Towards transforming Apapa port to the status of hub for the West African region

Nda-Magaji Yitnoe

World Maritime University

Follow this and additional works at: http://commons.wmu.se/all_dissertations

Recommended Citation

http://commons.wmu.se/all_dissertations/314

Part of the Strategic Management Policy Commons
TOWARDS TRANSFORMING APAPA PORT TO THE STATUS OF HUB FOR THE WEST AFRICAN REGION.

By

NDA-MAGAJI S. YITNOE
Nigeria

A dissertation submitted to the World Maritime University in partial fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE

In

PORT MANAGEMENT

1999

© Copyright. Yitnoe, S. N.M.
DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

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

................................................. (Signature)
................................................. (Date)

Supervised by:
Name: Ma, Shuo
Office: Course Professor, Port & Shipping Management
World Maritime University

Assessor:
Name: Bernard Francou
Office: Associate Professor, Port Management
World Maritime University

Co-assessor:
Name: Gary Crook
Office: Senior Economic Affairs Officer
Services & Trade Development
UNCTAD, Geneva.
Acknowledgements

A special acknowledgement of gratitude is due to Alhaji Ahmed Wali and the entire management and staff of the Nigerian Ports Authority for their decision to invest in this endeavour. The confidence implied in the gesture is warmly appreciated.

The diligent efforts of the WMU staff and management, at imparting knowledge in a warm atmosphere are also appreciated. Much more knowledge was gained here, than is expressed in this dissertation.

Gratitude of less magnitude is also due to General Martin Adamu (Rtd) and Family, Senator & Mrs G. B. Hoomkwap, and to friends and colleagues at work and in school for their priceless moral support.

Nda-Magaji S. Yitnoe.
ABSTRACT

The development of hub operations in strategic regions of the world is a growing trend necessitated by the economic and operational considerations of shipping today. In regions of high volumes of trade where the system is already fully operational, ports are in fierce competition for transhipment traffic. Even in regions where the trade volumes are not impressive enough to warrant transhipment operations, transhipment capability is often seen as a measure of efficiency - the nirvana of ports. Ports of sub-Saharan West Africa are equally keen in the pursuit of this dream.

In the light of cautious optimism being expressed by expert opinions on the feasibility of hub development in the region, this study aims at assessing the eligibility of the Nigerian port of Apapa, Lagos, to serve as pivot point in a regional hub system.

The port’s attributes are examined against the prescribed requirement for being a hub through:
♦ - an examination of the general factors affecting the existing status of the Nigerian ports system.
♦ - a sampling of the opinion of users on the adequacy of facilities and the operational efficiency of the port.
♦ - an examination of the opinion of well-researched materials on the subject of transhipment operation in the West African region.

In conclusion, Investment proposals concerning infrastructure and facilities are made in response to identified deficiencies, with the aim of elevating the port to the level of efficiency required to qualify for the status of hub for the sub-region.

The conclusion is focused on the human factor that is identified as the bane of port system. A number of recommendations, largely focussed on institutional modifications are proffered.
**TABLE OF CONTENTS**

Declaration ii
Acknowledgements iii
Abstract iv
Table of Contents v
List of Tables vii
List of Figures viii
List of Abbreviations ix

1 **Introduction** 1

2 **Background and Justification of the Study**
   2.1: Current Trends in World Trade 5
   2.2: Impact of Globalisation on Shipping 6
   2.3: Impact on Ports 9
   2.4: Current Trends in West African Ports 10

3 **Standard Criteria for Transhipment Status** 16
   3.1: Overview of the Nigerian Ports 17
   3.2: Transhipment Criteria 20

4 **The Nigerian Ports System**
   4.1: The Nigerian Economy: An Overview 28
   4.2: Container Growth Possibilities 31
   4.3: Nigeria’s Maritime Policy 41
   4.4: Port User’s Perspective of the Nigerian Ports System 46

5 **Restructuring the Port for Hub/Spoke Operations**
   5.1: Scenario for Hub Operations 51
   5.2: Infrastructural Modifications 52
   5.3: Facilities 60
   5.4: Institutional Modifications 61
   5.5: Marketing Strategies 67
   5.6: Economic Contribution of the Project 71
6 Conclusion and Recommendations 73

Bibliography 77

Appendices
Appendix 1 NPA memo: 24-hour port operations 80
Appendix 2 NPA memo: Approval for night pilotage 81
Appendix 3 Questionnaire 82
LIST OF TABLES

2.1: GDP Growth in Sub-Saharan Africa 12

3.1: Cargo Throughput: All Nigerian Ports. 1995 - 1997 (Excluding Crude Oil) 18
3.2: West African Ports and Facilities. 22

4.2: Apapa Container Terminal: Current Equipment Complement 32
4.3: Container Penetration Rate in Nigeria’s General cargo Throughput. 33
4.4: GDP Growth and Containerisation Rate. 34
4.7: Apapa Terminal, Exponential Traffic Growth at 16.5 %: 1995 - 2008. 35
4.8: Best Case Scenario at 5% GDP Growth 36
4.9: Worst Case Scenario at 2% GDP Growth 37
4.10: Container Dwell Time 40

5.1: Pavement Types 58
5.2: Land Reclamation and Paving Costs. 59
5.3: Distance between Lagos and Other West African Ports. 69
# LIST OF FIGURES

2.2: Containerisation and General Cargo Trade 6  
2.3: Regional Container Growth 11  
2.4: Estimated World Container Trade By Route. 11  
2.5: Vessel Draft and Capacity. 14  

3.1: Port of Lagos, Apapa. 19  
3.2: West Coast of Africa 21  
3.3: Current Organisational Chart of NPA 27  

4.1: Container Penetration Rate in Nigeria’s General cargo Trade. 33  
4.4: Exponential Growth 35  
4.5: Best Case Scenario at 5% GDP Growth 37  
4.6: Worst Case Scenario at 2% GDP Growth 38  

