export of primary goods among which agricultural products and mineral resources have a predominant place.

The development of containerisation in the trade is based on the domestic manufacturing base which is of small volumes.

The analysis of the traffic in this region has been carried out by two main studies:

The first one by Csr Consultants from 1970 to 1982 was more directed to the comparison with the other regions of the continent while the second, undertaken by IDREM on a regional port to port basis has only partial information dealing with container traffic.

Therefore, statistics as presented on the coming pages are not related to the present situation. I have to mention that figures are not always in concordance for the same subject from one study to another. One will refer to the annex 2 of the present study to have a port to port presentation of the west african containerisation (21 tables) and table 2 in annex 1 for the world situation.

TABLE no 5      Developing Countries      Containerised  
 Traffic Growth By Region :  
 (The african region)  
 (,000)

Africa

	IMPORTS	EXPORTS	TOTAL
1970	65	30	95
1972	225	136	361
1974	589	534	1,123
1976	1,674	1,674	2,849
1978	3,944	2,908	6,852
1980	7,938	5,171	13,109
1982	9,126	5,234	14,360

Source :      CSR Consultants.

The African container traffic rose at an extremely rate from 0.1 million tons in 1970 to some 14.3 millions in 1982.

The continent traffic increase of that period which accounted for only some 0.2 of the world container traffic in 1970 has risen to 5 % in 1982. This means that it increased to some 25 fold, showing a annual averagedevlopment of 2.5 %

By and large, the regional shares accounted as follows:

- North Africa            14 %
- East Africa              10 %
- South africa            42 %
- West. Africa            34 %

Table No 5' African Container Traffic Growth By Region.  
and By Country :1970/1982  
( '000 Tons)

Year	1970		1974		1978		1982	
	Import	Export	Import	Export	Import	Export	Import	Export
<b>NORTH AFRICA</b>								
Morocco	2	1	34	24	258	64	379	211
Egypt			6	5	17	50	689	160
Others			2	13	34	101	436	115
<b>WEST AFRICA</b>								
Nigeria	8		112	1	893	33	1,816	34
Ivory Coast	4	4	62	191	427	517	639	714
Others	7	2	59	39	237	165	1,239	462
<b>EAST AFRICA</b>								
Kenya	4	2	10	6	63	28	163	270
Mozambique	2		8	1	40	26	191	291
Others	2	1	5	1	42	12	376	136
<b>SOUTH AFRICA</b>	36	20	280	256	1833	1988	3,198	2,841
<b>Totals</b>	65	30	589	534	3944	2908	9,126	5,234
<b>Totals</b>	95		1123		6852		14360	
<b>Traffic</b>	0.2		0.9		3.2		5.0	

Source: CSR Consultants Ltd

The West african traffic,with some  
19,000 tons of import;  
and 6,000 tons of export in 1970  
representing respectively  
in import 29 % of the african traffic  
in export 20 % " - " " traffic;  
In 1982, this was raised to  
3,694,000 tons in imports  
and to 1,210,000 tons in export;  
representing respectively 40 % of import;  
and 23 % of export the african traffic.  
The total traffic in the region represented in 1970, 26 %  
of the african traffic and in 1982 it went up to some 34  
% of the whole traffic.

This means that exports are less developing than  
the imports.

Nigeria and Ivory Coast are by far with the highest  
volumes. But as a characteristic of these two countries,  
while the traffic of Nigeria is heavily imbalanced; Ivory  
Coast has the most balanced container traffic in the  
region. (see tables 4 & 5 ) in annex 1.related to a port  
to port basis.

Actually,the leading role played by the nigerian port  
of Lagos-Apapa in the west african container traffic has  
been taken over by the port of Abidjan. In fact ,Abidjan  
container traffic is mainly on transshipment. Other coun-  
tries of the region have increased their traffic.But this  
has gone to a continuous fluctuation in the traffic as  
shown in table 5'in annex 1.

Due to mainly space and time constraints I will  
not deepen the port to port analysis here ,but it is  
relevant to note that there has been an abrupt fall of  
the nigerian traffic,meanwhile there has been an



increase in other ports of the region and particularly for the port of Douala (Cameroun).

4.1.2. The ratio of containerisation.

The african imports and exports as presented on the table below and in those in tables 4 & 5 in annex 1 for West African ports in particular respectively 68 % and 32 % for the whole African trade in 1970.

Table no 6 African Containerised Growth; Import/Export Ratios 1970 /82 .

( 000' tonnes )

	1970	1974	1978	1982
Imports	65	589	3944	9126
% of Traffic	68	52	58	64
Exports	30	534	2908	5234
% of Traffic	32	48	42	36

Source : CSR Consultants Ltd.

This process has changes slightly in 1982 :the import decreased to 64 % while the export rose to 36 % . The ports in West Africa differ in the container ratios; reflecting the degree of containerisation and also the differences in trades to /from West Africa .

#### 4.1.2.2. The trade ratio of containerisation in the region

By "containerisation ratio " I mean here the proportion of the volume fo general cargoes carried on containers to the total volume of general cargo carried on liner services.

Viewed on the world container development and according to the Marad statistics containerisation ratios of Japan and the US by trade routes to Africa are as follow:

trade routes	containerisation ratio
Japan - Africa	37 %
The U.S - Africa	14 %

During the African Symptainer in Abidjan , (Ivory Coast), 1984 it has been stated that the trade between Europe - West Africa is 20 % containerised.

#### 4.1.2.3.1 Problems of the imbalances in the trade.

Two questions arise in considering the suitability of container services to West Africa countries conditions; imbalance of trade and its overall size.

For the sub-region trades the pattern is import of manufactures and export of produce and commodities. Few trades are likely to be completely balanced. The container service has become greatly imbalanced as the export cargoes of these countries are unsuited to a container service.

The point is important because container service costs are more sensitive to imbalance than those of break-bulk services, for the simple reason that empty journeys

are unremunerated journeys.

Container imbalance is thus an extra cost which has to be traded against other benefits of a container service. It has been shown in previous paragraph that not only can many developing country cargoes be physically accommodated in containers, but benefits will accrue therefrom. Freight rates per unit of volume / weight on average tend to be lower for commodities than for manufactures, so that a revenue imbalance is likely, but some cross-subsidy of this kind is common in liner trades, containerisation facilitates rationalisation of services between adjacent trades, and this in some case will help to reduce cargo imbalances.

As far as size is concerned, the break-bulk liner trade of this region today is not served by ships of less than about 7,000 grt. Most are in a range of 9,000-16,000grt. A straight comparison with container ship size to achieve the same amount of work is not meaningful in generalised terms, since variables like distance, number of port calls and acceptable frequency all affect the answer. For these countries sustaining this trade, ships of 500 Teus of standing capacity are often needed. It is of to be considered as diseconomies in running this down to 200-300 TEUs for an ocean-going ship.

The imbalances between loaded containers entering the west african market with Southbound cargoes and the empties returning in the North bound or in less containers loded has been presented in table no7 below by IDREM

The imbalance of the "in" and the "out" i.e.the imports and exports of containers in the region are as follows:

Ports		"IN"	"OUT"
DAKAR	'83	2.5	1
ABIDJAN	'84	1	1.3
LOME	'84	6	1
COTONOU	'84	7	1
LAGOS (2 PORTS)	'82	45	1
DOUALA	'84	1.7	1
LIBREVILLE	'84	2.7	1
PORT GENTIL	'84	1.6	1
CONAKRY	'84	37	1

The present table NO 7 as illustrated can be explained from other tables presented in annex of the present study the higher ratio of imbalance as above presented and with consideration of countries is held by Nigeria, then followed by Guinea (Conakry).

The most balance economy in the trade is presented by Ivory Coast whose exports are higher than the import. This is mainly due to its agriculture production which, by far, is the highest in the region. They have also started to adapt many of their commodities to the container system.

## 4.1.2.1

## The Partial Rate of Containerisation.

TABLE No 7

ABIDJAN	'84	37 %
LAGOS	'82	16 %
DOUALA	'84	44 %
DAKAR	'83	35 %
LIBREVILLE	'84	66 %
PORT HARCOURT	'82	12 %
LOME	'84	33 %
	"	
MATADI		20 %
	"	
COTONOU	"	26 %

source: IDREM, ABIDJAN (January, 1986).

These rate figures present a higher percentage for LIBREVILLE ,DOUALA, ABIDJAN, DAKAR and LOME. the analysis is very difficult without a skilful study as fluctuations are important from one year to another within the same port.

#### 4.1.3. The Container throughput in West africa.

The table below presents the world regional container throughput.

TABLE No 8 Analysis Regional Troughput Growth 1970/1985  
( '000 TEU )

	1970		1975		1980		1985		1990		2000	
	TEU	%	TEU	%	TEU	%	TEU	%	TEU	%	TEU	%
Scandinavia/Baltic	202.7	3.2	698.1	3.8	1034.3	2.8	1378.8	2.5	1799.9	2.4	2455.6	2.1
North Europe	2144.4	33.9	4354.7	23.7	7150.0	19.2	9748.7	17.5	12636.0	16.6	17369.1	15.2
Atlantic Europe	146.3	2.3	597.9	3.3	1428.2	3.8	2143.7	3.8	2920.4	3.8	4397.5	3.8
West Mediterranean	184.1	2.9	542.0	3.0	1585.7	4.2	2559.9	4.6	3570.4	4.7	5350.0	4.7
East Mediterranean	15.3	0.2	148.5	0.8	744.9	2.0	1176.3	2.1	1679.5	2.2	2656.2	2.3
North Africa	-	-	27.8	0.2	183.5	0.5	346.5	0.6	594.4	0.8	1246.9	1.1
West Africa	8.2	0.1	83.7	0.5	491.5	1.3	653.2	1.2	848.7	1.1	1175.2	1.0
South Africa	5.0	0.1	68.3	0.4	579.6	1.6	682.2	1.2	766.8	1.0	1105.9	1.0
East Africa	0.1	-	10.4	0.1	101.3	0.3	265.9	0.5	673.5	0.9	1412.1	1.2
Middle East	13.4	0.2	197.0	1.1	1804.7	4.8	2748.2	4.9	3743.9	4.9	5600.6	4.9
South East Asia	16.2	0.3	441.0	2.4	2107.8	5.6	4001.0	7.2	6559.7	8.6	11994.2	10.5
Far East Asia	471.1	7.5	3037.9	16.6	7277.4	19.5	12306.6	22.1	17164.6	22.6	25814.2	22.5
Austral Pacific	323.4	5.1	884.0	4.8	1562.9	4.2	1823.5	3.3	2258.3	3.0	3230.4	2.8
North America EC	1286.4	20.4	3748.5	20.4	4649.0	12.5	5606.1	10.1	6709.2	8.0	8948.3	7.8
N. America StH/Gulf	242.0	3.8	806.6	4.4	1456.8	3.9	2336.5	4.2	3245.7	4.3	5337.9	4.7
North America WC	1203.1	19.0	2392.9	13.0	3810.6	10.2	5709.2	10.2	7410.7	9.8	10615.6	9.4
Latin Am. Cariba	18.3	0.3	215.2	1.2	881.9	2.4	1330.4	2.4	1908.5	2.5	3167.6	2.8
Latin Am. South	37.0	0.6	91.5	0.5	460.9	1.2	930.3	1.7	1490.9	2.0	2719.6	2.4
World Total	6316.9	100.0	18346.0	100.0	37310.9	100.0	55747.0	100.0	75981.1	100.0	114596.9	100.0

Source: Ocean Shipping Consultants.

This study analyses the container movements in the west african from 1970 to 1985. Looking at the table my analysis will not try to see the number of containers handled since there many empty containers (see tables 4 & 5 in annex 1); but to compare the evolution with the other regions of the continent.

Starting from 0.1 % of the world total in 1970, the throughput increase rose to some 1.3 % by 1980/81; estimated to a growth of 13 folds .

Then followed by a relatively slight decline in 1984 to 1.2 of the world total. It is projected that the throu-

ghput of this region will represent only 1 % of the world total by the year 2000.

The west african container throughput in 1970 ,represented some 50 % of the continent. In 1980, while the continent as a whole represented by some 3.8 % of the world total, the region with some 1.3 of the world total controlled some 30 % of the continent throughput. But it was overtaken by the South African Region which reaches the level of 1.6 % .

The analysis made by IDREM presents the throughput of some 21 ports in the region;but merely on the number of containers. See table no.6 in Annex 1.

#### 4.1.3.1 Partial analysis

As far as 22 ports are concerned with the container traffic, statistical figures are not always available for each of them and for that, the study carried out by IDREM covered the period between 1982 / 1984 and on the range of 9 principal ports of the region where approximatively some 400 000 Teus were handled as follows:

Abidjan	1984	96,632 TEU
Lagos	'82	117,222 TEU
	'84	(45,000) TEU
Douala	'84	58,367 TEU
Libreville	'84	30,196 TEU
Lome	'84	20,100 TEU
Matadi	'83	16,500 TEU
Cotonou	'84	10,589 TEU
PORT HARCOURT	'82	18,800 TEU

The details of this data can be found in (table 4 & 5) in annex 1.



#### 4.2.0. Types of commodities in the trade

From a study carried out by the Cameroon National Ports Authorities and which represents some of the major commodities containerised on the southbound imports from the EEC to the region :

A- Southbound cargo.

##### List 1

- wine
- cements
- alumina
- car spare parts
- lubricants
- iron and iron sheets
- hardware
- pharmaceutical products
- wheat and flour
- Dried fish
- preserved food
- bier and mineral water
- industrial chemicals
- fertilizers
- barley malt
- granulated sugar
- corn wheat semoulin
- glass wares
- plastic wares

##### List 2 Containerisable commodities but not containerised.

- bulk wheat (sometimes in open-top container)
- frozen fish
- rice



- Fruits and vegetables,
- Fish and meat ;
- Mineral resources;
- Timber;
- Cotton and textiles;
- Oil seeds and oily fruits ;
- Skins and hides;
- Rubber;
- Cocoa and products;
- Coffee and products.

Consequently, beyond financial considerations which have to sustain the acquisition of the appropriate boxes, there now exists many regulations to be implemented for the carriage of these commodities. For instance the sanitary regulations.

Even then, containerisation of these products is going to vary according to the degree of evolution of the national industrialisation and the foreign trade.

Chapter 4

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## CHAPTER 5

### The Technological Structures and The Maritime Development.

#### 5.1 Structural Changes In The Ports Of The Region.

##### 5.1.1 An Overview Of The Situation

This is concern with geographical as well as historical aspects.the analysis will be carried on their localisation (A),the needs for improvements (B),and the problems emerged from the container introduction in the region (C).

##### 5.1.1.1 The Geographical Features of West African Ports.

West Africa is notable for its lack of good natural harbours, due to the nature of the coast line and the shallow shelf.The access by sea is hampered by the prevalence of longshore bars,silted river channels,heavy movements of sand and the general absence of indentations.

Inland waterways from the following Rivers: Congo or (Zaire),Oubangui,Sangha ,Niger,Benue,Volta and Senegal just to list a few,are navigable but with difficulty. The better waterways like Congo River is usually troubled with shifting channels;while others like Niger and Senegal are affected by great seasonal fluctuations.

Port development in estuarine and along river locations has been hindered by sandbars and rapids.

Another aspect is the absence of sufficient space within the port area for its development in the long run .In fact, as a general situation,most of the west african ports are if not located in river estuaries,situated in areas where towns have rapidly developed due to industrial activities and have almost surrounded the port area.Any future improvement under such a situation necessitates the continuous displacement of the population in another part of the town.

Some of these ports such as DAKAR,LOME,FREETOWN,LIBREVILLE,COTONOU,CONAKRY,just to cite a few and formally, ABIDJAN and LAGOS are also Capital cities of these Countries.This implies that administrative and economic activities are deeply connected.

For those located along estuaries such as Douala, silted problems have rendered necessary the improvement of the depths of the routes by proceeding with dredging.

Due to the scarcity capital resources necessary to build new ports,most of the governments chose the solution of the improvement of the existing infrastructures with the aim that they could respond to the urgent traffic development.

#### 5.1.1.2 The needs for improvement

These ports had to face not only the new container traffic.

In fact,the traffic growth in ports has been extremely rapid,easily outpacing the expected rate of traffic development and by far, created congestion;thus limiting the free flow of goods to/from the port and in the hinterland in most of the ports of the region.

Port authorities of the region had to invest on installations corresponding to the rapid development of the traffic which rate, generally, was estimated to be between 20 and 100 % from 1970 to 1980.

In 1975-76, the Nigerian ports had to face a tremendous congestion to the point of deviating the traffic to the neighbouring countries and compromising the whole Nigerian economy; whereas the ports of Douala in Cameroun and Abidjan, (Ivory Coast) were faced with bottlenecks, penalising everyone: shipowners, shippers, port authorities and other port users.

Another main problem at the time of the appearance of containers in the west African trade was the absence of proper quays and the insufficiency of space required for the handling operations. It was then necessary to improve the depth of routes and proceed with dredging and aligning the existing quays.

The infrastructure itself, was mainly characterised by a shortage of facilities; the inadequacy of the depth of the sea at the ports premises, and amongst all, a real mismanagement of the existing facilities port which made these latter unable to provide adequate berth for big vessels and efficient loading and discharging of ships' cargo. Mismanagement led most of them to a slow down of the flow of cargoes from the port to the hinterland and vice versa.

#### 5.1.2.1 The regional port policy

In parallel to the traffic development, and the necessities of port planning, as well as the implementation of the proposals of the Charter of Abidjan, The President

of the Ministerial Conference for the West and Central African States on maritime transport, officially, requested in 1977; The United Nations Organisation to assist the Port Management Association of the West and Central African in the implementation of a uniform system of port statistics and performance indicators .

A manual was then developed in the early 1979 ,giving sufficient guidance to enable participating port authorities themselves to prepare uniform statistical information and present to common performance indicators. These statistical informations were to assist the Port Management Association in their decision - making on ports development and in the transportation of goods.

The development of ports and harbours in West Africa is considered as part of an overall development of transport infrastructure. The implementation of this scheme would have outlined the difficulties encountered at the regional level, in the collection of accurate information ,since there was not in many ports a full exchange of information between the organisation of cargo handling responsables and the port statistics organisation.

The manual provided instructions for data collection for cargo delivery, on storage areas as well as on containers monitoring within the port areas.

As containerisation implies very huge modifications and investment capacities in infrastructure ,port equipment, vessels, inland transport and training of personnel; each cuntry has to develop its port infrastructure according to the volume of the trade and its future growth.

The Port Management Association of West and Central Africa has as its main objective to improve the operational and financial efficiency of ports and harbours in the context of the whole communications and



distribution systems of the respective countries; the mutual study and discussion arising in that field. This means the harmonisation of their related laws; procedures, activities and policies.

### 5.1.3 The National policy for ports.

Factors affecting the national development such as investment capacities, the volume of the trade etc... have created a differentiation among the west african countries in their involvement in the maritime development. Each of them has had to develop its port according to financial means.

Actually, some 23 ports of different sizes in the region are handling containers. These are as follows :

Nouadhibou	( Mauritania )
Dakar	(Senegal)
Banjul	(Gambia )
Freetown	(Sierra Leone)
Monrovia	(Liberia)
Conakry	(Guinea )
Abidjan	(Ivory Coast)
San Pedro	( " - " )
Takoradi	(Ghana)
Tema	( " - " )
Lome	(Togo)
Cotonou	(Benin)
Lagos / Apapa	(Nigeria)
Port Harcourt	( " " )
Warri	( " " )
Tin Can island	( " " )
Calabar	( " " )
Douala	(Cameroon)
Libreville	( Gabon)

Port Gentil	( " " )
Pointe Noire	( Congo )
Matadi	( Zaire )
Lobito	( Angola )

## 5.2 The container terminals.

### 5.2.1 PRESENTATION

A container terminal is an integral part of the port; but has its specific nature. In the light of its requirements, a special infrastructure and equipment must be provided in order to achieve an optimum benefit from this huge investment. This needs also a skillful management team with a power of decision-making.

Nowadays, some of these countries are in a better position for the container transportation. For example, the ports of Abidjan (Ivory Coast), Lagos (Nigeria) and Douala (CAMEROON) have got in the long run structures enabling them to a far reaching growth from the other ports of the region.

The other ports of the region, with very limited investments capacity do not have real container terminals worthy of name. The effort has been made either for small terminals or quays specially converted to the container and breakbulk cargo.

The absence of available space in port area has led to the practice of mini-parks set up in available zones in the town or in the country.

There are transfer problems which arise from such a situation; let alone that the zone for stripping and stuffing containers sometimes is not ideal.

As a fact, it has been reported that in the port of MATADI (ZAIRE), it has been necessary to demolish a warehouse in order to build up a platform for containers.

Very few ports in the region have a real container terminal. As aforementioned, the absence of available space in port area has led to the practice of mini-parks set up in available zones in the town.

There are also problems of transfer which arise from such a situation; let alone the location for stripping and stuffing containers which sometimes is not ideal.

As a fact, it has been reported that in the port of MATADI (ZAIRE), it has been necessary to demolish a warehouse in order to build up a platform for containers.

#### 5.2. 2                      The Equipment In Ports.

Only the ports of LAGOS and ABIDJAN have already acquired gantry cranes for the loading and discharge of containers. Meanwhile, the port of DOUALA is expected to be soon equipped with gantry cranes. New ports have also been built such as SAN-PEDRO (IVORY COAST) and TIN CAN (NIGERIA).

Meanwhile forklifts of various carrying capacity, as well as mobile cranes or boogies, are commonly found in the ports of the region.

### 5.3.0.0 THE FLEET IN THE REGION

#### 5.3.1.0 The development of the WEST AFRICAN NATIONAL FLEET

Since the signatory of the Abidjan's Charter, many of the West African Countries are still unable to build up a national fleet; or to maintain a sufficient number of vessels of a suitable type to carry their cargo shares.

The quasi-totality of the west african national shipping companies were created almost at the same time with the sudden appearance of containers in the trade.

The national fleet are essentially suited to carry the national cargo, which as diverse cargo is in breakbulk; dry or liquid cargo and some containers.

Three types of situation exist among these national carriers:

- a. those that are owned as state companies:  
CAMSHIP, (CAMEROON); SITRAM, (IVORY COAST); SOTONAM (TOGO); BLACK STAR Lines, (GHANA); CMZ (ZAIRE); NNSL, (NIGERIA); SONATRAM, (GABON) and COBENAM, BENIN
- b. there are foreign ships flying under the national flag within the following : PORTLINE GUIVER, (GUINEA-BISSAU); Gambia National lines, (GAMBIA) PORTLINE (ANGOLA LINE) GUINEA GULF LINE (GUINEA)
- c. Although to be created some other have been temporarily sailing through slot/space arrangements: Compagnie des Lignes Centrafricaines De Navigation SENEGAL ; COTRAM (CONGO)

These two latter are soon to become owned state lines when they will be in full operation.

#### 5.3.1.1. A look on the fleet

The actual profile of ships being operated by the national lines show a big preference in semi-container ships which is shaped for the carriage of diverse products and containers.

In 1984, they accounted for some 37% of fleet capacity in the trade.

As a standard multi-deck cargo liner, the semi-containers are enough flexible to load breakbulk, heavy lifts and project cargo in addition to containers.

They were adapted in most of the developing countries as well as in West Africa. Let alone the fact that this type of vessels are of a relatively low investment, they also allow operators to handle premium cargo and containers without having to commit themselves to a wholesale system of container operating and control beyond a port to port coverage.

But they are not efficient with slow containers handling time and turn round period are governed by the amount of general cargo to be moved in and out hatches. They are also small to benefit from economy of scale.

The question of the most appropriate vessel in the trade is not easy to be answered, since each type of vessel has shown its advantages.

For example the ventilated decks of the ro-ro ship holds reduce hygroscopic properties of cocoa and this method can be helpful for other types of cargo involved with such properties in the export trade of this region. This type of ship has a turnround period at the ports which is reduced.

The full cellular container ship, which has proven to

have a high productivity in cargo density and handling capability ,as well as a better flexibility in size ,is utilised only by european operators on the trade.the larger one ,of 1600 Teu is operated by SNCDV.No national line has so far acquired a full cellular container ship for her trade. (see tables 3 & 3'in annex 1)

### 5.3.2.0. Other types of ships in the trade.

Conbulklers,barge carriers and breakbulk ships are also deployed in the region.

The conbulklers can easily accomodate containers,but tend to be slow in speed and in transit time.and also in using this type of vessels, the container is tied to the bulk route which has not yet been developed in the region.

The productivity of various containers carrying vessels has been measured in terms of work done per dwt of standing capacity,compared to a dwt of a conventional breakbulk liner capacity, relative productivity factors are as follows:

full cellular ship	3
ro-ro ship	2
combo	1.25
conventional multi deck,	1
breakbulk liner	1
conbulker	0.75

As the development of containerisation is encouraged by many countries of the region , my feeling is that ,if the existing or the coming national lines in order to face the fierce competition where they are now involved ,will have in a short run to convert the existing units or simply acquire new vessels.

Due to financial constraints,these lines for example

cannot actually extricate themselves to switch their tonnage from semi-container vessels to ro-ro ships.

Table no 10 Typical containership costs.

Vessel				
capacity		daily cost.	cost/day	cost per
-(TEU's)-	-speed-	-at sea-	-Teu/day-	-00teu/mile-
600	18.25	13,280	22.13	9.05
1,000	20.00	20,409	20.41	4.25
1,400	21.00	23,492	16.78	3.33
1,600	23.00	33,421	20.88	3.78
2,000	23.00	37,813	18.90	3.42
2,400	23.00	41,638	17.35	3.36
2,800	26.00	50,921	18.18	2.91

Source : U.S Army Corps of Engineers

A study carried out by UNCTAD in 1981 as presented in table 11, showed that in her main trade zones to/from (Europe, Japan and USA) West Africa; the types of ships used for the carriage of containers were of medium size To/from Europe and USA and consisted of Full cellular, semi-containers, ro-ro ships, conventional barge carriers and converted fully cellular. These latter are generally semi containers that can be transformed into a cellulars according to the needs of the trade.

From Far East to West Africa ,there low size vessels. All this fleet represented all operators in the trade. But nowadays some operators have introduced vessels of between 900 and up to 1600 teus in the trade.

Table no 11. General trends concerning the degree of containerisation and the ship types used in container trades

From/To	Europe	Japan/Far East	United States of America
East Africa	M FC/SC/RR/	L -	L SC
West Africa	M FC/SC/RR/EA-FC	L RR/CC/SC	M RR/SC/BA
Red Sea	M FC/SC/RR	M FC/RR/	M FC/RR/EA
Middle East	H FC/SC/RR/BA	H FC/SC/CC/RR	H FC/RR/BA
Caribbean	M FC/RR	L SC	M FC/SC/RR/BA
Central America Mexico/Venezuela/ Colombia	M FC/SC/CC/RR	L FC/SC	M RR/SC
East coast South America	L FC/SC/CC	L SC	M SC
West coast South America	L RC/SC/CC	L FC/SC	L SC/RR
Indian sub-continent	L SC/CC/RR/EA	L CONV only	L FC/SC/CC/BA

Source: ALTERNATIVE CONTAINER TERMINALS systems: layouts of pure and combined terminals; paper presented by G. De Monie at UNCTAD /APEC Seminar on Container Terminal Management. Antwerp, Belgium 7-25 September 1981.

Level of containerisation.

H = high  
M = Medium  
L = Low

Ship types

FC = Full Cellular  
SC = Semi Container  
RR = Ro Ro ship  
CC = Converted fully cellular  
BA = Barge carrier  
Conv = Conventional



5.3.3.0 Boxes in the trade.

Table no 12 Proportion of Total Annual Teu Capacity  
Destined to/Originating from Each geographical Region.

REGION	CELLULAR	RO-RO	SEMI CONTAINER
Total Teu	7,703,141	3,803,520	2,262,033
North Am.	30.1 %	16.9 %	26.8 %
Europe	24.3 %	30.9 %	24.7 %
Far East	23.0 %	5.8 %	7.2 %
Australasia	4.6 %	3.3 %	1.4 %
Usa Coastal	3.7 %	4.0 %	7.0 %
Middle East	3.3 %	23.6 %	5.2 %
South Africa *	1.7 %	0.4 %	1.8 %
West Africa	0.9 %	0.8 %	5.9 %
USSR	0.8 %	0.3 %	0.2 %
Carribbean	0.7 %	0.6 %	1.2 %
South Am.	0.2 %	2.8 %	4.3 %
IndianSubContinent	neg.	0.1 %	0.4 %
Multi Regional	5.9 %	8.5 %	11.2 %
Routes			
Miscellaneous	0.7 %	0.3 %	1.6 %
RoundWorld Eastb.	-	1.3 %	1.06 %
RoundWorldWestb.	-	0.3 %	0.1 %
	100 %	100 %	100 %

Notes :

\*Inclusive of other ports of Africa, excluding West Africa

Source : Marine Transport Centre Ship Deployment Data  
Files 1986

According to this study carried out by the Maritime Center and presented in table (12) the fleet deployed in the West Africa region has carried by types the TEUs as follows:

In 1986 comparatively to the world containerised fleet.

fully cellular :0,9 %

Ro-ro 0.8 %

Semi container 5.2 %

The table above presents the number of Teus movements in 1986 in the world and particularly on the West African trade, operated by all participants using fully cellular; roro ships and semi containers in the trade.

As we have seen from the previous table that other types of ships are used in the trade the estimations as below are only approximations .

In 1986,

fully cellular have carried some	69328 Teus
roro.....	30428 Teus
semi-containers.....	133 46 Teus
total .....	233216 Teus

This cannot be given in an accurate way since boxes are in movements and also a lack of coordination between the various bodies working at the port to better combine all the statistic records as requested by the UNCTAD' manual on a uniform system of port statistics developed in 1979 for the West and Central African sub-region port managers association.

To render the datas more precise it is necessary to go with a port to port analysis and also to consider that other means of transport like barge carriers are utilised in the region.