5.1: Existing Quay Pilings at Apapa Container Terminal 53  
5.2: EECV Quay Wall 54  
5.3: The Proposed Container Terminal 55  
5.4: IT/EDI Network 61  
5.5: The Proposed Organisational Structure of NPA 62  
5.6: Lagos As Hub for Other Nigerian Ports 68  
5.7: Nigerian Railway Tracks 71
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASA</td>
<td>Africa, South of the Sahara (Bibliography)</td>
</tr>
<tr>
<td>ASYCUDA</td>
<td>Automated System for Customs Data</td>
</tr>
<tr>
<td>CKD</td>
<td>Completely knocked down (automotive parts)</td>
</tr>
<tr>
<td>ECOWAS</td>
<td>Economic Community of West African States</td>
</tr>
<tr>
<td>EECV</td>
<td>EEC terminal Quay Wall</td>
</tr>
<tr>
<td>EPZ</td>
<td>Export Processing Zone</td>
</tr>
<tr>
<td>ESCAP</td>
<td>Economic and Social Commission for Asia Pacific</td>
</tr>
<tr>
<td>FEL</td>
<td>Front-end-Loader</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>IAPH</td>
<td>International Association for Ports and Harbours</td>
</tr>
<tr>
<td>ICD</td>
<td>Inland Container Depot</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>ISL</td>
<td>Institute of Shipping economics and Logistics</td>
</tr>
<tr>
<td>IT/EDI</td>
<td>Information Technology/ Electronic Data Interchange</td>
</tr>
<tr>
<td>MAN</td>
<td>Manufacturers’ Association of Nigeria</td>
</tr>
<tr>
<td>MINCONMAR</td>
<td>Ministerial Conference of West and Central African States on Maritime Transport</td>
</tr>
<tr>
<td>NMA</td>
<td>National Maritime Authority</td>
</tr>
<tr>
<td>NPA</td>
<td>Nigerian Ports Authority</td>
</tr>
<tr>
<td>NUL</td>
<td>National Unity Line (Nigerian)</td>
</tr>
<tr>
<td>RMG</td>
<td>Rail - Mounted Gantry crane</td>
</tr>
<tr>
<td>RTG</td>
<td>Rubber - Tyre Gantry crane</td>
</tr>
<tr>
<td>SACU</td>
<td>South African Customs Union</td>
</tr>
<tr>
<td>SAP</td>
<td>Structural Adjustment Programme</td>
</tr>
<tr>
<td>SC</td>
<td>Straddle Carrier</td>
</tr>
<tr>
<td>TEU</td>
<td>Twenty-foot Equivalent Unit</td>
</tr>
<tr>
<td>TGS</td>
<td>Twenty-foot Ground Slot</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
</tbody>
</table>
INTRODUCTION

“...The port is the bottleneck of sea transport...”.

Seen from this perspective, a port’s role should be to rise to the occasion by attempting to satisfy the demands placed upon it by the shipping industry. Consequently, recent developments in the port industry have been largely due to the chain reactions of changes in world trade, and technological advancements that impacted on the shipping industry.

Generally tagged globalisation, this phenomenon refers to the global sourcing, manufacturing and selling of products, which enhances the acceleration of trade across international boundaries. The concept implies the need for global logistics, which, De Monie (1997 p.2) observed, is demand derived from the globalisation of the supply and demand side. This;

‘...leads to complex international distribution chains which require special logistics expertise to enable the business strategies of the global manufacturer and traders to succeed....The ultimate aim of providers of global logistic services is ...to place the right product on the manufacturing or retail floor at the right place, at the right time and at the right price...’

There are strong indications that this trend will continue in the years ahead. As observed by De Monie, that it is quite evident, looking at the future industrial development and distribution policies that the reasons that have initially pushed companies into global sourcing and selling continue to prevail and these are:

• the need to boost efficiency in the production processes
• the persistent demand by customers for reliable products and an even broader range of goods;
• the demand by customers for rapid response and immediate product availability (taken to the extreme this translates into JIT- delivery to the production processes);
• the need for integrated distribution operations (implying the reliance on less suppliers and only those that can provide reliable delivery times, rapid responses, high quality delivery and if necessary, off the shelf availability)
• and last but not least, the all-overriding obligation to offer better products at ever sharper prices in an ever fiercer competitive world market.

Globalisation has been made possible because of the interactive development of a host of factors, prominent amongst which are:
• the provision of cheap, fast, regular and reliable transport offering an ever wider geographical coverage;
• scale increases in production and distribution processes, made possible by technological innovation;
• strong concentration of decision power in the industrial, distribution and transport sectors.
• a general move towards free trade, the lifting of commercial barriers and the deregulation of trade and transport activities; and
• spectacular advances in electronic information technology allowing world-wide control and reliable link-ups of a company to its suppliers and customers.

As trade grows, so does the emphasis on efficiency in the production and distribution of goods and services and this has had a tremendous impact on transport in general and maritime transport in particular.

Perhaps the most remarkable development that best epitomises and enhances the concept of globalisation, has been the phenomenon of containerisation. The effect on shipping led to increases in ship sizes and the complete overhaul of the operational system of liner vessels:
'... the big transoceanic shipping lines have taken advantage of the flexibility and scope for modulation afforded by the container technique to reorganise and restructure shipping services to regions of heavy traffic: Asia, the Middle East, Europe and North America. The traditional port -to -port routes have been replaced by veritable gridded networks assembled around transhipment ports...' (UNCTAD. 1990).

Examples of such ports are Rotterdam, Le Havre Singapore and Hong Kong which could be found to be located in strategic regions at points where different trades intersect. The impact of this trade on traditional traits of regular route shipping and it's benefit to the economies of these regions cannot be overstated. The port's position in its hinterland's economy has been further emphasised and become sensitive to market orientation. Even in protected economies, returns are being desired on the heavy capital invested in the port infrastructure, thus leading to privatisation and commercialisation schemes. But returns can materialise only when ship traffic is frequent and regular. Particularly attractive to ports are the large capacity container ships that are a potential source of revenue. Such ships however require that the port be efficient, meaning that the port should have the capacity to berth the vessels, ensure shorter turn-round times, provide efficient documentation, information technology, cargo-handling capability and provide large quantities of cargo besides other facilities.

Though in terms of the magnitude of container traffic, the developing regions of Africa cannot be compared to the aforementioned regions, the development of Hub and Load Centre operations, as opposed to the development of pure logistic hubs may seem inevitable. Sub-Saharan West Africa is not left out this competition for the attainment of hub status is manifest as in the case of Nigeria, in feeble and uncoordinated attempts at structural and administrative adjustments in the ports.

The objective of this study therefore is to:
• To propose ways to upgrade the operational efficiency of the port to acceptable international standards.
• To examine the ways to make the port receptive to 4th generation container ships.
• To propose the provision of competitive services through customer - oriented policies.
• To examine the possibility of providing hub/feeder and transit services for the container traffic of the country and region.
• To examine ways of integrating the national multi-modal links into the port system.
• To propose ways to update its information management system.
• To explore ways to harness its human resource potentials.

The region's competition for hub selection, even where it is considered unnecessary, could at worst be seen as a pro-active response to a potential problem. It is an attempt to be the port of attraction when the need for a regional hub arises, because it represents a potential market as the region struggles to stabilise its polity and improve its economy.
CHAPTER 2
Background and Justification of the Study.

2.1: Current Trends in World Trade.
On a macro level, world trade has been on the increase for decades with a continuing upward trend. The World Bank estimates that trade should grow at an average of 6.4% with a forecasted output of 1,601 million tonnes per annum up to year 2005, (IAPH 1997).

In the last two decades world merchandise trade has increased tremendously and likewise the growing correlation between world economy and international maritime transport. The volume of total sea-borne commodities registered a strong increase by 4.4% up to 5074 billion tons in 1997 with the volume of main dry bulk commodities accelerating even more by 5.3% up to 1,082 billion tons.

Figure 2.1: Seaborne Trade (Source: Faurant. 1998)
The share of manufactured goods has increased in value terms from around 60% in 1985 to 79% in 1996 (ISL. P.130). Container traffic has been unrelenting since its beginning in the 60s with a growing penetration rate as more goods are being containerised.