#### 5.4.0.0 Container Terminal Management.

A container terminal is an integral part of the port;- but has its specific nature. In the light of its requirements, a special infrastructure and equipment must be provided in order to achieve an optimum benefit from this huge investment. This needs also a skillful management team with a power of decision-making

#### 5.4.1.0 The Managerial Authority

The few ports with a terminal specially built to handle the container traffic tend to entrust their operation and management to a private entity. This latter as a port users group is sometimes represented by an autonomous body answerable to port authorities, representing the central administration.

This is for instance ITS (INTER TERMINAL SERVICE) in DOUALA, CAMEROON ;

TCK (TERMINAL A CONTAINER DE KINSHASA), in ZAIRE; In Nigeria, the NATIONAL PORT AUTHORITIES first established a contract with CTC (CONTAINER TERMINAL COMPANY LTD) for the management of the container terminal. Then followed another contract until December 31, 1983 with CCN (CONTAINER CONSULTANTS OF NIGERIA).

Actually, it is now under the management of the NIGERIAN PORT AUTHORITIES.

IN ABIDJAN, port authorities have SEMPA for the managerial structures of the VRIDY CONTAINER TERMINAL.

In ports with no real container terminal, the port management is carried out by the national port authorities who generally take in charge all the port operations.

The main problem of a container terminal is the productivity.

Ports nowadays have to play a role of linkage between sea and land .Since the advent of containerisation ,cargo in fact has just to pass through this port area and not be handled at the port premises as it was with the conventional system.

The cargo throughput in each terminal can help to analyse the productivity of the port.

Improvement can not be confined only to vessels but gains must also be made in other links in the transportation chain to keep pace with the competitive environment.The need for equipment at any container terminal is the most effective way to increase productivity and efficiency.The level of technology has proved to be a factor enabling a container terminal productivity.

For example by reducing truck passage processing times ,terminal operators reduce costs for customers.

An increase in crane productivity is one point raising the overall marine container terminal productivity for vessel operators.It does not only reduce time of containers the port time of containerships calling at the port but also by allowing operators to make more voyages per year.In addition,crane productivity,when allowing a high overhead costs of cranes and berths by spreading more containers moves ,will reduce the cost per move.

To increase a vessel operations of loading and discharging,it is necessary to eliminate constraints to higher production rates that are inherent with stevedoring costs.This can be done by reducing the number of impro- ductive moves,crane waiting time ;decrease crane cycles times,etc...

To understand this ,we can refer to some three examples taken from the ports of LAGOS-APAPA,DOUALA and ABIDJAN.

#### 5.4.1.2 Costs at the container terminal of LAGOS-APAPA

The example of the port of LAGOS-APAPA is to illustrate the reverse situation of what I have just stated above. A study has been carried out by IDREM in december, 1985 shows that:

Out of 525 full and empty containers, handled on the 21 november, 1985 ;it took some 44 hours for the ship to turn round in the port.

This implies an average of 11.9 Teu /hour.in fact ,the operation was carried by 3 shifts at the beginning and 2 others at the end

it takes also 48 hours to put the containers in put. in order at the stacking area.

no equipment is hired for the night shift.

#### 5.4.1.3 Costs applied by the NIGERIAN PORT AUTHORITIES.

(a)- "TRANSFER CHARGES- LADEN CONTAINERS".

"receipt of full containers from ships'side,transport to container terminal stacking areas, off- loading from transport and stacking".

1 TEU = N. 60 = F.CFA = 25500

(b)- "TRANSFER CHARGES FOR EMPTY CONTAINERS"

Loading from stack at terminal areas to transport,transport to marshalling area for empty containers at new terminal,off-loading and stacking"

1 TEU = N 40 = F.CFA = 17000.

" Loading from stack and marshalling area for ,empty containers at New Terminal ,transport to loading berth"

1 TEU = N 20 = F.CFA = 8500

(c)- " Delivery Charges "

"Delivery of laden import FCL from stack to receivers transport, and stacking at marshalling area for empty containers .

1 TEU = N 70 = F.CFA = 29750

(d)- "Unstuffing charges."

unstuffing of import FCL at terminal areas:loading from stack to terminal transport ,transport to unstuffing area,unstuffing by NPA TERMINAL relocation of empty containers in stack.

per TEU = N 75 = F.CFA = 31875

(e) "Rent charges"

"rent charges " are applicable to laden containers FCL in storage at the container terminal in APAPA.these are per day and per TEU .

Days	Charges
1 - 6	Free .
7 - 12	N 5.50 = F.CFA 2340
13 - 18	N 33,00 = "----" 14025
19 - 25	N 44,00 = "----" 18700

25 - Over

N 55 ,00 = "----" 23375

After three weeks ,containers not delivered are put under the "Port Decongestion Committee " 's custody.

To summarize, the complete operation of a FCL at Apapa Container Terminal from discharge,transfer and delivery charges are evaluate as follows:

discharge & transfer:	N 60.00	= F.CFA	25500
stripping.	N 75.00	= "----"	31875
return (empty container)	N 40.00	= "----"	17000

Total costs . . . . . N 175.00 "----" 74375

5.4.1.4 Tariff at the "Ro-Ro Terminal (Lagos Tin-Can Island).

The NPA have fixed charges at this terminal managed by Ro-Ro Terminal Company (Nigeria) Ltd ,as follows:

transfer Charges	1 TEU	N 80	= FCFA	34000
delivery "-----"	"-----"	N 80	= FCFA	34000
wharfage	:1.02 N/m <sup>3</sup> x 36 m <sup>3</sup> /TEU	= N 36.72	= FCFA	15600

Rent Charges per day and per TEU

DAYS	CHARGES
1 - 6	N 5.00 = FCFA 2125
7 - 12	N 15.00 = "----" 6375
13 - OVER	N 30.00 = "-----" 12750

Container facilities charges:

An additive incentive tax is collected from all nigerian

ports by NPA as a tax for amortisation of the 2 gantry cranes .This is called "container facility charges"and which is applied for all containers either on import or export and in all nigerian ports.

This tax,which was 16 N per TEU = (FCFA = 6,800) in 1981, has been increased later to 17.60 N (.FCFA = 7,500) ;and in 1986,it was reported at around 19.36 (F.CFA =8,200).

#### 5.4.2.0 The case of DOUALA

gantry cranes are expected to be soon installed i.e in less than two years.

#### 5.4.2.1 The terminal operation.

The container terminal has an overall length of 700 m among' which a multipurpose berth of 200 m long is available only a few months ago.

Theoritically,the yard had before the construction of the multipurpose berth ,a capacity of 7,300 containers ( of three high stacking) and allocated as follows:

- 1400 stacking blocks for export containers (estimated for 275,000 tons of cargo);

- 3700 blocks for import containers (for a capacity of 570,000 tons of cargo);

2,200 blocks are reserved for empty containers.

But it has been used for a traffic range between 90 and 100,000 containers (FCL and LCL)

The terminal is managed by ITS (INTER CONTAINER SERVICE).

I.T.S.,in fact,is not an official organisation but only a coordinative structure of the five following stevedore companies (SOCAMAC,CAMATRANS,SOAEM,TRANSCAP and SOCOPAO )



which use this terminal on a pool basis.

This structure has a role of arbitration ,in settling disciplinary problems of storage at the stacking blocks in the yard ;the recovery of rent fees, and all managerial problems in the terminal.However,each stevedore company has his own equipment within the port area and his own dockers who in fact work on a contract basis.

the two main services carried by I.T.S. are grouping and unconsolidation of containers.This is done in close collaboration with customs authorities in order to facilitate operations of stuffing ,stripping and checking of containers.

#### 5.4.2.2 The import delivery of containers

the delivery of containers in import creates a lot of problems which impinges the normal use of this terminal. this affects this area which is always congested ;- shippers suffer from delay before delivery since they sometimes complaint of certain cargo damage when delivered.

For the whole import traffic handled at the terminal only 4 % are LCL ;but FCL have to spend a longer period on the terminal.

This affects not only the normal work at the terminal but also the turnaround of ships calling in the port.The illustrative analysis of this situation is through the study carried out by I.T.S. on a 8 months basis for successive 2 years (1983 and 1984),

28570 import containers in 1983 (around 93% of FCL )

34406 import containers in 1984 (almost 95% of FCL)

TABLE 12 Duration period of containers at the TERMINAL BEFORE DELIVERY

which use this terminal on a pool basis.

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TABLE 12 Duration period of containers at the TERMINAL BEFORE DELIVERY

%	1983	1984
	DAYS	DAYS
50	16	15
75	28	27
90	43	43
99	128	163

SOURCE : ITS CONTAINER TERMINAL -DOUALA

It appears that the average time spent by import containers at this terminal is excessively long :some 24 days in 1983 and 1984.

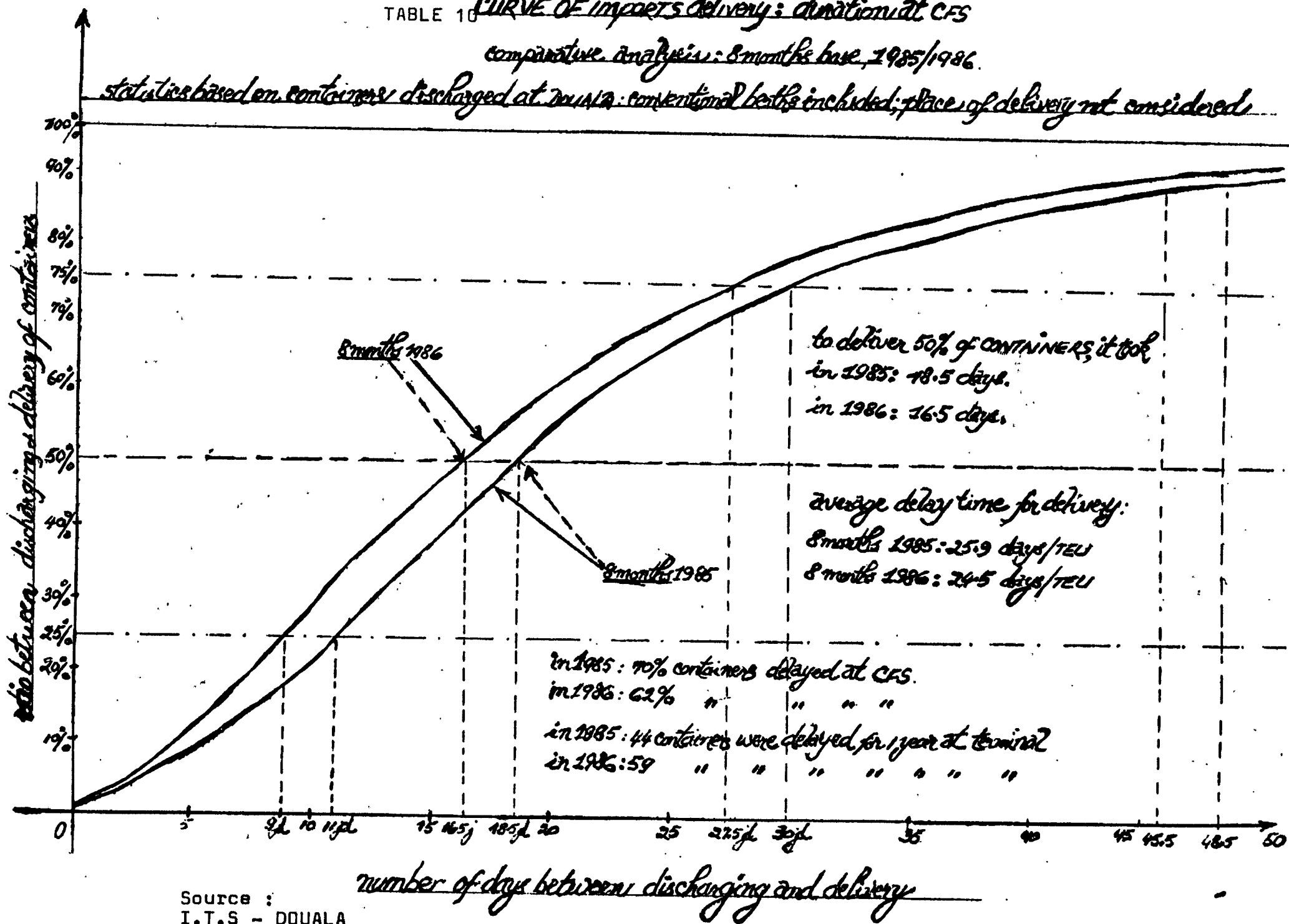
The study concludes that,if the time of delivery was lessened to an average between 12 and 15 days ,congestion would be avoided (and this is possible since many of these containers belong to consignees living in DOUALA). Actually ,the average time of all types of containers on import is 11 days and 5 days for export;period beyond which stevedore companies receive a supplementary tax for laytime out of which the port authorities perceive 50% .

TABLE 10

*CURVE OF IMPORTS DELIVERY: duration at CFS*

*comparative analysis: 8 months base, 1985/1986.*

*statistics based on containers discharged at DOUALA: conventional berths included; place of delivery not considered*



Source :  
I.T.S - DOUALA

References to Chapter 5

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## CHAPTER 6

### Liner operations in the region.

Liner shipping has always been subject to the need for rationalisation in order to avoid excessive competition which in turn is potentially present.

Although containerisation is still at the initial stage, there is an intensification of cooperative agreements among the established carriers as well as the increasing use of slot/space arrangements or chartering operations by the west african countries' carriers are characteristic of a number of liner services. This constitutes attempts to limit financial burden imposed by containerisation and to effectively rationalise liner services. Consequently, the instrument of space/ slot is being used to avoid undue strain on scarce capital resources. But old colonial ties play a very important part in the trade and even more influences the business.

6.1.0.0 Operations In The Northern EUROPE/WEST AFRICA trade.

6.1.1.0 The joint services

6.1.1.1 Within COWAC :

(a) - Joint service arrangements are made between :

(1)- NIGERIAN NATIONAL SHIPPING LINES (NNSL), ELDER DEMPSTER LINES, PALM LINE ,HOEGH LINE and GUINEA GULF LINE as a group called NEPH.

(b) -There is a combination of the sailing between COMPAGNIE MARITIME BELGE (CMB), NEDLLYOD, DAL, DELMAS-VIELJEUX (SNCDV) and DENIS FRERES.

(c) - An integration has now taken place whereby sailings, utilisation of SNCDV vessels through a tonnage provision are coordinated with DENIS FRERES.

The structure of operation in this conference is loose. Some of the members operate its their sailings on a one line basis without any consideration about its effect on the conference .

Sitram for instance ,gives the reason for its one line operating policy as basically reflecting its comittments to lifting its own national cargo .

#### 6.1.1.2. The Evolution In The Conference.

In 1983, a draft of a new conference agreement was submitted for members consideration and approval.

A consensus was reached on most of the proposals ,with the exception of the article dealing with the sharing of cargo among the member lines.

The European and West African Groups could not agree on the final text of this article.

Apparently ,to the bewilderment of the European Members, the West African Members adopted a common front on the article in question and came up with proposals which the Europeans saw as counter-productive and detrimental to their overall interests.