‘As assumed by Drewry shipping Consultants, the increase was estimated at nearly 10% per annum in the 90s. The forecast in 1997 for the next 3 years until 2000 was about 7-8% to reach a total of 198 million TEU in the 21st century.’ (IAPH 1997).

![Figure 2.2: Containerisation and General cargo Trade](image)

(Source: Faurant. 1998. P.19)

2.2: Impact of Globalisation on Shipping:

In the interactive/interdependent relationship between world trade and international maritime transport, it is not easy to say which is the catalyst, but as De Monie (1997) observed;
‘...With hindsight it is easy to explain how effectively, maritime transport and in particular regular shipping has responded to the new demands placed on it by industrialists and distributors relying on globalised sourcing and supply. In reality... an objective post-mortem of liner shipping in the period early 1960s - late 1980s reveals that the main pre-occupation of liner operators were rather centred on the need to accommodate the insistent call for more regulation of their activities from governments.../ shippers councils.... Simultaneously, they were actively exploring ways and means to improve the utilisation of their ships, reduce unproductive port time and lower operating costs. After much in-fighting between the promoters of various alternative carrying and handling systems the container emerged as the most effective and flexible means, offering a potential that even up to this day has not been fully tapped.

The container revolution has completely modified liner shipping structure and operations. De Monie (1998, p.4) note that it has specifically influenced the following developments:

- largely contributed to the demise of traditional liner conference systems;
- neutralised most of the clauses of the United Nations Code of Conduct for Liner Conferences;
- lead to the strong growth of outsider services operated by aggressive and innovative-minded shipping line;
- allowed maritime carriers of general cargo, to realise significant economies of scale and scope;
- fundamentally changed the economies of liner shipping and especially the cost structure of specialised container carriers;
- pushed carriers to formal co-operation, mergers and joint operating agreements - resulting in the concentration of the supply side of liner shipping;
- substantially increased the frequency and the geographical coverage of the transport services offered;
- played a decisive role in the deregulation of liner shipping and establish the predominance of private over state-owned regular shipping lines;
- completely upset the traditional ship service patterns offered and resulted in a complete revolution in the selection of ports of call;
made the shipping leg only one segment in an integrated door-to-door transport chain.

The drive for the realisation of the economies of scale in the container shipping has manifested in the monumental increases in ship sizes with capacities of 6690 TEU already in service. In the optimistic scenario, it is forecasted that even ships of this size will become feeders to the currently contemplated 15000 TEU vessels. The reality of this situation is however, hard to rationalise in the light of the requisite operational ratio of 1:4-5 between mother ship and feeder vessels.

The mammoth sizes of the ships have necessitated the overhaul of its operating and routing systems because few ports in the world can accommodate such ships. The high capacity of these ships requires an extensive market that would supply substantial cargo to justify the voyages of the ships. This puts pressure directly on the port and the logistic system whose efficiency will need to improve in inverse proportion to the reducing cost of maritime transport. De Monie (1998), sums up the scenario as follows:

...‘the need for major container carriers to upgrade their organisation and offer customers global logistic packages on all world markets will inevitably raise their capital investment requirements, broaden the range of their activities, augment their dependence on electronic information technology and push them to introduce new technologies and systems; the key word will be “global control” over the global logistics chain although for many ship operators such control may only be achieved over well-defined route segments; establishing and maintaining full control may lead carriers to implement different strategies: to become asset based and go for controlling investments in all supporting service providers ...or to sub-contract the necessary supporting services to trustworthy third party providers ( obtaining their loyalty by signing long term commitments for high volume business) or to combine selective investments in key supporting activities (e.g. agency services, distribution centres with subcontracting of less critical services....
Moves towards this “global control” is evident today in the alliances/mergers of ever stronger major carriers with oligopolistic powers and tremendous capacities of transport like in the case of Maersk - Sealand combining nearly 200 container vessels offering a total capacity of over 400,000 slots on routes world-wide. Other alliances are the Global Alliance comprising of P &O Nedlloyd, Hapag Lloyd, NYK, OOCL and MISC combining over 500,000 TEU slots. New World Alliance comprises of MOL, APL and Hyundai while the United Alliance is composed of Hanjin, DSR, Cho Yang, UASC and Sinotrans.

The development of a “niche” market and newer technologies are on-going chain reactions of this global trend.

2.3: Impact on the Ports.

Developments in shipping are not only about carrying capacity and sailing speeds. All cargo has destinations/origins and require a land interface to complete/begin the maritime leg of the journey - the port.

The uniqueness of that mode in the chain of transport is evident in the fact that it defies simple definitions. As ports grapple with developments in shipping their respective status change according to the level of their reactions to shipping trade. Thus ports are classified according to specific generation, ownership status, cargo specialisation, and scope of service diversification. In breaking down political, geographical and administrative barriers, globalisation exposed many countries to the irresistible flavour of market economy.

The demands of globalisation on the ports are awesome as De Monie (1998), predicts;

‘...Ports will have to accommodate contradictory demands from container carriers, as the later simultaneously strive to shorten the transit time of containers (by offering the most direct route and maximising direct calls), and aim to reduce the number of ports of call by covering the different sub-regions through a dense network of feeder services. As a result the years ahead will see continuous changing shipping line policies with regard to ports of call and the role ports are expected to play within a
line's network. Effectively, port managers, when deciding on the future mission of their ports, will first have to carefully consider which of the following status with respect to general cargo trades their ports can assume:

- global pivot
- regional pivot
- sub-regional pivot
- direct call port
- feeder port

... Although the future status of ports is inherently unpredictable (the status may actually vary for different trades and operators using the port), a general structure is evolving in which a few selected global pivot ports, serving the main East-West trade flows and providing multiple North-South linkages, dominate the scene ... and relay cargoes to either regional or sub-regional pivot ports. The later can be expected to strive for a higher place in the hierarchy of ports and hence inter-port competition on a global, regional, and sub-regional scale is bound to substantially increase even if presently it is already considered excessive in certain parts of the world... (De Monie, 1998).

2.4: Trends in West African Ports.

With respect to ports of the West African sub-region, the awareness of this trend is keen and the competition to attract transhipment is fast gaining ground - the only drawback being the scarcity of investment capital.

The West African region where the World Bank estimates put the trade forecast at 5.5% of import growth and 4 to 5% of export up to the year 2005, the growth in container traffic has not been phenomenal as in other parts of the world. This has been mainly due to the region's unsteady economic fortunes. It nevertheless remains a region of great economic potential.
Figure 2.3: Regional Container Growth

The next few years should witness remarkable growth as the region strives to achieve a stable polity and regional integration. Drewry Consultants put the forecasted growth for all Africa in 1997 at around 3 million TEU (IAPH).

Figure 2.4: Estimated World Container Trade by Route. (Source: Faurant).
The growing interest of ports in attracting container traffic is a healthy indicator of likely developments in the 21st century. The micro economic objective of ports is to maximise traffic volume and diversification. No where is this more possible than in the container trade with its opportunities of scale. This leads to competition with each port trying to capture its neighbour's market share, recover lost traffic, or accommodate larger ships. The achievement of this objective, is often hampered by the cost and the macro-economic policies prevailing over the ports.

The economies of African countries, with the exclusion of South Africa are characteristically small, fragile and poor. With a GDP approximately $300,000m, the Sub-Saharan Africa accounts for less than 1% of world trade and global GDP (Africa, South of the Sahara, pp. 10 –17). Economic growth rate is dismal though it contains the world’s largest reserves of minerals like gold, platinum, cobalt and chronium.

Table: 2.1: GDP Growth in Sub-Saharan Africa.

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966 –1973</td>
<td>4.7</td>
</tr>
<tr>
<td>1974 - 1980</td>
<td>2.8</td>
</tr>
<tr>
<td>1981 -1990</td>
<td>1.9</td>
</tr>
<tr>
<td>1991 - 1995</td>
<td>1.5</td>
</tr>
<tr>
<td>1996</td>
<td>4.4</td>
</tr>
<tr>
<td>1997</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>1997 – 2000</strong></td>
<td><strong>4.1</strong></td>
</tr>
</tbody>
</table>

Source: Africa, South of the Sahara.

Trade among African states is low. In 1990, regional trade accounted for only 6% of Africa’s export volume. This is largely because ‘… most African states produce similar products for export –generally primary agricultural or mineral commodities and, as most value added is carried out in the Western industrialised countries, there is little African demand for these products. African states themselves discourage trade by their strongly inward oriented import substitution development strategies, including over-valued exchange rates and protectionist policies…’ (Africa, South of the Sahara, p.812). Other external causes of poor economic performances of the African states have been heavy foreign debt burdens and investments.
Internally, the states have been bedevilled by social and natural factors such as bad governance, poor state of physical infrastructure and famine. A current trend in Africa today is that governments have adopted a new stance of actively seeking foreign business involvement.

'... the combination of liberalised economic policies, together with more political openness could signal the beginning of sub-Saharan African transformation towards economic recovery and sustained long term development... (ASA p.17). There have been concerted efforts within the sub-regions towards regional economic co-operations. Few like the South African Customs Union (SACU) have been successful. The ECOWAS of West Africa seems to have good prospects.

As earlier mentioned, trade and consequently shipping in among West African countries is low. Shipping activities is dominated by trade with overseas trading partners and is characterised by the outflow of mineral and agricultural resources and the inflow of raw materials, machinery and finished goods to sustain socio-economic developments. Most of the containerised imports are carried by regular lines such as Maersk, Delmas, CMBT and many more, that call at the main ports along the coast from Dakar to Pointe Noire.

While the ports in the region yearn to evolve into hubs, expert opinions based on well-informed research assert that ‘... the merit of a hub and spoke system does not meet expectations in the West African region’ (Gylfi Palsson 1997), and three (3) major reasons are offered:

1) Container Traffic: Estimated at a total of 1.3 million TEU for the region containerised cargo account for less than 40% of the total cargo throughput of the region. (Palsson, 1999, p.1)

2) Draft Limitation: Palsson (1998), observed that nearly all ports in the region are limited to drafts of under 10 metres, thereby restricting the vessel size to the 1500 to the 1700 TEU capacity type.
3) Hinterland transport network: Intermodalism is generally underdeveloped. A few ports in contention for the hub status can however be said to be relatively ahead in the development of their intermodal network, like Nigeria. Developments in this field will be highlighted in subsequent chapters.

For the Nigerian ports, justification for the desire to win the hub/load centre status is founded in the comparative economic and political stature of Nigeria in the region and is aptly expressed by Dr Gilman (1998); ‘...the status of a hub centre is a powerful symbol and when symbol and functional capability combine, they create a potent force for the attraction of cargo...’. Though not much can be said about the functional capability of Nigerian Port Authority’s container terminal, it is of course the essence of this paper to propose ways to improve it.

Besides prestige reasons, the economic benefits of being a hub such as the increased ship/cargo attraction, the guaranteed utilisation of facilities and the numerous production of added values that come with business expansion are considered equally irresistible to any port in any region.
Efforts towards the improvements of the general efficiency of port operating systems can be quite frustrating due to the inadequacy of competent personnel in the field particularly in the corridors of power that control policy and development. Consequently, the understanding of the implication of port performance indicators and their respective parameters appear to be mere abstract exercises that are at best considered inconvenient. For a country like Nigeria however, when the goal of efficiency is expressed as the realisation of lofty dreams like the attainment of hub status for the West African region, the drive towards efficiency is then taken seriously.
Hub/Load centre port: In the general sense of the word, a transhipment or hub port is used to transfer goods (especially containers) from one shipping line to another with the objective of enabling through shipment of the goods between two ports not served directly by the main line service. Variations in the different type of transhipment operations that take place in any port gives rise to its special categorisation. Thus, as earlier mentioned, there are i) dedicated hubs; ii) hub and load centre ports; iii) direct call ports and, iv) feedered ports.

Hub and load centre port, which the Nigerian port is aspiring to be is described by UNCTAD (1990, p.9) as being capable of accommodating ‘...all kinds of transhipment according to requirement: interlining, scattering for delivery in the neighbouring area, switching, catching up and bypassing. ...they can also carry substantial traffic of their own bound for or from their hinterland’.

It has been ascertained however, that when it comes to the attainment of transhipment status, it is the shipping lines that call the tunes. On the part of the port, there are certain criteria to be met, in order to be considered for selection by the shipping lines. Attempts shall be made to assess the major West African ports against the criteria where the availability of data permits.
3.1: Overview of the Nigerian Ports.

The Nigerian ports consist of 10 major ports of varying capacities spread along its 800-kilometre coastline in the Gulf of Guinea. The Nigerian Ports Authority (NPA) was created in 1954 by the Ports Act (Cap. 155 of the Law of the Federation of Nigeria and Lagos) as an operating port authority, initially responsible for the two major ports of Lagos and Port Harcourt and for all Harbours in Nigeria; later in 1969, responsible for all other ports formerly owned by private companies.

The authority has the function of keeping all channels and harbours leading to ports and territorial waters open to shipping as well the provision of pilotage and other navigational services. In addition, the NPA is statutorily required to:

- provide both infra- and superstructural facilities;
- load/unload any ship at its wharves and quay;
- carry on the business of carrier by land and sea, stevedore, wharfinger, warehouseman or lighterman or any other business recommended or desirable for the purpose of the Authority;
- provide and use both within Nigeria and on the high seas, ships and appliances for towage or protection or salvage of life and property or for the prevention of fire;
- acquire, construct, manufacture, maintain or repair anything required for the purposes of the Authority.