The Africans proposals were as follows:

(i) -For the cargo sharing application ,the West African Lines should be considered as a group, whereby the trade is to be divided on the 40:40:20 principle, but at the same time ,the West African share should be re-allocated among their members at their discretion .

This request is in line with the annex to Resolution 1 of the Code that deals with "Participation In The Trade" and

states that:

"The National Shipping Lines of region, members of a Conference, may redistribute among themselves by mutual agreement, the shares in the trade allocated to them in accordance with the article.

(ii) -For the allocation of the share for cross-traders the group proposed that they be considered as cross-traders in each others trade with Europe, which they believe will effectively give them more scope to participate and benefits as cross-traders, at the same time secure their 40 % share.

This request is also in line with the annex that deals "Participation in Trade". It states that the right to acquire significant part such as 20 %, in freight and volumes of the traffic generated by that trade.

For instance, trade between The Ivory Coast and France, Nigeria as member of the group becomes a third-flag operator. Trade between Nigeria and France, The Ivory Coast becomes a third-flag operator.

The Ivory Coast and Nigeria, mutually, to the best of their interests, re-allocates this share amicably. This will help to enhance and further consolidate the group's position within the conference, and possibly reduce the tendencies of continued mistrust and infighting that plagues in the region.

#### 6.1.1.3. Operations In UKWAL:

The UKWAL operates a joint service on a pool basis. With five members contributing for the tonnage; the other six are participating in space /slot agreement or by chartering.



These latter members using slot/space agreements or chartering are: GUINEA GULF, CMZ, SITRAM, CAMSHIP, COBENAM and PROVIDENCE LINER (northbound only).

NIGERIAN GREEN LINES LTD, a private owned nigerian shipping company has become a full member of the UK/ West Africa Line Joint Service on a monthly basis for general cargo and containers.

#### 6.1.2.0. The slot/space agreements and chartering.

In rationalising their agency by having single agents representing both lines WEST AFRICAN SERVICE DAL and NEDLLYOD have now moved into a slot sharing arrangement by operating a central pool.

These changes enable the two lines to offer more frequent combined sailings with full container service. A joint fleet of semi-containerships operate services linking NORTHERN EUROPE with ports in the SENEGAL/NIGERIA and CAMEROON/ ZAIRE/ANGOLA ranges.

Another example is here between SOCIETE NAVALE CAENNAISE (SNC) which entered into a space charter agreement with CAMEROON SHIPPING LINES (CAMSHIP), covering their respective services between FRANCE and WEST AFRICA. This gives CAMSHIP access to the secondary french ports ; on which SNC concentrates with its small conventional vessels , while SNC take space on CAMSHIP larger vessels which call only at french ports.

#### 6-1-3.0. JOINT VENTURE AGREEMENTS.

European carriers or partners have entered into various forms of cooperative agreements with the national state lines of WEST AFRICA. This form of agreement is either to enable european lines to fly under a national

flag as a carrier of that given country or just to obtain the loading rights. This is also to assist some of the west african countries ;many of which cannot afford vessels or have a sufficient large fleet to carry their national cargo in the world market.

One example is illustrated by the danish based DEEP SEA SHIPPING ,which sails from North Europe as the national flag carrier of Guinea.

Another example is the Cooperation Agreement between SOTONAM (Societe Togolaise De Navigation Martime) and O.T.AFRICA LINE to charter space for its share of cargo in the UK /WEST AFRICAN trade.

The Government of CONGO and SCADOA have made a recent deal whereby HOEGH (the marketing representative of SCA-DOA) is responsible for the allocation of all Congo's imports and exports freight amongst conference and non conference carriers.This agreement which took effect since January 1,1985;is to increase the cargo share of Hoegh on the North Europe trade from 35 to 60 % and will continue until the establishment of the national line (CONGOLAISE TRANSPORT MARITIME :COTRAM).

With some exception of BLACK STAR (National Shipping Lines of GHANA) and possibly IVORY COAST with SITRAM,most of the national lines of the sub-region has entered into different forms of arrangements with european line or the other partnership.

The NATIONAL SHIPPING LINE of SENEGAL (yet to be created )has its tonnage directly or indirectly managed by the french liner Company DELMAS-VIELJEUX ;

The Cameroon National Shipping Lines (CAMSHIP) has as foreign partners as share holders WEST GERMANY private shipping company and this accounts partly for the strong

german influence in its organisation and managerial structure;

COMPAGNIE MARITIME ZAIROISE (CMZ), the national flag carrier of ZAIRE, is strongly influenced by the belgian liner company COMPAGNIE MARITIME BELGE (CMB).

SOCIETE NAVALE DE L'OUEST (SNO) of FRANCE influences the NATIONAL SHIPPING LINE of BENIN; whereas SONOTRAM of GABON is influenced directly or indirectly managed by the French Shipping Company DELMAS-VIELJEUX.

The German AFRICA LINIE WOERMAN actually man, operate and manages the affairs of the TOGOLESE NATIONAL SHIPPING LINES (SOTONAM).

NIGERIAN NATIONAL SHIPPING LINES (NNSL), in conjunction with PALM, ELDERS and HOEGH, operates within a conference known as the (NEPH) grouping; which speaks as a united alliance in UKWAL and COWAC meetings.

#### 6.1.4.0. CONCLUSION

It is interesting to note that from all arrangements above mentioned that exist among some 40 carriers operating on this trade route, no west african lines cooperate directly with each other on joint venture terms.

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july,1987

Freddy Bob opt cit.

## Chapter 7

### The Multimodal System & Problem of transit related to Landlocked Countries

#### 7.1.0.0. The multimodal transport system in West Africa

The inland leg of multimodal movements of containers can be effected in this region by three major modes of transport i.e. rail, roads and inland waterways. Air transportation costs are high and considered as luxurious.

A difficulty for regional development is the inadequacy of an appropriate infrastructure for the land transport.

While containerisation is growing considerably in the sea borne trade of West Africa, multimodal house-to-house containers movements are still an exception. Less than 20 % of containers reaching the west african ports are taken in the hinterland.

This chapter is devoted to a presentation of the attempt introduced in some countries (Para.1)

This will enable me to analyse other factors related to customs regulations (Para.2); the situation of other means of transport (para.3)

#### 7.1.1.0. The factors affecting the development of a multimodal system transport.

Most of the west african economic activities are centralised in the coastal areas where port activities are influencing the development of industries and to that they are also Capital cities. Monrovia, Banjul, Freetown, Dakar, Abidjan, Conakry, Lagos etc...

This has lead to a national imbalanced development and a lack of demand for through transport services.

Some of the goverments concerned have established development plans ;aimed at a decentralisation of economic activities in their respective countries .These projects are for Abuja (Nigeria) and Yamoussokro (Ivory Coast) to promote a more balanced growth of the national economy. These programs will issue in the development of multimodal transport and containerisation in the countries concerned .

The improvement of all transport systems is absolutely necessary for a global industrialisation. The improvement of transportation requires the acquisition of new land vehicles and special carriage. But all the costs are often based on the states budgets.

The non availability of investments coupled with a lack of expertise and qualified operators have reduced the appropriate projection of this system.

Due to a lack of necessary information for officials concerned, there are many international conventions as well as the up-dating of national regulations such customs regulations which are not implemented.

The offer of a house-to-house movements of containers based on a combined transport bill of lading or any other multimodal transport document is not generally available; - but is restricted to a few ocean carriers and to some based European Forwarding Companies such as MORY; SOCOPA0 etc...

In Cameroun a National Freight Forwarding Company (CAMTAINER) has been established since 1984 to take over the organisation and the inland leg. movements of all containers operated by the National Shipping Company (CAMSHIP).

In fact, foreign freight forwarding agencies in existence in these countries since the colonial era have, by far, the potentialities to conduct multimodal transport operations in the region. They generally work for foreign lines and have the experience that can help nationals to build low costs means of transport; even in the landlocked countries.

#### 7.1.2.0 The Problems Of Customs Regulations And The Documentation.

One of the objectives in containerisation is the way goods are moved from one country to another in using the appropriate documents by all parties in the transport chains. This means that some international regulations are being used or national regulations are adapted for new customs controls.

##### 7.1.2.1. The international conventions applied within containerisation.

The successful introduction of multi modal container movements is the existence of adequate customs regulations allowing for a scale container moves with a minimum control at the borders to the final destination, where customs clearance should be undertaken.

The actual situation with regard to customs treatment of

containers and containerised cargoes differs considerably from country to country. Inland movements under a transit procedure, still being the exception rather than the rule.

While sometimes, the general maritime framework has been made, allowing inland moves of container under customs seal, the implementing rules have not been established. The country sometimes does not possess a wide network of customs offices.

The lack of an adequate customs infrastructure requires the escort of containers during their inland moves. This is a typical situation in Togo whereby all the cargoes destined for the neighbouring landlocked countries have to leave the port area in convoy and under escort till the frontiers; in order to avoid smuggling operations as alleged by the Togolese customs authorities.

In order instances, the clearance of LCL containers creates serious difficulties as customs authorities require the presence of all consignees during the customs clearance.

Inadequate customs regulations or the inability to implement existing regulations constitute considerable barriers to the successful introduction of multimodal transport.

Sometimes, particular controls are carried out by a personnel not belonging to the customs authorities.

Such measures are applicable in Cameroon for very high value cargo whereby it is necessary to have a double control by two different bodies of the administration: the Customs Authorities and The National Economic Inspection Authorities.



Regulatory measures regarding international transit are taken either on bilateral agreements or on general agreements cooperation.

The documentation and customs procedures, the adherence to international conventions on transit through other countries can take local conditions into account and need not reflect provisions necessary for transit operations.

Two examples taken from the ports of Abidjan and Lagos-Apapa illustrate the volume of documents required for a transshipment.

(a) -Documentation in the port of Abidjan.

- cargo manifest;
- a bill of lading;
- an outward manifest for transshipment;
- a pre deposit manifest;
- a legal declaration for customs escort;
- a customs deposit.

For the transshipment operations, all shipping documents thereto related are requested between the period of discharge from the first vessel and the loading into the second vessel. But their establishment requires a certain delay.

Under normal conditions, with a change of quay in the port; it takes 6/7 days out of which :

- 2 or 3 days are for the deposit of the manifest and the reception of the document of transshipment.
- 2 days may be needed to obtain the customs escort document.

The shortest solution is when the operations are taking place in the same berth: 2 days are sufficient;

By road:	Bangui - Berberati	
By railway	Ngaoundere - Douala	927 km
	Bertoua - Belabo	82 km
	Belabo - Douala	610 km
By waterway	Bangui - Pointe Noire	1500 km

SOURCE: compiled from different documents.

There are some particular problems related to the upgrading of the infrastructure and equipment in the countries of transit to meet the requirements of containers transport.

A study carried out by UNCTAD in 1977, and related to land locked countries, showed that transport costs here are estimated to be as follows:

- sea transportation ..... 15 %
- insurance ..... 10 %
- land transportation..... 45 %
- transit costs..... 30 %

From the above mentioned figures, we can outline the real financial impact of costs for land transportation and transit that have to face landlocked countries in their foreign trade as well as their strategy of development. The high costs are not created by the sea transportation but by the movements of goods in the hinterland.

#### 7.2.2.D. CONTAINERS IN TRANSIT TO THE LANDLOCKED COUNTRIES

In the same study carried out by I.T.S in 1984, the time average was:

- For import delivery containers 24 days;
- and for export 8 days in the port of Douala.

A similar study carried out by IDREM for the ports of

-If there a change from one area of the port to another it may take 4 days.

In his report on the documentation and Customs procedures of the port of Abidjan, the expert of UNCTAD C. Becker noted:

"One or many modules have to be created in order to help ship operators, stevedores, and customs to build up specialised antenna for the traffic as time constraint is the most important factor in container business."

(B) -The situation in the nigerian ports:

For Lagos / Apapa

(i) - For all importations are requested the following documents:

- an import license;
- prepayments of duties : (customs duties must be paid before the obtention of the letter of credit);
- a confirmed and irrevocable letter of credit;
- a "Clean Report Finding";
- The ship's manifest;
- a "bill of entry " this will be followed by
- a "Customs Release document";
- Overtime/abandoned cargo list";
- For "M" declaration stating the acquisition of foreign currency from the Central Bank.

(ii) -For the transshipment:

- the manifest of the 1st vessel;
- a bill of lading;
- the transire;
- coast wise permit;

The voluminous contents of all this documents cannot enable a quick clearance of the cargo and this implies

serious delays in customs operations at the terminal.

For instance, the round-the-world service has been established with regard to the time saving and efficiency in container operations in general and for transshipment in particular. Also have the problems of documents been simplified as well as the checking procedures.

Actually, the stevedoring companies in Abidjan have created a bureau of transshipment which has to deal with the following:

- stevedoring operations;
- transshipment;
- booking for transshipment and transit.

#### 7.1.2.2. The Implementation Of International Regulations

The adhesion to International Conventions facilitates multimodal transport operations considerably and, consequently, the harmonisation of customs regulations.

The main customs conventions relevant to container transport and to be implemented when ratified by all member states in the region are:

- 1) -The International Convention on the Simplification and harmonisation of Customs Procedures ( KYOTO CONVENTION) 1973;
- 2) -The Customs Convention on Containers of 1972;
- 3) - The International Convention of Goods on the cover of TIR CARNETS ( TIR CONVENTION) 1975.

#### 7.1.3.D. The Other Means Of The Container Transport.

#### 7.1.3.1. The Inland Depot

Some Countries like Nigeria and Cameroun with a big container traffic and with insufficient facilities to control all containers in the ports have built inland depots for containers moving far in the hinterland particularly on distances excinding 500 km.

#### 7.1.3.2. The Problem Of Feederling

The feeder system allows less port calls and the development of this system implies fast changes in strategies of transportation.

With the introduction of container services, all the coastal countries have experienced a concentration of ports of call.

This means that container shipments are generally channelled through one or few ports in each country with regard to other ports that are now being expected to be confined to the handling of feeder operations or the remaining traffic.

This concentration of port activities through containerisation have in consequent reduced shipping alternatives for national shippers and similarly this situation is applied to landlocked countries trade flows and these latter now find their transit options reduced.

This development calls in question the policy of the landlocked countries to maintain as many transit corridors as possible through different other countries in order to avoid disruption of foreign trade in case of conflict in one of the neighbouring countries.

A feederling system has to be implemented in this region due to the increasing container throughputs hand-

led by the countries of this region and as this trade route is not directly connected to the major shipping routes, many of these countries have small volumes of containerisable cargo and a direct call is uneconomical for many vessels.

As has noted Professor Alistar Couper (In Social Consequences of Maritime Technological Changes):

"The enormous cost, productivity size and routing of new generation of containerships means that many ports with limited hinterlands, relatively low TEU capacity, and a requirement for frequent calls will be served by feeder vessels. These requirements for feeder services may in fact, give opportunities for more of the LDCs to provide lower costs container services on a national and regional basis".

#### 7.2.0.0. THE LANDLOCKED COUNTRIES OF WEST AFRICA AND THE TRANSIT PROBLEMS.

##### 7.2.1.0. PROBLEMS OF LOCALISATION

Five countries of the region are landlocked. These are: Mali, Burkina-Faso, Niger, Chad and Central African Republic (C.A.R). These Countries, are considered as being among the poorest in the world by international community.