Though the NPA is essentially an operating port, recent developments have seen the shift towards some landlord port practice and the embrace of private participation in some of its services. In January 1990 the Authority was empowered by decree, to operate as a purely commercial enterprise and subject to government regulation, it is allowed to:

- fix rates, prices and charge for goods and services provided;
- capitalise assets;
- borrow money and issue debenture stocks; and
- sue and be sued in its corporate name.
The 10 major ports of the Authority combine an annual capacity of 35 million tonnes (exclusive of crude oil). With the downturn in the national economy since the mid-80s, however, the ports have only been handling about half their throughput capacity.

Table 3.1: Cargo Throughput: All Nigerian Ports. 1995-1997 (Exclusive of Crude oil)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apapa</td>
<td>4,888,503</td>
<td>4,850,306</td>
<td>4,973,487</td>
</tr>
<tr>
<td>Container Term.</td>
<td>958,986</td>
<td>1,089,162</td>
<td>1,346,422</td>
</tr>
<tr>
<td>Tin-Can Island</td>
<td>1,425,248</td>
<td>1,822,122</td>
<td>2,085,310</td>
</tr>
<tr>
<td>Ro–Ro</td>
<td>434,544</td>
<td>353,751</td>
<td>378,865</td>
</tr>
<tr>
<td>Warri</td>
<td>1,398,065</td>
<td>1,792,138</td>
<td>1,743,721</td>
</tr>
<tr>
<td>Sapele</td>
<td>95,192</td>
<td>116,808</td>
<td>162,595</td>
</tr>
<tr>
<td>Koko</td>
<td>28,067</td>
<td>31,098</td>
<td>54,420</td>
</tr>
<tr>
<td>Port Harcourt</td>
<td>972,221</td>
<td>1,576,652</td>
<td>1,767,980</td>
</tr>
<tr>
<td>Onne</td>
<td>626,974</td>
<td>749,847</td>
<td>1,092,787</td>
</tr>
<tr>
<td>Okrika</td>
<td>1,786,833</td>
<td>2,534,310</td>
<td>2,051,986</td>
</tr>
<tr>
<td>Tuma</td>
<td>505,666</td>
<td>458,721</td>
<td>833,432</td>
</tr>
<tr>
<td>Calabar</td>
<td>161,754</td>
<td>100,386</td>
<td>91,850</td>
</tr>
<tr>
<td>TOTAL</td>
<td>13,273,053</td>
<td>15,475,301</td>
<td>16,582,355</td>
</tr>
</tbody>
</table>

(Source: NPA)

The dominant ports are the two ports of Lagos; Apapa and Tin Can Island ports with a combined annual intrinsic throughput capacity of over 20 million tonnes, of which Apapa port has 15 million tonnes and a total quay length of 3.5 km. Located inside the Apapa port complex is the dedicated container terminal (called the 3rd Wharf Extension) with a quay length of 1.1 km. It handles about 60% of Nigeria's annual container traffic. It also possesses relatively advanced container handling facilities and is well linked to the national road and rail network.
Nigerian ports play a dominant role in the country’s international trade, having been responsible for about 99.2% by volume and 95% by value of total import and export since 1984. In the years 1983, 1984 and 1985 the ports generated over 1324, 1122, and 1444 million respectively in equivalent direct dollar incomes and provided jobs for some 100,000 people, directly and indirectly. Besides value added contributions to the hinterlands, the ports contribute directly, an average of US$ 60 million annually to the
balance of payments accounts since 1986. In 1989, the proceeds of non-oil exports shipped through the ports have averaged US$ 39 million monthly. (Anah, 1989). This is despite the fact the economic fortunes of the country have been on the decline since the mid-80s and 50 % of its capacity is under-utilised.

The Container Terminal, situated at the premier port of Lagos, Apapa is the focus of the proposed transformation to the status of local/regional hub and load centre. Other attributes of the port will be highlighted later in the chapter under the assessment of its eligibility for selection as hub and load centre port.

3.2: Transhipment Criteria

3.2.1: Strategic Location and Nautical Access:
Apapa and Tin Can Island ports are located on the Lagos lagoon between latitude 6°, 25’ N and longitude 3° 25’E on the 800 km notoriously surf-beaten coastline in the Gulf of Guinea. The lagoon is a tidal inlet behind an offshore bar characterised by varying degrees of siltation, where training walls have been built at enormous costs to reduce sedimentation. The harbour requires relatively less dredging in contrast to ports on the eastern part of the Niger delta that require heavy and continuous dredging to remain open to shipping.

In the light of nautical access, Anah (1989) notes that...’ other ports in the sub-region seem to be in vantage positions ...Take Boma and Matadi on the estuary of River Congo. ...In Matadi for instance, available normal draft is about 50 metres, which can take modern bulk carriers and large crude oil carriers. The ports of Freetown and Pointe Noire have sufficient water, without dredging, that can take large bulk carriers and 4th generation cellular container vessels. ...Douala and Bathurst lie on a drowned inlet and require just little dredging for their survival; Dakar is situated behind the Cape Verde peninsular, where the natural shelter is enhanced by artificial breakwaters, and is accessible by big and deep drafted vessels. Little maintenance dredging is required. So are Tema and Cotonou on the open sea and protected by breakwaters’. 
With regard to location in the light of proximity to the mainline shipping routes, it should be observed that all the West African ports have dismal qualifications in this area as none is strategically situated on the mainline routes of the following trades: Europe/ West & Central Africa; Far-East/ West & Central Africa; USA/ West & Central Africa; USA/ South Africa; Europe/ South America and Europe/ South Africa route.

Grosdidier de Matons (1998), observed that Freetown has the finest natural harbour in West Africa, but never developed because it lacks the necessary logistical and land access infrastructure. Abidjan is less favoured by nature, still, it has good links with the hinterland and acts as access to the Sahelian region as hub port, a role that might have been that of Freetown. Nigeria on the other hand, has the land access infrastructure and the financial capacity to structure the harbour to desired states but is hampered by socio-political and institutional problems. Beside the above constraint, Simon Haigh, (1997) notes that the development of a pure logistic hub in the region is judged unlikely due to lack of demand and the existence operational restrictions. Some of these are the issues of cargo volumes, draft, equipment availability and political stability, which will be examined, in further assessments of the criteria for the attainment of status of hub.

Figure 3.2: West Coast of Africa. (Source: BIMCO Maritime Resources)

Table 3.2: West African Ports Facilities
### Quay Length

<table>
<thead>
<tr>
<th></th>
<th>APAPA</th>
<th>TIN-CAN</th>
<th>TEMA</th>
<th>COTONOU</th>
<th>DAKAR</th>
<th>ABIDJAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen. Cargo</td>
<td>2,459 m</td>
<td>2,268 m</td>
<td>1,281 m</td>
<td>1,300 m</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Container</td>
<td>1,100 m</td>
<td>#</td>
<td>#</td>
<td>#</td>
<td>1074 m</td>
<td>800 m</td>
</tr>
<tr>
<td>Ro – Ro</td>
<td>#</td>
<td>#</td>
<td>#</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Others</td>
<td>404 m</td>
<td>2,905 m</td>
<td>878 m</td>
<td>400 m</td>
<td>#</td>
<td>#</td>
</tr>
</tbody>
</table>

### Equipment

<table>
<thead>
<tr>
<th></th>
<th>APAPA</th>
<th>TIN-CAN</th>
<th>TEMA</th>
<th>COTONOU</th>
<th>DAKAR</th>
<th>ABIDJAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gantry cranes</td>
<td>2</td>
<td>None</td>
<td>0</td>
<td>#</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Floating cranes</td>
<td>2</td>
<td>#</td>
<td>0</td>
<td>#</td>
<td>#</td>
<td>2</td>
</tr>
<tr>
<td>Quay cranes</td>
<td>0</td>
<td>none</td>
<td>2</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>straddlers</td>
<td>13</td>
<td>none</td>
<td>-</td>
<td>#</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Frontloaders</td>
<td>25</td>
<td>20</td>
<td>9</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Trailer tugs</td>
<td>41</td>
<td>25</td>
<td>11</td>
<td>#</td>
<td>#</td>
<td>23</td>
</tr>
</tbody>
</table>

### Intermodal links

<table>
<thead>
<tr>
<th></th>
<th>Rail/Road</th>
<th>Road</th>
<th>Rail/Road</th>
<th>Rail/road</th>
<th>Rail/Road</th>
</tr>
</thead>
</table>

### IT/EDI Facilities

<table>
<thead>
<tr>
<th></th>
<th>Not Networked</th>
<th>None</th>
<th>Available</th>
<th>None</th>
<th>#</th>
<th>Available</th>
</tr>
</thead>
</table>

### Total Area (m2)

<table>
<thead>
<tr>
<th></th>
<th>1,200,000</th>
<th>730,000</th>
<th>100,000</th>
<th>11,000</th>
<th>250,000</th>
</tr>
</thead>
</table>

### Container Area

<table>
<thead>
<tr>
<th></th>
<th>24,000 TEU</th>
<th>4000TEU</th>
<th>1784 TEU</th>
<th>-</th>
<th>#</th>
<th>6000 TEU</th>
</tr>
</thead>
</table>

### Freight Stations

<table>
<thead>
<tr>
<th></th>
<th>Available</th>
<th>#</th>
<th>#</th>
<th>#</th>
<th>#</th>
</tr>
</thead>
</table>

### Work Hours

<table>
<thead>
<tr>
<th></th>
<th>24 hours</th>
<th>24 hours</th>
<th>-</th>
<th>24hrs</th>
</tr>
</thead>
</table>

### VTS

<table>
<thead>
<tr>
<th></th>
<th>VHF</th>
<th>VHF</th>
<th>VHF</th>
<th>VHF</th>
<th>VHF</th>
</tr>
</thead>
</table>

### Repair Facilities

<table>
<thead>
<tr>
<th></th>
<th>Floating Dock</th>
<th>Available</th>
<th>Available</th>
<th>Available</th>
<th>Available</th>
</tr>
</thead>
</table>

### Marshalling Yard

<table>
<thead>
<tr>
<th></th>
<th>44 Hectares</th>
<th>None</th>
<th>#</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

### Quayside Water depth

<table>
<thead>
<tr>
<th></th>
<th>11.5m</th>
<th>11.5m</th>
<th>10.6m</th>
<th>10 m</th>
<th>10 m</th>
<th>12.5m</th>
</tr>
</thead>
</table>

Source: Fairplay

# - Assumed Available Quantity unknown.

### 3.2.2: Transit Cargo for Landlocked Countries:

Nigeria’s main landlocked hinterland use to be, and still is the Federal Republic of Niger and the Republic of Chad to the north of the country. Before 1996, transit tonnage through the Nigerian ports used to be within the range of 25,000 - 60,000 tonnes per annum or more. There has been a drastic reduction due probably to other available options like the port of Cotonou in the Republic of Benin. Grosdidier De
Matons, in his study of the Elements of Port Competitiveness noted that, while the port of Lagos offered the least expensive outlet for goods transiting to Niger, it was less widely used than Cotonou. Other factors were problems identified with the Nigerian ports system such as administrative and Customs formalities. One possible suspect factor could be the transport-inhibiting element of multifarious security checkpoints on Nigerian roads. Port tariff has however been rated low in comparison to other West African ports used by Niger. Nigeria has the added advantage of a rail network that could be easily linked to Niger through the northern cities of Kano or Katsina. Until recently (due to the government’s effort at revitalising the railway) the rail service was almost extinct. Currently plans are underway to sway Republic of Niger hinterland back to the Nigerian ports. (Maritime Quarterly. December, 1997, p.33).

3.2.3: Port Charges
In the recent past, Nigerian ports were notorious for their high tariffs in relation to that of other ports in the region:

‘...While a 24,000 tonnes dwt ship cost US$ 7,039 to be landed at Abidjan port, US$ 9,682 was spent at Cotonou port as against US$ 32,660 at Apapa port. Apart from ship charges, the payment of the Customs duty 7% surcharge on the duty paid, and the cost of pre-shipment inspection now paid by importers, there was a 5% value added tax (VAT). The was, in addition, a flat rate of 5000 Naira (approximately US$ 500) charge on every container and 2000 Naira (US$200) on every pallet for the upkeep of the multifarious agencies at the ports. The charges do not include those imposed on importers by the shipping companies and agencies, port and landing charges as well as the 1% charge for automotive industry development paid on imported vehicles. Finally, there are the 3% of freight value surcharge paid by every vessel that gets cargo allocation from the NMA (National Maritime Authority). All this put together make importation through Nigerian ports unattractive.

The effects of these high tariffs have been exacerbated by the erratic port charges and policies currently being implemented by the government ...The result has been the diversion of much of Nigerian cargo to neighbouring ports like Cotonou, Lome and
Abidjan since March 1996.’ (Iheduru, 1996, p.10). It cannot be said certainty the volume of goods but inference can be made to the estimated 80% decline in traffic volume, suffered by the Nigerian ports since 1996.

In mid 1998 however, the Nigerian Ports Authority, in response to the outcry of port operators and users alike, slashed her tariff by 60%. Shipping company operatives interviewed said that NPA charges are now relatively at par with, and in some aspects even cheaper than those of other ports in the region.