They are even landlocked from the interior since they cover the larger area of the sub region.

Amongst all they generally rely in the export of one commodity.

- Cotton for Chad ;
- Timber for Central African Republic;
- Hides and skins for Mali;

- Cattle for Burkina Faso;
- Uranium for Niger.

In addition to the general problems of their development, they lack an appropriate multimodal system of transportation, and are facing those of transit through neighbouring coastal states.

Ports of loading and discharging of goods for these land locked countries are at considerable distance from the production or consumption centers to ports in neighbouring countries. Some transit corridors have been accepted even if not defined for the use of the carriage of their foreign trade. Thus, transit operations incurring several changes in transportation during transfer.

The following ports are used by these countries:

- Dakar for Mali;
- Abidjan for Mali, Burkina Faso and Niger;
- Pointe Noire and Douala for (CAR);
- Lagos and Douala for Chad.

The following distances are from the hinterland to the sea.

(a) -For BURKINA FASO,

By railway: Ouagadougou - ABIDJAN	1145 km
"          - LOME	1000 km
By road: OUAGADOUGOU- ABDIJAN	1195 km
"          - LOME	980 km

(b) -For NIGER: NIGER- BENIN

By road NIAMEY-PARAKOU  
BY RAILWAY PARAKOU-COTONOU

FROM NIGER TO NIGERIA

BY ROAD AND RAILWAY. MARADI-LAGOS 1140 km  
Zinder-LAGOS 1140 km

FROM NIGERIA TO TOGO

BY ROAD: NIAMEY-LAMAKARA -LOME 1283 km

(c) - FOR MALI: through Senegal

By train: BAMAKO- KAYES, KIDIRA, KAOLACK 1290 Km

Through IVORY COAST:

BAMAKO-SIKASSO, BOUAKE-ABIDJAN 1158 Km

By road: BAMAKO-OUAGADOUGOU  
OUAGADOUGOU-ABIDJAN

By train: SIGOU-ABIDJAN via BOBO DIOULOASSO 1168 km

By road: MOPTI-ABIDJAN via BOBO DIOULASSO 1258 km

(d) -For Chad: through Cameroon : NJAMENA- DOUALA

By road KOUSSERI-MALTANI-MORA NGAOUNDERE 780 km

MOUNDOU-LARA FIGUIL 365 km

By railway NGAOUNDERE-DOUALA 927 km

Through CONGO NDJAMENA-POINTE NOIRE

By road : The transequatorial.

Through Nigeria

By road NDJAMENA-LAGOS.

(e) -For The Central African Republic.



Abidjan and Lagos presented an identical situation.

This affects to a great extent all the imports and exports and by, the moves of containers in transit to / from the neighbouring Landlocked Countries.

-For example:

(a) -To Chad: from Douala to Ndjamena  
in 1986; out of 960 containers handled;  
55 % transited by road and spent 40 days for a return  
45 % " " " train " - " 59 " -" -"

-Douala - Moundou (Chad)  
out of 192 containers handled ; in 1986  
50 % transited by truck 40 days.  
50 % by rail 59 days

this means that in taking into account the time spent at the port the transit time of a container is roughly about 80 days for Chad.

(b) -For the Central African Republic  
Out of 1487 containers handled from Douala to Bangui,  
91 % transited by road 30 days  
9 % " - " " 40 days

With the 24 days spent in the port a complete operation with the container is between 54 and 64 days for C.A.R.

At the sub regional level, a common approach to infrastructural project is one of the most difficult problems of international transport in general and container transport in particular.

If the infrastructure is to be used mainly for transit

trades ,the transit country may be unable or unwilling to finance such a costly program.

The transiting country might have to make a considerable financial contribution and which actually is a commensurable concern for the landlocked countries in West Africa.

A common approach is necessary to infrastructure planning to be adopted in order to optimize the use of scarce capital resources.

For that,it is desirable to draw up guidelines at the regional or at the intra regional level,on international cooperation in the infrastructural investments;financing and levying charges on users in international transport.

In order to assist the west african states to cope with the financing problems arising from the needs to upgrade the existing infrastructure , some solutions have been made available .For example,between Chad and Cameroon there is a constitution of train-blocks of 900 tons. a reduction of 50 % on port dues;and 25 % on stevedoring for goods in transit;the allocation of warehouse for the goods in transit.

References Chapter 7

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Part 3

## CHAPTER 8

### The future developments of containerisation in West and Central Africa

#### 8.0.0.0. Introduction

Shipping is part of the global transportation industry and, as such, an important component of international trade. It has been indispensable either for economic growth or in sustaining a higher standard of living throughout the mankind.

#### 8.1.0.0. The New Trends in Liner Shipping

The rapid developments of science and technology in the liner industry have provided more and more efficient means of transportation as proved by the container system. But its utilisation to a great extent has been mainly dependant on the current trends of the world trade.

this analysis will mention the situation with regards of developments in consultative machinery;

in consideration of the concept of a New Maritime Order; and the situation proper to this region in comparison to other maritime routes

#### 8.1.1.0. Towards the development of consultative mechanisms.

There have been wide ranging changes that have occurred in liner shipping during the almost 10-year period between the drafting of the Code and its final

entry into force on October 6, 1983 .

Some of the provisions and mainly the interpretation of the cargo sharing regulations and its related aspects such as cargo reservations; have gone to actions and reactions among nations regarding its implementation.

It is of fundamental importance that, during the period leading up to its entry into force, moves towards cargo reservations laws have started.

The Code's original objectives back in 1974 were intended to control the vast majority of seaborne trade.

But, the ever-growing presence of the non-conference operators has rendered the problem more complex since they are the ones that rationalize services by offering joint operations or non conference tariffs.

The Non-conference operators control on cargo in many trade routes has grown. From shares of between 5 % and 10 % in the 70's these have now levelled over 50 % on some routes.

In Addition to this situation; the main question actually is whether the Code's provisions should be applied to all liner shipping in general rather than just to liner conferences?

#### 8.1.1.1. E.C.C. Position

Provisions have been taken by the EEC group in the what so called "Brussels Package" (Council Regulation No 954 /79).

Under this provision, cargo sharing was permissible between European nations and non-OECD countries that are code signatories .Cargo reservation regulations would not be applied in conference trades between EEC member states or, on a reciprocal between such states and other OECD

countries which are parties to the code.

The BRUSSELS Package attempts to leave most major conference trades unfettered by restrictions, but allow the developing countries to pursue their cargo sharing between each other and the developed world.

In the U.S.A. have been adopted legal measures known as the FEDERAL MARITIME ACT (FMC), signed in 1984, and whose principles of free trade and free markets are against the provisions of the Code.

#### 8.1.2.0. The West african actual challenges towards the cargo sharing developments

As I earlier mentioned in the previous chapters, the implementation of the cargo sharing has created a conflicting situation among the participants in the west african trade.

In 1987, there have tremendous consultations between West Africans and Europeans. Several meetings have taken place; related to the implementation of cargo reservation; the restriction in the participation of outsiders in the trade etc...

For the West Africans, if outsiders are to be left a free access to compete in this trade zone and on commercial basis, it is only if they are subject to the same cargo sharing provisions as for conference members.

The draft accord formulated in Cotonou (december, 1986) by the Union of African Shippers' Councils (UCCA) and the representatives of the main conferences on the Northern Europe route (Cowaç, Mewac, Cewal and Ukwai: although none has become signatory to the proposals); that outsiders would be permitted to operate only if:

(i) -they agree to come under the conference umbrella;

- (ii) -that cargo moving on the trade should be shared among the conference members only on the 40:40:20 rule;
- (iii) -a system of cargo sharing would be implemented involving several tiers ;
- (iv) -any contravention of the agreement would incur punitive action including implementation of a series of fines ranging from the full value of the freight to 15 % of the costs and freight value.

Furthermore, the UCCA intends to commence operations of a multilateral system of cargo sharing to the totality of the liner trade i.e. applying the 40:40:20 rule to all cargo ;not just that carried in conferences as in the interpretation of the Code.

The Europeans Negotiators formed of (representatives of West Germany, Belgium and The Netherlands) have drafted in Hamburg the following accord in April:

- The replacement of the west african booking offices by a neutral body system ;
- The recognition of regular outsiders to be permitted to the trade ,but only if they become signatories to this general agreement ;
- The trade should be bound by the national laws of each country and the 40:40:20 rule to be applied only to the conference traffic.

These proposals gave rise to another meeting in Kinshasa between the representatives of France, Belgium and the Netherlands. The document issued from this meeting reaffirmed the implementation of cargo sharing over all the trade.

A following meeting was held in Paris and the document elaborated known as the "Paris Proposals" reaffirmed:



- The participation of independant lines in the trade;
- The supervision of the cargo sharing by a neutral body that will have to carry out statistical surveillane of the totality of the liner traffic on the basis of a sharing system ,covering all ports and countries of origin and destination and will make a record of all the documentation for all lines involved in each trade.

From the rejection of these proposals,The EEC representatives within the shipping policy have decided to take action against Countries restricting access to their markets.

In fact,if european lines do not dispute the right of their west african partners to a substantial share in the cargo flowing between these countries and Europe ,it seems that there is actually a need for a different system of organising the cargo sharing to be found..

As has recently stated Andre Delterre (General Manager of West and Central African liner trades at CMB) to illustrate the actual situation in west african trade: "The 40:40:20 principle is simple in definition, but difficult in application. It is impossible to control cargo properly and to marry the two concepts of free trade with canalisation.

If the Europeans do not form some agreement with the west african lines, the latters response is bound to be a move towards increased protectionism."

The needs of protectionism are taken by means of increased regulations at the international level in order to promote the legitimate interests.

This has been stated by the representative of the Group of 77 as presented (in page 15 of UNCTAD/ST/SHIP 1) that: "Non conference shipping lines will not be permitted to

operate in a manner that would damage the smooth functioning and operation of liner conferences. In no circumstances can we accept a situation where through their operations, the national lines are made to loose, what after great difficulties, they are entitled to get under the Code in respect of participation in trade.

The code aims at a reorganisation of liner trades, as to create a balance system, which would equally protect the interests of all parties concerned, in particular to serve "the special needs and problems of developing countries with respect to the activities of liner conferences serving their foreign trades".

Meanwhile, the Code stipulates in article 12 (a) that:

" Freight rates shall be fixed at as low level as is feasible from the commercial point of view and shall permit a reasonable profit for shipowners."

#### 8.1.3.0. The Concept of a New Maritime Order.

The essence of this concept is based on the idea that an integral harmony must be achieved between the problems of the developing countries and world economic processes. Knowing the complex and contradictory "starting conditions" of the developing countries, problems related to their economic development is at the center of social and political efforts. For poorer countries like those of West Africa, the problem of containerisation is compounded. Not only that, in its initial stages it is a consumer of scarce capital; but constitute a force of organisational changes, particularly within a cut-throat competitive situation.

It is now a matter of policy, so as to how governments have to react in response to these last developments.

Containerisation assessment does not actually in particu-

lar figure in their maritime policies.

The unitization of cargoes ,including containerisation will continue to react,not only on the transport, but on the transport organisation.

"Containerisability" of cargo, as has noted LUDWIG BETH (in Twenty Five Years of World Shipping), is not static. The container adapts itself,to new products ;as well as it entered new regional trade in spite of its nature as being considered as a standardised tool.

An overlook of the present maritime development and its related issues shows that the economic and social situation of the West Africa must be considered as a global problem.The world economy and the related production processes must not be necessarily integrated in the confines of a nation or a region.

Therefore,it is urgent to plan for new poles of industrialisation through the means of investments in the West african economy in order to breach the actual factors which increase the tension among the shipping community.

For that,it is to remind one that not simply aid or transfer of technology ;which represent only a supplementary factor in a world economic processes,but organs and institutional solutions whereby the transfer of means from one half of the world to the other is carried out as an integral and inseparable component of world economic and technological processes. This means that the transfer of resources must be linked to the introduction of the necessary reforms.

The problems arise from structural changes for which improvements in shipbuilding techniques and the interna-

tionalisation of the industry can be cited as principal reasons. The internationalisation is evidenced by the dramatic growth in the tonnage figures of the flag of convenience countries and more recently by the drop of fleet figures in the traditional maritime countries.

The question is, with regard to the new developments, how the established order which created the existing patterns will react to this pressure?

The options are for a future structure, which is necessary to polarise them in order to demonstrate their virtues and drawbacks. But once more, can aspirations and ideas be put into practice overnight ?

The answer is still uncertain, as far as it is beyond doubt that economic changes of such major importance can only be introduced where there is a certain political agreement.

Anyhow, if by the end of the eighties, the outlook for this region is not so favorable; the task now is to adjust to the variety of aspirations among nations without losing sight of the fundamental truth that containerisation is a commercial environment which must be sustained and nourished.

Many of the Developing Countries areas are passed over by shipping routes and the West African situation is illustrative particularly to the container shipping.

Everywhere in the transport industry container has an impact on everyone and everything since the savings deriving from the cost operations in transportation affects the consumer of finished goods. This also means that containerisation requires a change of mentality as well as of

equipment in the chain of transportation.

With this system ,all participants are involved and so are all aspects of transport techniques ;even those outside transport such as the distribution process .

It progressively diminishes or abolishes the conventional practices i.e by shortening transport time and by,improving reliability. Because of the regularity of the arrival of goods;stocks may be reduced.

The operations of a container industry can be impeded by external factors over which the operator has little or no control:inland operators,shippers,consignees and customs authorities influence directly on the overall performance of the container industry.

8.2.0.0. The advantages and disadvantages of the system

8.2.1.0. The disadvantages of containerisation in West Africa

West African economic development has not already been implemented on a regional scheme.It is then evident from a national scale of productivity operations within containerisation are of greater disadvantages,than the actual advantages since a full and or integrated container system does not yet exist.

The disadvantages of containerisation are not far from what obtained from one country to another in any less Developing Countries.

Dr A. A. Monsef outlined some of the followings:

- (a) -That many of the Developing Countries lack the appropriate infrastructure for containerisation such as wide inland transport nets;

Most of the roads are not wide or straight enough and too weak for the transport of large and heavy containers. There are usually customs regulations which are inflexible;

The result is that containers have to be filled or emptied in the vicinity of the port area;

Thus the handling costs per ton of cargo are increased unless the mass transportation system offsets this disadvantage.

(b) - Most of the Developing Countries main problem is the insufficient volume of containerisable foreign trade.

(c) - Mechanisation of the handling process will increase productivity of labour. Mechanisation will need more skilled labour, which in turn may open new spheres for industries such as repairing and maintenance; or even the construction of containers.

But a bottleneck would be created in finding the required number of qualified labour and administrators. At the same time, the abundant unskilled labour, already working in the harbour, would be spared.

#### 8.3.0.0. The Advantages of containerisation for West Africa

(a) - By introducing the container system, the huge congestion which previously existed in most of the big ports of the region has diminished;

(b) . Ships waiting time and safety of the goods from damage and pilferage are improving ;

(c) . Transit time of goods to/from the landlocked countries is lessened

- (d) Container system is a major cause that leads the Government to rectify customs, documentation and legal procedures related to the movements of goods to/from the country and within member States of the region ;
- (e) .The high technology employed in the container system has partly been achieved ,at least on the operational side.
- (f) .Containerisation is likely to stimulate the growth of industrialisation throughout the country and to influence the development of other sectors of industries thereto related.