3.2.4: Freeport Zones:
In a marketing effort to boost cargo traffic at the grossly under-utilised port of Calabar in the eastern part of Nigeria, the Nigerian government decided to create a Freeport or Export Promotion Zone in the port with very attractive concessions for would-be patrons. The port has an annual capacity of 1.5 million tonnes of cargo but in over a decade, has handled less than 10% of its capacity annually. Its is hoped that cargo generated here can be feedered to major ports for export. It is the author’s opinion that the location of the free port zone in relation to the desired (prospective) hub - Lagos is misplaced. The cost of feedering might turn out to be high and neutralise or negate the gains of the project. This is one the many projects initiated by the Nigerian ports that has individual merit but seems to lack of direction and cohesiveness with whatever master plan that might be afoot. The misgivings notwithstanding, the project commenced operation in late 1997 with a few investors already engaged in the production of textile and wood products. Some benefits for investors in the zone include:

- Exemptions from local regimes on taxes, duties and foreign exchange.
- Unrestricted remittance of profits and dividends earned as well as the repatriation of foreign capital.
- No import or export licences required.
- 100% ownership of enterprise allowed.
- Sale of up to 25% of products permitted in the domestic market.
Table 3.3: West African Ports Container Throughput (1995-1997)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>* Apapa</td>
<td>196,917</td>
<td>199,844</td>
<td>234,480</td>
<td>**250,955</td>
</tr>
<tr>
<td>Abidjan</td>
<td>261,324</td>
<td>309,713</td>
<td>377,848</td>
<td>- -</td>
</tr>
<tr>
<td>Cotonou</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Dakar</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Tema</td>
<td>102,809</td>
<td>125,642</td>
<td>140,260</td>
<td>169,687</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Apapa: Container Throughput for all Nigerian Ports.
** : Estimate. 3rd quarter of 1998 was derived from an average of the previous three-quarters because at the time collation, the data was unavailable.

One of the recommendations of the UNCTAD group on trans-shipment trade is that a would-be hub requires a substantial cargo base of its own to justify investment and ensure the continuous utilisation of its facilities even when transhipment trade fails to materialise. The unavailability of complete throughput data on all the ports notwithstanding, it can be observed that the three ports mentioned above all have cargo generating capacities. Nigeria and Tema may appear not to match Abidjan but the reality could be the opposite. Whereas Tema and Apapa may be destination traffic, that of Abidjan consist of a large percentage of transit/ transhipment traffic.

3.2.5: Administration:
The Port Authority in its search for efficiency has experimented with a number of operating systems. It adopted decentralisation where the numerous ports of the nation were divided into quasi - autonomous zoned administrations, reporting only to the Managing Director. Today, the port Authority is effectively operating as a commercialised state-owned port, while carefully nursing private participation in some
aspects of its operations. The provision of navigational and cargo handling services still remain its core activity. Nominally autonomous, the government still controls most of its activities. A complex matrix structure of management exists at three levels: the executive, the general and the port level management. At the port operational level, the Port Manager is responsible for the day to day running of the port and the scope of his authority is defined from time to time by Management at the executive level. Almost all departments are represented at the port level and, while being answerable to the Port Manager, also report and take instructions from the executive arm at the headquarters level. Often the Port manager is called upon to effect the decisions of the department at the executive level. The system operates in such a symbiotic way that there is no clash of authority. For political reasons beyond the control of the port, the executive arm of the Authority was moved to the capital of the nation, in the middle of the country where maritime activities are non-existent. This greatly affected decision making in the organisation as it became costly and slow. Managers often had to spend a whole day or more shuttling between the ports and the capital city by flight just to effect operational decisions. A recent development following the nation’s new political dispensation is that all the maritime related ministries and parastatals should return to the nation’s maritime capital forthwith. Flexibility might not be the strong point of this system.

Figure 3.3: Current Organisational Chart of the Nigerian Ports Authority
3.2.6: Port Labour
Nigerian Ports operate an integrated 24-hour multi-shift labour system. Industrial unrest that is characteristic of labour unions is relatively, rare. Though the dock workers have a very strong national union, the situation in the container terminal is stable. As observed in recent times, the few strikes embarked upon by them has always been in sympathy with national objectives of the union rather than agitation against the port system. In its efforts to create a flexible system, the port authority since late 1997 have initiated a series of changes in her operational patterns, this includes the resuscitation of night pilotage and 24-hour operations in the port. (See appendix 1).
CHAPTER FOUR

The Nigerian Ports System.

4.1: The Nigerian Economy: An Overview

Estimated in 1998 to have a population of 121.8 million (Hawkins.), Nigeria has a land area of 923,768 square kilometres and a considerable quantity and variety of mineral resources that makes it a potential economic power. Despite the abundance of human and natural resources, Nigeria is ranked among the 20 poorest nations of the world on the basis of per capita income. This is due largely to macro economic mismanagement and corruption in the nation’s polity.

‘...The development of the petroleum industry in the late 1960s and 1970s radically transformed the Nigerian from an agriculturally based economy to a major oil exporter. Increased earnings from petroleum exports generated high levels of real economic growth, and by the mid-1970s Nigeria ranked as the dominant economy in sub-Saharan Africa and as the continent’s major oil producer. Following the decline in world petroleum prices after 1981, however, the government became increasingly over-extended financially, with insufficient revenue from petroleum to pay the rising cost of imports or to finance major development projects. The decline in Nigeria’s earnings of foreign exchange led to an accumulation of arrears in trade debts and of import shortages, which, in turn, resulted in a sharp fall in economic activity, with most of the Nigerian industry struggling to operate without spare parts. A series of poor harvests, an overvalued currency and a widening budget deficit compounded the problem.’ (Van Buren, p.810).
In addition to the economic misfortunes, Nigeria has, since independence been bedevilled by an unstable polity that has been manifested by frequent military incursions into government. Successive military regimes that installed themselves often through violent coups had no respect for the continuity of the macro economic policies of previous regimes, no matter how reasonable they may seem to be. Overthrown regimes had their policies discredited as an act of total condemnation. The survival of any new governments depended on the allegiance of selected and favoured followers who were appointed to head sensitive offices in government. Competent hands were sidelined to the detriment of the country. Needless to say, one ill begot another until all the attendant factors of corruption became entrenched. This has been the most important catalyst in Nigeria’s economic degradation.

Successive regimes have adopted various policies to stem the decline, ranging from “Austerity Measures” in the early 1980s to the IMF recommended SAP (Structural Adjustment Programme) of the Babangida government in 1986. Oil is the mainstay of the Nigerian economy. In 1986, ‘... the petroleum sector accounted for around 18% of GDP, more than 97% of total export earnings and over 70% of all government revenues. In 1992 revenue from petroleum represented about 95% of the country’s foreign exchange earnings. Nigeria’s proven reserves were estimated at 20,827 million barrels in 1995. ... Revenues from exports of petroleum, which are shared in decreasing proportions between federal, state, and local governments, have largely determined the pace of Nigeria’s economic development. Successive governments based their five-year plans on predicted earnings from petroleum. In the 1990s, foreign exchange revenue from sales of petroleum has been virtually the sole means of meeting the country’s import needs and debt servicing commitment. According to IMF estimates, earnings rose to US$8,500 million in 1989, and US$10,600 million in 1990. By 1995, these earnings had fallen to US$7,001 million, but they recovered to US$9,727 million in 1996’ (Van Buren, p.812).

Even though statistical assessments of the Nigerian economy are subject to wide margins of error - due of course, to the lack of reliable data, the government estimated that:
‘Nigeria’s gross domestic product (GDP) increased in real terms, by an annual average of 1.6% during 1990-1995. The IMF estimated real GDP growth at 2.2% in 1995. GDP increased by an estimated 3.8% in 1997’ (Van Buren, p.810).