Although container penetration is increasing rapidly in the subregion ,it is possible to postulate sets of conditions under which the conventional system has to survive for some years.This will be presented with further developments.

Before I state my recommendations let me paraphrase MACHIAVELLI who in 1513, wrote in "The PRINCE":

"There is nothing more difficult to take in hand,more perillous to conduct or more uncertain in its success than to take in hand the lead in the introduction of a new order of things.Because,the innovator has for enemies,all those who have done well under the old conditions and lukewarm defenders in those who may do well under new . . . This coolness arises partly from fear of the opponents, who have the laws on their side and partly from the incredulity of men ,who do not believe in new things until they have had a long experience of them."

I come to the conclusions that my aim is to focus the attention that shipping conditions in this region have

changed. Therefore, not only conferences mechanisms can sustain the development of the maritime policy and the regional cooperation, the appropriate strategies have to be found.

All along this study, we have seen that in practise there is little space in the national maritime activities to achieve the maritime cooperation.

The situation facing the West African Countries outlines that in her main northbound trade, the future may be in the development of a multilateral cooperation.

For that I intend to forsee just a few recommandations:

#### 8.4.0.0. Recommandations

There is no one best way for the implementation of containerisation since any decision, or strategy must be taken with regard to the new situation.

As international initiatives in shipping policies like the Code of Conduct for liner conferences have long time preparation, so is the development of the region as no decisive changes are expected from the present situation; Then I consider three levels of the implementation of containerisation.

(a)- The national level which will include the following:

- A full emphasis on maritime training of managers as a key tool for all maritime activities related to the national development;

- The development of multimodal system of transportation is the backbone of containerisation in the region; since all problems of documentation, customs regulations, in-



ternational conventions will be solved under this system.

As the worldwide networks have become the fashion, liner conferences have to re-define their own scope instead of binding all the cargo under protectionism.

-Open liner services to the cheapest costs; i.e. even if to be provided by the feeder services of the round-the-world have to be studied;

-The development of decentralised structures in shipping activities through a participation of national in the acquisition of shares in the shipping companies.

The role of the National Shippers' councils must be reinforced in order to bring them to compete with foreign competitors;

(b)- At the regional level

- In order to develop shipping structures which could reinforce the cooperation. For that the following must be created :

- Develop an experience of a regional representative for each freight bureau in every port in Europe;

- Develop a port of transshipment which could be the cheapest for such operations for the region and analyse all aspects for the development of the feeder system;

-The setting up a regional leasing center for containers;

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- Develop an intra regional market between these countries;

-The Regional fleet must be experimented among the leading containers traffic Countries in the region on a charter base

-Establish an Organ in charge for the study of the accomodation of each product to the containers;

- Develop a structure that can easily implement international regulations at the regional level;

(c)- At the international level

- Unctad has to estblish all the regulations related to the container system as a code;

- develop sets or conditions for a regional multimodal systems;

-The international Organisations have to promote industrial developments;particulary for the agricultural products.

ANNEX I

Table 1  
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PRICE INSTABILITY                      INDICES ,                      1964-84.

commodities	international prices	
	1964-84	1974-84
sugar	90.8	51.5
cocoa	37.3	34.1
rice	33.0	21.9
coffee	32.0	37.7
palm kernels	27.5	32.5
wheat	24.3	16.9
tea	21.7	23.6
jute	21.2	26.8
soybeans	20.8	9.9
beef	16.7	11.3
corn	16.6	15.6
rubber	16.1	14.0
sorghum	15.6	13.6
cotton	14.3	10.7

Note :                      Index (1984 = 100)

Source: MAC BEAN & NGUYEN "PRICE Instability" (background paper), in world bank report, 1986. p.86.

p.86

WORLD BANK REPORT, 1986.

**Table 2**

**Developing Countries Containerised Traffic Growth Analysed by Region 1970/1982**  
('000 tonnes)

	Latin America			S. & E. Asia			Africa			W. & N. East		
	Imports	Exports	Total	Imports	Exports	Total	Imports	Exports	Total	Imports	Exports	Total
1970	621	240	869	114	71	185	65	30	95	-	-	-
1972	1,069	487	1,556	674	596	1,270	225	136	361	-	-	-
1974	1,752	809	2,561	3,038	3,036	6,074	589	314	1,123	109	2	104
1976	2,445	1,201	3,646	4,891	6,047	10,938	1,674	1,176	2,850	1,399	29	1,324
1978	3,632	1,940	5,572	8,964	9,541	18,505	3,944	2,900	6,844	6,031	334	6,365
1980	5,981	3,365	9,346	12,926	14,314	27,240	7,938	6,171	14,109	6,078	784	9,662
1982	6,521	3,542	10,363	18,064	19,419	37,483	9,126	6,334	15,460	9,047	1,884	10,531

Source: CBR Consultants Ltd

**AFRICAN FLEET**  
**MERCHANT fleet by ship type and flag as for January 1st, 1987**

Flag	No of ships	1000 grt/gr	MAN dwt	dwt-2 share of total	Ships of 300 grt/gr and over	
					1000 TEU	TEU-2 share of total
<b>GENERAL CARGO VESSELS</b>						
Egypt	112	470.1	594.6	25.9	2.7	8.3
Nigeria	30	307.9	370.6	14.7	80.3	31.5
Algeria	40	203.6	246.1	11.6	1.4	4.7
Ivory Coast	10	102.5	135.0	5.3	1.8	5.4
India	11	92.7	125.1	5.0	1.6	5.0
Senegal	12	87.9	112.4	4.7	2.0	6.1
Angola	20	71.9	112.5	4.5	0.5	1.6
Ethiopia	16	65.8	85.0	3.4	2.3	7.0
Cameroun	6	67.1	85.6	3.3	3.3	10.1
Yemen	15	62.8	81.7	3.2	1.6	4.8
Madagascar	15	53.3	74.4	3.0	-	-
Yogo	5	45.9	69.3	2.8	2.6	8.0
Zaire	5	42.3	61.2	2.4	-	-
Tunisia	13	45.6	53.9	2.1	-	-
Mauritius	5	35.7	52.7	2.1	0.9	2.7
Morocco	19	18.3	33.2	1.3	0.2	0.6
Gabon	3	19.0	36.0	1.8	0.9	2.6
Senegal	6	15.2	22.6	0.9	-	-
Mozambique	11	12.9	30.2	0.8	-	-
Somali Republic	6	13.0	19.7	0.8	-	-
Tanzania	5	12.0	19.0	0.8	-	-
Cape Verde Republic	8	10.0	17.3	0.7	-	-
South Africa	1	12.8	13.9	0.6	0.4	1.4
Spain	3	5.1	8.7	0.3	-	-
Greece	1	3.0	4.4	0.2	0.2	0.5
Djibouti	2	2.4	3.6	0.1	-	-
Equatorial Guinea	1	3.3	3.3	0.1	-	-
Gambia	1	1.6	2.9	0.1	-	-
Ghana	2	0.9	1.8	0.1	-	-
Mayotte	1	0.4	1.0	0.0	-	-
Sao Tome & Principe	1	0.5	0.2	0.0	-	-
<b>TOTAL</b>	<b>316</b>	<b>1835.7</b>	<b>2513.7</b>	<b>100.0</b>	<b>32.6</b>	<b>100.0</b>
<b>CONTAINER SHIPS</b>						
South Africa	8	284.8	274.5	96.5	13.7	95.9
Greece	3	4.6	10.1	3.5	0.6	4.1
<b>TOTAL</b>	<b>11</b>	<b>289.4</b>	<b>284.5</b>	<b>100.0</b>	<b>14.3</b>	<b>100.0</b>

Source : ISL- May, 1987

Table no3

## WEST AFRICAN COUNTRIES - MERCHANT FLEET BY SHIP TYPE AS OF MID OF 1978-1983

- Ships of 100 grt and over -

Ship type	mid 1978		mid 1979		mid 1980		mid 1981		mid 1982		mid 1983	
	No	grt	No	grt	No	grt	No	grt	No	grt	No	grt
Oil tankers	16	269 783	15	222 052	18	223 637	18	228 046	21	226 778	22	229 638
Liquefied gas carriers	-	-	-	-	-	-	-	-	-	-	1	853
Chemical tankers	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous tankers (trading)	2	2 466	2	2 466	2	2 466	1	287	-	-	-	-
Combined carriers	-	-	-	-	-	-	-	-	-	-	-	-
Ore & bulk carriers	1	10 764	1	10 764	-	-	-	-	-	-	-	-
General cargo ships												
Single deck	30	22 789	36	69 807	36	93 647	36	81 693	39	82 536	41	82 994
Multi deck	87	579 229	92	647 230	104	824 748	94	783 062	93	744 242	94	767 100
Passenger/cargo ships	3	17 563	5	21 095	5	21 292	5	21 298	5	21 292	4	20 280
Container ships (fully cellular)	-	-	-	-	-	-	-	-	-	-	-	-
Lighter carriers	-	-	-	-	-	-	-	-	-	-	-	-
Vehicle carriers	-	-	-	-	-	-	-	-	-	-	-	-
Fish factories & carriers	4	6 101	4	6 101	4	6 101	6	10 771	6	10 771	6	10 771
Fishing, trawlers	253	94 951	273	102 273	298	108 146	364	131 736	418	143 764	476	153 635
Ferries & passenger vessels	14	4 337	18	5 996	20	6 131	19	5 865	21	6 308	29	10 012
Supply ships & tenders	6	2 362	6	2 362	7	2 472	9	3 390	9	3 307	9	3 307
Tugs	60	12 972	60	12 977	59	12 623	71	15 294	70	15 194	74	15 986
Dredgers	8	14 642	8	16 450	9	16 450	9	16 450	10	16 850	11	17 314
Livestock carriers	-	-	-	-	-	-	-	-	-	-	-	-
Icebreakers	-	-	-	-	-	-	-	-	-	-	-	-
Research ships	1	178	2	178	1	178	1	178	1	178	2	898
Miscellaneous (non-trading)	11	2 418	12	2 919	14	6 153	20	7 772	25	9 869	28	16 181
Total	496	1 040 585	534	1 122 670	577	1 324 064	653	1 272 806	715	1 281 086	794	1 282 793
\$ world tonnage		0.26		0.27		0.32		0.30		0.30		0.31

\* Mauritania, Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Congo, Zaïre, Angola.

Source: Compiled from Lloyd's Register of Shipping, Statistical Tables 1978-1983



TABLE 4

CONTAINER TRAFFIC & TOTAL TRAFFIC OF THE  
WEST & CENTRAL AFRICAN PORTS-

(...) = estimates

PORT	YEAR	CONTAINER TRAFFIC								TOTAL TRAFFIC		
		TEU			EMPTY	Total	,000 Tons			% Gen. Cargo	,000 Tons	
		Plci.		total			in	out	Total		Gen. cargo	Total
		in	out									
NOUADHIBOU	1980	-	-	-	-	-	-	-	-	-	114.8	8934.3
DAKAR	1983	22013	8804	30817	nd	nd	274.0	115.5	389.5	34.8 %	1120.6	4680.2
CONAKRY	1984	4846	131	4977	2806	7783	89.3	7.1	66.4	20.1 %	329.8	4586.0
FREETOWN	1980	nd	nd	(5500)	nd	nd	nd	nd	65.7	14.0 %	469.6	638.1
MONROVIA	1982	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	9248.4
SAN PEDRO	1984	14	3103	3117	3836	6953	0.1	49.6	49.7	19.5 %	254.4	1408.3
ABIDJAN	1984	42030	54602	96632	54620	151252	491.3	668.1	1159.4	37.5 %	3087.9	8312.7
TAKORADI	1982	nd	nd	nd	nd	nd	nd	nd	nd	nd	192.7	624.1
TEMA	1982	nd	nd	nd	nd	nd	nd	nd	nd	nd	1050.3	3053.2
LOME	1984	17324	2776	20100	15371	35471	224.5	27.6	252.1	33.4 %	753.8	1324.1
COTONOU	1984	9335	1254	10589	nd	nd	136.2	15.7	151.9	26.0 %	883.5	886.2

NA = NOT AVAILABLE

Source : IDREM ( ABIDJAN, 1986 ),

TABLE 4 CONTAINER TRAFFIC & TOTAL TRAFFIC OF THE WEST & CENTRAL AFRICAN STATES PORTS

(...) = ESTIMATES

PORT	YEAR	CONTAINER TRAFFIC									TOTAL TRAFFIC	
		FCL					,000 TO			%	,000 TONS	
		Plains			EMPTY	Total	in	out	Total	Gener. Cargo	Gener. Cargo	Total
		in	out	total								
APAPA (LAGOS)	1982	92316	2558	94871	72878	167749	9045	27.9	932.4	18.8%	4975.9	11038.2
TIN CAN ISLAND (LAGOS)	1982	22351	0	22351	3982	26333	262.7	0	262.7	11.5%	2286.1	2832.2
WARRI	1982	na	na	(3200)	na	na	374	1.8	39.2	3.0%	1310.4	2935.5
PORT HARCOURT	1982	na	na	(18800)	na	na	221.1	5.0	226.1	11.6%	1942.7	2983.0
CALABAR	1982	na	na	(2500)	na	na	30.6	0	30.6	16.3%	188.1	395.8
DOUALA-BONABERI	1984	36389	21978	58367	27942	86309	485.0	278.7	763.7	44.1%	1731.2	3999.4
LIBREVILLE-GAMBO	1984	21976	8220	30196	14049	44245	271.1	103.4	374.5	65.6%	570.8	1263.4
PORT GENÈVE	1984	(4500)	(2748)	7248	562	7810	45.9	27.2	73.1	38.2%	191.3	7743.7
POINTE-NOIRE	1980	na	na	(9000)	na	na	na	na	108.3	25.2%	430.6	3508.9
MAKASSI	1983	na	na	(16500)	(10000)	26530	170.9	27.2	198.1	20.2%	980.6	1252.4

Na = Not available

Source : IBBEM (ABIDJAN).

Table No 5 Container traffic in the West and Central African Trade.

Source: IDREM, Abidjan; Ivory Coast

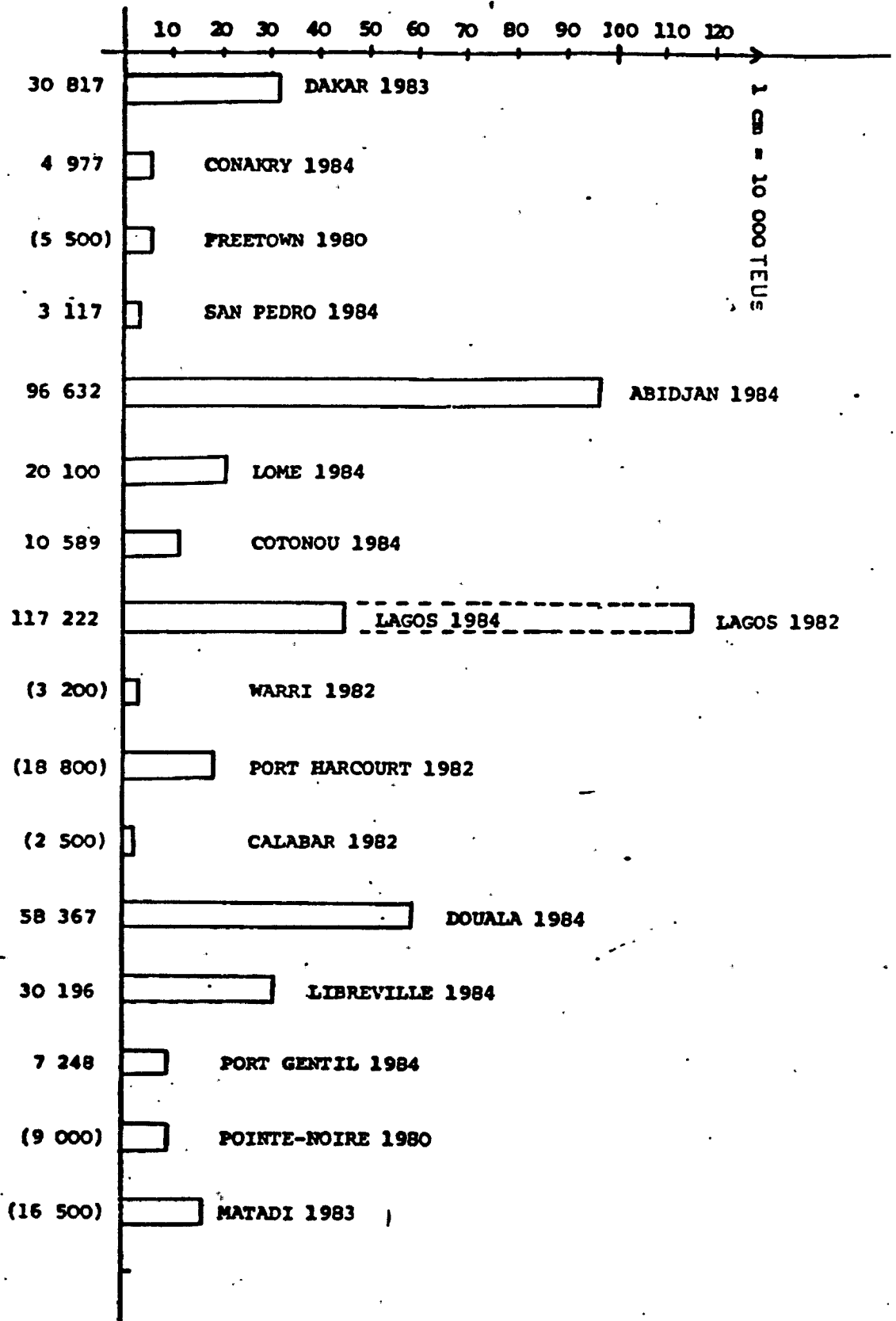


Table No 6 Container Traffic in The West & Central African Trade (FCL) - 1982 /1984

↓ 1 cm = 20 000 TEUS

ABIDJAN 1984  
96 632 TEUS

LAGOS (1) 1982  
117 222 TEUS

DOUALA-BONABERI 1984  
58 367 TEUS

DAKAR 1983  
30 817 TEUS

LIBREVILLE-OWENDO  
30 196 TEUS 1984

PORT HARCOURT 1982  
(18 800) TEUS

LOME 1984  
20 100 TEUS

MATADI 1983  
(16 500) TEUS

COTONOU 1984  
10 589 TEUS

IN	OUT	
IN →	← OUT	
IN	OUT	
IN	OUT	
IN	OUT	
		IN
		OUT
		IN
		OUT

(1) APAPA + TIN CAN ISLAND

Source : IDREM.

ANNEX II

**West african ports :**

Traffic Growth From NOUADHIBOU to MATADI

VIDES	= EMPTY CONTAINERS
E.V.P	= T.E.U
PLEINS	= Full Container Loaded
Marchandises	= Cargo traffic
Vrac liquide	= liquid bulk
vrac solide	= dry bulk
marchandises generales	= General cargo
Total	= total
entrees	= imports
sorties	= exports

## MAURITANIE

## PORT AUTONOME DE NOUADHIBOU

TABLEAU 1

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in (1000 tons) out total (% General cargo (en % march.général.) total	(par la route, via Dakar ?)					
in TEU FCL (en E.V.P) pleins in out total vides total						
MARCHANDISES (en 10 <sup>3</sup> TO)						
Vracs liquides liquid bulk	69,6					
Vracs solides dry Bulk	-					
March. générales general cargo	69,1					
Total entrées import	138,7					
Vracs liquides liquid bulk	-					
Vracs solides dry bulk	-					
Minerai de fer ore	8749,9					
March. générales	49,7					
Total sorties Export	8795,6					
Vracs liquides	69,6					
Vracs solides	-					
Minerai de fer	8749,9					
March. générales	114,8					
Total Entrées + sorties	8934,3					

Source : AGPAOC.



SENEGAL

TABLEAU 2

PORT AUTONOME DE DAKAR

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in				274.0		
out				115.5		
total				389.5		
(en % march.général) total				34.8%		
(en E.V.P) pleins in				22013		
out				8804		
total				30817		
vides				nd		
total				nd		

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides			506.7	659.2		
Vracs solides (1)			614.3	978.5		
March. générales			750.9	788.0		
Total entrées			1871.9	2425.8		
Vracs liquides (2)			172.4	136.3		
Vracs solides (3)			248.4	293.3		
Phosphates			1338.4	1492.3		
March. générales			341.5	332.6		
Total sorties			2100.7	2254.5		
Vracs liquides			679.1	795.5		
Vracs solides			862.7	1271.8		
Phosphates			1338.4	1492.3		
March. générales			1092.4	1120.6		
Total Entrées + sorties			3972.6	4680.2		

Source : P.A.D. (1) blé, maïs, riz, mil, sucre, soufre, clinker, gypse, ciment, engrais.  
 (2) hydrocarbures, huile d'arachide.  
 (3) tourteaux, arachides, sel, attapulgite.

GUINEE

TABLEAU 3

PORT AUTONOME DE CONAKRY

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in				26.4	59.3	
out				5.4	7.1	
total				31.8	66.4	
(en % march.général) total				14.1%	20.1%	
(en E.V.P) pleins in				2 571	4 846	
out				127	131	
total				2 698	4 977	
vides				2 013	2 806	
total				4 711	7 783	

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides		276.6		} 545.0	} 516.4		
Vracs solides (1)		122.1					
March. générales		138.8				215.3	319.7
Total entrées	680.5	537.5	748.3	760.3	836.1		
Vracs liquides		-		-	-		
Vracs solides (2)		1998.9		3150.9	3710.7		
March. générales		5.6		10.4	10.1		
Total sorties	2252.9	2004.5	2985.6	3161.3	3720.8		
Vracs liquides		276.6		} 3695.9	} 4227.1		
Vracs solides		2121.0					
March. générales		144.4		225.7	329.8		
Total Entrées + sorties	2933.4	2542.0	3733.9	3921.6	4556.9		

Source : P.A.C. + AGPAOC.

(1) clinker, soude.

(2) alumine, bauxite.

SIERRA-LEONE

TABLEAU 4

SIERRA-LEONE PORTS AUTHORITY - FREETOWN.

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	nd					
out	nd					
total	65.7					
(en % march.général.) total	14.0 %					
(en E.V.P) pleins in						
out						
total	(5 500)					estimation sur base de 12 TO/EVP
vides						
total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (hydroc.)	148.1					
Vracs solides (céréales)	20.4					
March. générales	365.2					
Total entrées	533.7					
Vracs liquides	-					
Vracs solides	-					
March. générales	104.4					
Total sorties	104.4					
Vracs liquides	148.1					
Vracs solides	20.4					
March. générales	469.6					
Total Entrées + sorties	638.1					

Source : AGPAOC.

## LIBERIA

TABLEAU 5

## PORT FRANC DE MONROVIA

CÔTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in out total (en % march.général.) total						
(en E.V.P) pleins in out total vides total						
MARCHANDISES (en 10 <sup>3</sup> TO)						
Vracs liquides (hydroc.)			nd			
Vracs solides			nd			
March. générales			nd			
Total entrées			933.3			
Vracs liquides			-			
Vracs solides (Minerai fer)			8187.9			
March. générales			124.2			
Total sorties			8312.1			
Vracs liquides			nd			
Vracs solides			nd			
March. générales			nd			
Total Entrées + sorties			9245.4			

Source : AGPAOC.

## COTE D'IVOIRE

## PORT AUTONOME DE SAN-PEDRO

TABLEAU 6

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	0.1	-	0.1	-	0.1	
out	28.6	36.3	54.7	58.2	49.6	
total	28.7	36.3	54.8	58.2	49.7	
(en % march.général.) total	14.1%	17.6%	22.6%	22.5%	19.5%	
(en E.V.P) pleins in	39	-	10	4	14	
out	2 245	2 630	3 898	3 962	3 103	
total	2 284	2 630	3 908	3 966	3 117	
vides	1 041	3 089	1 718	3 840	3 836	- empties
total	3 325	5 719	5 626	7 806	6 953	

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides	21.6	17.1	17.6	15.8	20.0	
Vracs solides (1)	1.6	-	19.6	78.0	32.9	
March. générales	13.3	7.1	18.1	3.0	7.3	
Total entrées	36.5	24.2	55.3	96.8	60.2	
Vracs liquides (2)	26.0	23.4	30.1	53.0	83.0	
Vracs solides	-	-	-	-	-	
Grumes	1290.0	952.0	918.0	941.1	1018.0	
March. générales	189.0	199.4	224.1	255.3	247.1	
Total sorties	1505.0	1174.8	1172.2	1249.4	1348.1	
Vracs liquides	47.6	40.5	47.7	68.8	103.0	
Vracs solides	1.6	-	19.6	78.0	32.9	
Grumes	1290.0	952.0	918.0	941.1	1018.0	
March. générales	202.3	206.5	242.2	258.3	254.4	
Total Entrées + sorties	1541.5	1199.0	1227.5	1346.3	1408.3	

Source : PASP. (1) clinker, blé, riz.  
(2) huile de palme.

COTE D'IVOIRE  
PORT AUTONOME D'ABIDJAN

TABLEAU 7

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	585.1	696	638.5	512.2	491.3	
out	611.0	740	714.4	582.2	668.1	
total	1196.1	1436.1	1352.9	1094.4	1159.4	
(en % march.général) total	34.3%	45.8%	51.7%	46.0%	37.5%	
(en E.V.P) pleins in	51 986	59 289	53 976	42 916	42 030	
out	48 380	59 973	56 189	48 885	54 602	
total	100 366	119 262	110 165	91 801	96 632	
vides	33 492	48 849	47 111	45 453	54 620	
total	133 858	168 111	157 276	139 254	151 252	

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides	2195.0	1662.7	1682.8	1707.8	2151.3	
Vracs solides (ciment, clin- kers, produits alimentaires)	2044.6	2025.3	1982.6	1724.8	1169.3	
March. générales	1712.3	1415.4	1137.8	1063.2	1449.2	
Total entrées	5951.9	5103.4	4803.2	4495.8	4769.8	
Vracs liquides (pétrole-hui- le de palme)	244.0	350.1	670.4	714.3	1026.1	
Vracs solides (1)	219.0	211.4	223.2	198.4	159.1	
Grumes	1179.3	895.1	821.9	836.6	719.0	
March. générales	1770.2	1722.8	1476.8	1315.5	1638.7	
Total sorties	3412.5	3179.4	3192.3	3064.8	3542.9	
Vracs liquides	2439.0	2012.8	2353.2	2422.1	3177.4	
Vracs solides	2263.6	2236.7	2205.8	1923.2	1328.4	
Grumes	1179.2	895.1	821.9	836.6	719.0	
March. générales	3482.5	3138.2	2614.6	2378.7	3087.9	
Total Entrées + sorties	9364.4	8282.8	7995.5	7560.6	8312.7	

Source : P.A.A. (1) issues de farine, goudron, feraille, mélasse.

G H A N A

GHANA PORTS AUTHORITY - TAKORADI

TABLEAU 8

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in out total (en % march.général.) total						
(en E.V.P) pleins in out total vides total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides			8.6			
Vracs solides (1)			153.5			
March. générales			45.7			
Total entrées			207.8			
Vracs liquides			-			
Vracs solides (2)			234.8			
Grumes			34.5			
March. générales			147.0			
Total sorties			416.3			
Vracs liquides			8.6			
Vracs solides			388.3			
Grumes			34.5			
March. générales			192.7			
Total Entrées + sorties			624.1			

Source : AGPAOC. (1) clinker, céréales.  
(2) manganèse, bauxite.

G H A N A

TABLEAU 9

GHANA PORTS AUTHORITY - TEMA

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in out total (en % march.général.) total						
(en E.V.P) pleins in out total vides total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides		1150.2	1094.6			
Vracs solides (1)		509.4	670.1			
March. générales		955.5	436.9			
Total entrées		2615.1	2201.6			
Vracs liquides		257.4	238.2			
Vracs solides		-	-			
March. générales (2)		441.7	613.4			
Total sorties		699.1	851.6			
Vracs liquides		1407.6	1332.8			
Vracs solides		509.4	670.1			
March. générales		1397.2	1050.3			
Total Entrées + sorties		3314.2	3053.2			

Source : AGPAOC. (1) clinker, alumine, coke, minerai de fer.

(2) dont lingôt aluminium.



T O G O

PORT AUTONOME DE LOME

TABLEAU 10

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in			193.0	172.6	224.5	
out			20.2	19.1	27.6	
total	136.0	186.0	213.2	191.7	252.1	
(en % march.général) total	27.6%	32.0%	33.2%	36.6%	33.4%	
(en E.V.P) pleins in	12 379	15 781	16 618	14 807	17 324	
out			1 961	1 853	2 776	
total			18 579	16 660	20 100	
vides			14 435	14 305	15 371	
total	24 525	31 058	33 014	30 965	35 471	

MARCHANDISES (en 10<sup>3</sup> TO)\*

Transbordement hydroc. **	1 001.2	966.3	1 097.3	163.0	21.6	
Vracs liquides	435.2	190.9	197.1	192.9	200.0	
Vracs solides	133.1	127.4	63.5	51.8	210.8	
March. générales	396.2	438.4	514.6	403.0	607.8	
Total entrées	1 965.7	1 723.0	1 872.5	810.7	1 040.2	
Vracs liquides	274.2	41.3	-	-	2.0	
Vracs solides (clinker...)	285.1	386.8	628.7	562.2	135.9	
March. générales	96.7	143.2	127.4	120.5	146.0	
Total sorties	656.0	571.3	756.1	682.7	283.9	
Vracs liquides (hydroc.)	709.4	232.2	197.1	192.9	202.0	
Vracs solides	418.2	514.2	692.2	614.0	346.7	
Transbordement hydroc.	1 001.2	966.3	1 097.3	163.0	21.6	
March. générales	492.9	581.6	642.0	523.5	753.8	
Total Entrées + sorties	2 621.7	2 294.3	2 628.6	1 493.4	1 324.1	

Source : P.A.L.

\*\* comptés à l'import.

\* non compris avitaillement.

B E N I N

PORT AUTONOME DE COTONOU

TABLEAU 11

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO)* in	84.0	133.5	146.5	122.6	136.2	
out	12.0	9.0	10.1	11.8	15.7	
total	96.0	142.5	156.6	134.4	151.9	
(en % march.général) total	22.4%	24.2%	26.0%	29.5%	26.0%	
(en E.V.P) pleins in	6 338	9 465	9 528	8 885	9 335**	
out	1 715	701	872	923	1 254	
total	8 053	10 166	10 400	9 808	10 589**	
vides						
total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides	199.5	215.9	229.5	222.8	240.8	
Vracs solides (clinker, gypse, soufre)	298.5	351.5	291.4	112.4	53.5	
March. générales	369.5	543.4	558.9	401.0	512.8	
Total entrées	867.5	1 110.8	1 079.8	736.2	807.1	
Vracs liquides	26.4	9.8	10.9	10.3	8.4	
Vracs solides	-	-	-	-	-	
March. générales	59.1	45.4	42.9	54.1	70.7	
Total sorties	85.5	55.2	53.8	64.4	79.1	
Vracs liquides	225.9	225.7	240.4	233.1	240.2	
Vracs solides	298.5	351.5	291.4	112.4	53.5	
March. générales	428.6	588.8	601.8	455.1	583.5	
Total Entrées + sorties	953.0	1166.0	1 133.6	800.6	886.2	

Source : P.A.C. \* y compris la tare.  
 \*\* y compris 766 conteneurs de 40'

NIGERIAN PORTS AUTHORITY  
APAPA (LAGOS)

TABLEAU 12

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	863.6	1 200.0	904.5			
out	35.2	26.8	27.9			
total	898.8	1 226.8	932.4			
(en % march.général) total	20.0 %	22.4 %	18.8 %			
(en E.V.P) pleins in	109 491	122 019	92 316	60 000*	40 000*	40 000*
out	1 961	2 140	2 555	2 500*		
total	111 452	124 159	94 871	62 500*		
vides	84 332	80 531	72 878	50 000*		
total	195 784	204 690	167 749	112 500*		

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (1)	3 607.4	2 843.7	3 622.7			
Vracs solides (2)	1 699.4	1 947.6	2 272.6			
March. générales (3)	4 300.7	5 157.2	4 757.7			
Total entrées	9 607.5	9 948.5	10 653.0			
Vracs liquides	171.2	149.8	78.2			
Vracs solides	112.1	134.9	88.8			
March. générales	202.5	330.4	218.2			
Total sorties	485.8	615.1	385.2			
Vracs liquides	3 778.6	2 993.5	3 700.9			
Vracs solides	1 811.5	2 082.5	2 361.4			
March. générales	4 503.2	5 487.6	4 975.9			
Total Entrées + sorties	10093.3	10563.6	11038.2			

Source : NPA  
\* = estimation.

- (1) hydrocarbures, huiles végétales.  
(2) blé, riz, divers.  
(3) y compris conteneurs.

N I G E R I A N PORTS AUTHORITY  
TIN CAN ISLAND (LAGOS)

TABLEAU 13

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	67.8	351.1	262.7			
out	0.8	0.1	0			
total	68.6	351.2	262.7			
(en % march.général.) total	4.5 %	13.2 %	11.5 %			
(en E.V.P) pleins in	6 606	26 026	22 351	15 000*	15 000*	15 000*
out	128	13	0			
total	6 734	22 039	22 351			
vides	5 353	3 078	3 982			
total	12 087	29 117	26 333			

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (1)	-	-	-			
Vracs solides (2)	93.9	165.5	546.1			
March. générales (3)	1 522.2	2 599.7	2 241.1			
Total entrées	1 616.1	2 765.2	2 787.2			
Vracs liquides	-	-	-			
Vracs solides	-	-	-			
March. générales	17.0	61.7	45.0			
Total sorties	17.0	61.7	45.0			
Vracs liquides	-	-	-			
Vracs solides	93.9	165.5	546.1			
March. générales	1 539.2	2 661.4	2 286.1			
Total Entrées + sorties	1 633.1	2 826.9	2 832.2			

Source : NPA  
\* = estimation.

(1) hydrocarbures, huiles végétales.  
(2) blé, riz, divers.  
(3) y compris conteneurs.

N I G E R I A N PORTS AUTHORITY  
WARRI

TABLEAU 14

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	8.5	46.2	37.4			
out	0.4	0.1	1.8			
total	8.9	46.3	39.2			
(en % march.général.) total	1.1%	3.2%	3.0%			
(en E.V.P) pleins in						
out						
total	(700)	(3 800)	(3 200)			estimation sur base de 12T/EVP
vides						
total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (1)	10.9	57.6	22.0			
Vracs solides (2)	291.2	469.3	410.2			
March. générales (3)	814.4	1 404.3	1 283.1			
Total entrées	1 116.5	1 931.2	1 715.3			
Vracs liquides	845.4	1 247.7	1 177.4			
Vracs solides	22.1	19.4	15.5			
March. générales	28.5	45.6	27.3			
Total sorties	896.0	1 312.7	1 220.2			
Vracs liquides	856.3	1 305.3	1 199.4			
Vracs solides	313.3	488.7	425.7			
March. générales	842.9	1 449.9	1 310.4			
Total Entrées + sorties	2 012.5	3 243.9	2 935.5			

Source : N.P.A.

(1) hydrocarbures, huiles végétales.

(2) blé, riz, divers.

(3) y compris conteneurs.

N I G E R I A N PORTS AUTHORITY  
PORT HARCOURT

TABLEAU 15

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	123.7	398.2	221.1			
out	2.5	4.0	5.0			
total	126.2	402.2	226.1			
(en % march.général) total	7.6%	11.4%	11.6%			
(en E.V.P) pleins in						
out						
total	(10 500)	(33 500)	(18 800)			estimation sur base de 12T/EVP
vides						
total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (1)	-	-	-			
Vracs solides (2)	500.1	893.9	1 034.3			
March. générales (3)	1 600.0	3 496.9	1 921.5			
Total entrées	2 100.1	4 390.8	2 955.8			
Vracs liquides	18.6	2.5	-			
Vracs solides	43.9	14.9	6.0			
March. générales	59.7	42.0	21.2			
Total sorties	122.2	59.4	27.2			
Vracs liquides	18.6	2.5	-			
Vracs solides	544.0	908.8	1 040.3			
March. générales	1 659.7	3 538.9	1 942.7			
Total Entrées + sorties	2 222.3	4 450.2	2 983.0			

Source : N.P.A.

(1) hydrocarbures, huiles végétales

(2) blé, riz, divers.

(3) y compris conteneurs.

N I G E R I A N PORTS AUTHORITY  
CALABAR

TABLEAU 16

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	0.9	13.6	30.6			
out	0.1	-	-			
total	1.0	13.6	30.6			
(en % march.général) total	1.2%	5.7%	16.3%			
(en E.V.P) pleins in						
out						
total	(100)	(1 100)	(2 500)			estimation sur base de 12T/EVP
vides						
total						

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (1)	9.2	8.6	7.5			
Vracs solides (2)	100.3	89.4	100.0			
March. générales (3)	58.9	183.4	145.7			
Total entrées	168.4	281.4	253.2			
Vracs liquides	4.1	2.3	-			
Vracs solides	43.0	51.5	100.2			
March. générales	26.2	54.6	42.4			
Total sorties	73.3	108.4	142.6			
Vracs liquides	13.3	10.9	7.5			
Vracs solides	143.3	140.9	200.2			
March. générales	85.1	238.0	188.1			
Total Entrées + sorties	241.7	389.8	395.8			

Source : N.P.A.

(1) hydrocarbures, huiles végétales.

(2) blé, riz, divers.

(3) y compris conteneurs.

C A M E R O U N

TABLEAU 17

OFFICE NATIONAL DES PORTS DU CAMEROUN - DOUALA/BONABERI

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in			402.7	460.5	485.0	570*
out			241.0	256.3	278.7	275*
total			643.7	716.8	763.7	845*
(en % march.général) total			38.7%	47.5%	44.1%	nd
(en E.V.P) pleins in		24 479	31 108	30 860	36 389	42 600*
out		19 512	19 378	18 474	21 978	20 900*
total		43 991	50 486	49 334	58 367	63 500*
vides		16 639	20 371	24 283	27 942	27 200*
total		60 630	70 857	73 617	86 309	90 700*

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides (1)			778.3	812.1	741.1	
Vracs solides (2)			1070.1	1085.9	1161.2	
March. générales			1057.1	947.1	1097.3	
Total entrées		2607.6	2905.5	2845.1	2999.6	
Vracs liquides			-	-		
Vracs solides			-	-		
Grumes			321.3	326.1	365.9	
March. générales			606.5	561.0	633.8	
Total sorties		925.9	927.8	887.1	999.7	
Vracs liquides			778.3	812.1	741.1	
Vracs solides			1070.1	1085.9	1161.2	
Grumes			321.3	326.1	365.9	
March. générales			1663.6	1508.1	1731.2	
Total Entrées + sorties		3533.5	3833.3	3732.2	3999.4	

Source : ONPC, ITS (1) vin, hydrocarbure.

(2) alumine, engrais, clinker, gypse, blé, malt, riz.

\* = estimation au 30.11.85



OFFICE DES PORTS ET RADES DU GABON  
LIBREVILLE - OWENDO

TABLEAU 18

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in				nd	271.1	
out				nd	103.4	
total				378.2	374.5	
(en % march.général) total				76.0%	65.6%	
(en E.V.P) pleins in				nd	21 976	
out				nd	8 220	
total				29 365	30 196	
vides				13 179	14 049	
total				42 544	44 245	
MARCHANDISES (en 10 <sup>3</sup> TO)						
Vracs liquides	171.7	196.5	208.4	214.0	241.3	
Vracs solides	133.1	nd	nd	11.5	-	
March. générales	135.2	nd	nd	378.7	442.9	
Total entrées	440.0	474.7	537.7	604.2	684.2	
Vracs liquides	-	-	-	-	-	
Vracs solides	-	-	-	-	-	
Grumes	249.8	265.2*	262.4*	367.6	451.3	
March. générales	227.0	68.7	75.6	118.7	127.9	
Total sorties	476.8	333.9	338.0	486.3	579.2	
Vracs liquides	171.7	nd	nd	214.0	241.3	
Vracs solides	133.1	nd	nd	11.5	-	
Grumes	249.8	265.2	262.4	367.6	451.3	
March. générales	362.2	nd	nd	497.5	570.8	
Total Entrées + sorties	916.8	808.6	875.7	1090.6	1263.4	

Source : OPRAG (Office des Ports et Rades du Gabon) + AGPAOC  
\* y compris produits agricoles.

OFFICE DES PORTS ET RADES DU GABON  
PORT-GENTIL

TABLEAU 19

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in				nd	45.9	
out				nd	27.2	
total				38.6	73.1	
(en % march.général) total				nd	38.2%	
(en E.V.P) pleins in				nd	(4 500)	
out				nd	(2 748)	
total				4 324	7 248	
vides				634	562	
total				4 958	7 810	

MARCHANDISES (en 10<sup>3</sup> TO)

Vracs liquides	5.7	21.8	20.1	115.0	30.9	
Vracs solides	-	-	-	-	-	
March. générales	171.1	144.8	148.4	123.6	112.0	
Total entrées	176.8	166.6	168.5	238.6	142.9	
Vracs liquides	8917.7	6119.5	5604.8	6011.0	7193.7	
Vracs solides	30.5	-	-	-	-	
Grumes	594.0	557.3	380.6	435.8	327.8	
March. générales	76.5	53.2	78.6	73.0	79.3	
Total sorties	9618.7	6730.0	6064.0	6519.8	7600.8	
Vracs liquides	8923.4	6141.3	5624.9	6126.0	7224.6	
Vracs solides	30.5	-	-	-	-	
Grumes	594.0	557.3	380.6	435.8	327.8	
March. générales	247.5	198.0	227.0	196.6	191.3	
Total Entrées + sorties	9795.5	6896.6	6232.5	6758.3	7743.7	

Source : OPRAG (Office des Ports et Rades du Gabon) + AGPAOC.  
(...) = estimation.

C O N G O

AGENCE TRANSCONGOLAISE DES COMMUNICATIONS (ATC) -  
 POINTE-NOIRE.

TABLEAU 20

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	nd					
out	nd					
total	108.3					
(en % march.général.) total	25.2%					
(en E.V.P) pleins in	nd					
out	nd					
total	(9 000)					estimation sur base de 12T/EVP
vides	nd					
total	nd					
MARCHANDISES (en 10 <sup>3</sup> TO)						
Vracs liquides	298.8		346.9			
Vracs solides (1)	64.8		84.6			
March. générales	349.5		464.8			
Total entrées	713.1		896.3			
Vracs liquides	10.9		3.7			
Vracs solides (2)	2136.5		1452.2			
Grumes et débités	567.3		391.8			
March. générales	81.1		142.0			
Total sorties	2795.8		1989.7			
Vracs liquides	309.7		350.6			
Vracs solides	2201.3		1536.8			
Grumes et débités	567.3		391.8			
March. générales	430.6		606.8			
Total Entrées + sorties	3508.9		2886.0			

Source : AGPAOC + ATC. (1) hydrocarbure, vin.  
 (2) manganèse.

## Z A I R E

OFFICE NATIONAL DES TRANSPORTS (ONATRA)  
MATADI.

TABLEAU 21

CONTENEURS	1980	1981	1982	1983	1984	1985
(en 10 <sup>3</sup> TO) in	98.0	123.2	141.3	170.9		
out	19.5	20.7	24.7	27.2		
total	117.5	143.9	166.0	198.1		
(en % march.général.) total	14.8%	15.9%	17.7%	20.2%		
(en E.V.P) pleins in				nd		
out				nd		estima- tion
total				(16 500)		sur ba- se de
vides				(10 000)		12T/EVP
total	20 222	21 397	24 828	26 530		
MARCHANDISES (en 10 <sup>3</sup> TO)						
Vracs liquides	-	-	-	-		
Vracs solides (1)	229.2	186.0	167.7	208.5		
March. générales	434.5	470.2	498.9	581.4		
Total entrées	663.7	656.2	666.6	789.9		
Vracs liquides (2)	19.9	15.4	8.9	8.7		
Vracs solides	-	-	-	-		
Grumes	38.9	32.4	41.1	54.6		
March. générales	359.8	433.8	436.7	399.2		
Total sorties	418.6	481.6	486.7	462.5		
Vracs liquides	19.9	15.4	8.9	8.7		
Vracs solides	229.2	186.0	167.7	208.5		
Grumes	38.9	32.4	41.1	54.6		
March. générales	794.3	904.0	935.6	980.6		
Total Entrées + sorties	1082.3	1137.8	1153.3	1252.4		

Source : ONATRA. (1) blé, riz, malt, gypse, coke.

(2) huile de palme.

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