<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1996</th>
<th>1997</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>*GDP (real)</td>
<td>33,568</td>
<td>35,715</td>
<td>37,116</td>
<td>3.2</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>2.6</td>
<td>6.4</td>
<td>3.9</td>
<td>3.2</td>
</tr>
<tr>
<td>**GNP per capita</td>
<td>220</td>
<td>260</td>
<td>260</td>
<td>255</td>
</tr>
</tbody>
</table>

* GDP, real: At millions of U:S dollars, 1987 constant prices.
** GNP

Source: National Accounts.

The IMF expects GDP to fall by 1.6% this year (1999) after last year’s modest growth of 2.3%. The Naira has had series of valuations and devaluation since 1994. Nigerian exports have become increasingly uncompetitive while imports are encouraged, (Hawkins, p.11). Meanwhile;

‘Manufacturing is heavily reliant on imported raw materials and components. According to the manufacturer’s Association of Nigeria (MAN), up 60% of all the raw materials that local industry used in 1985 were imported. Manufacturing is thus extremely vulnerable to disruptions if imports are restricted, as they have been since 1980. Imports of raw materials declined, on average, by 10% per year over the period 1982-1985. The combination of import restrictions, over pricing and industrial disputes favoured cheaper foreign goods and encouraged smuggling and black-marketeering’ (Van Buren, p.814).
The continuous fall in oil prices and the prospects of further declines in the future, including the country’s foreign debt crisis, has assumed a more serious dimension. ‘...the country is now caught in a classic two-way squeeze of tumbling oil receipts and escalating debt arrears...’(Hawkins, p.11). Due to the data reliability problem earlier mentioned, the exact figure of foreign debt owed by Nigeria is currently a much-debated issue.

The relay of military regimes, in successive efforts to strengthen the weakening institutional capacity and revitalise the ‘ramshackle infrastructure’, have toyed with the idea of privatisation/commercialisation of various key state-owned industries with varying degrees of accomplishment.

Hopes for economic resuscitation and political stability is hinged on the transition to civil rule, that has been effected this year. Formidable challenges face the transition to a successful economy as there is a host of fundamental issues to be addressed. Of paramount importance is expenditure on social services and infrastructure. The state-owned Railway Corporation has been receiving a lot of intensive care in the past two years. The port industry infrastructure needs a complete overhaul, especially that the container terminal in Apapa, so that it could truly serve as a gateway to the country’s economy. If well served, it could serve as a local hub and load centre for the country’s other ports, as well as for the West African region.

4.2: Container Growth Possibilities.

The Container Terminal of Apapa, Lagos:
The Nigerian Ports dedicated Container terminal of Apapa is located at the 3rd Apapa Wharf Extension - a southern extension of the old Apapa quays along the Badagry creek. It has 1,005 metres of container berths and is administered as a separate port, independent of the main Apapa port. It handles an average of 60% of Nigeria’s container traffic. It has a storage capacity of 22,000 TEU it is road and rail-linked with 44 hectares of marshalling area (NPA, Abstract of Port Statistics). Current depth at the quays is 11.5 metres. It is served by two 35-tonne Paceco gantry cranes, with 13 TEU
outreach. It operates an integrated labour gang system and a 24-hour work period. It operates a hybrid front-end Loader/Straddle carrier relay/Tractor equipment system.

### Table 4.2: Apapa Container Terminal Current Equipment Complement.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Quantity</th>
<th>Make</th>
<th>Capacity</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship-Shore Gantry</td>
<td>2</td>
<td>Paceco</td>
<td>35 tons</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Straddle Carriers</td>
<td>10</td>
<td>Valmet</td>
<td>35 tons</td>
<td>6-12</td>
</tr>
<tr>
<td>Reach-stackers</td>
<td>4</td>
<td>Kalmar</td>
<td>40 tons</td>
<td>2-7</td>
</tr>
<tr>
<td>Other F.E.Ls</td>
<td>23</td>
<td>Kalmar</td>
<td>28-40 tons</td>
<td>1-10</td>
</tr>
<tr>
<td>Forklifts</td>
<td>9</td>
<td>Kalmar</td>
<td>30 tons</td>
<td>1-10</td>
</tr>
<tr>
<td>Tractors</td>
<td>16</td>
<td>Kalmar</td>
<td>28 tons</td>
<td>2-15</td>
</tr>
<tr>
<td>Trailer tractors</td>
<td>25</td>
<td>Kalmar/Sisu</td>
<td>1-15</td>
<td></td>
</tr>
<tr>
<td>Mobile Cranes</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Freight-lifters</td>
<td>3</td>
<td>Kalmar</td>
<td>5-10 tons</td>
<td>2-10</td>
</tr>
</tbody>
</table>

Average Equipment Availability = 54% (Source: NPA Container Terminal Mechanical Workshop, Apapa).

**Staff Strength:** As at December, 1996, the total number of Port Authority employees stood at 839. This is exclusive of port labour staff.

**Training:** The policy that obtains here applies to all ports and departments of the organisation. Where the resources are available within the organisation or the country, training is carried out locally. Where necessary, sponsorship is provided by the port for overseas training. With regard to the training of crane operators and other specialised equipment, competent resource persons are available in-house. Operators and maintenance technicians are sent overseas, only when new equipment is being introduced where experience is lacking.
Efforts of the port authority in recent times regarding motivation of staff has been commendable. The battle against corruption however, is a project that requires a wider scope beyond that of the port authority.

**Table 4.3:** Container Penetration Rate in Nigeria’s General Cargo Trade.

<table>
<thead>
<tr>
<th>Year</th>
<th>General Cargo (tons)</th>
<th>Container (tons)</th>
<th>Container Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>4,198,272</td>
<td>1,727,050</td>
<td>41%</td>
</tr>
<tr>
<td>1996</td>
<td>4,752,363</td>
<td>1,900,996</td>
<td>40%</td>
</tr>
<tr>
<td>1997</td>
<td>5,950,117</td>
<td>2,173,687</td>
<td>36.5%</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4.1:** Container Penetration Rate in Nigeria's General Cargo Trade.

It will be observed that though actual container traffic increased over the period, 1995 - 1998, its share in the total general cargo trade of the country marked a steady decline. This could be attributed to the unsteady political situation that prevailed in the country within this period. Yet in 1998, container traffic growth was remarkable despite of the level of GDP and the political upheaval. The throughput of 250,000 TEU was an estimate because the 4\textsuperscript{th} quarter statistics were not available.
Table 4.4: GDP growth & containerisation rate.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Container Growth</td>
<td>41%</td>
<td>40%</td>
<td>36.5%</td>
<td></td>
</tr>
<tr>
<td>GDP Growth</td>
<td>2.6</td>
<td>6.4</td>
<td>3.9</td>
<td></td>
</tr>
</tbody>
</table>

Source:


<table>
<thead>
<tr>
<th></th>
<th>Total Nigerian Traffic (TEU)</th>
<th>Apapa Traffic (TEU)</th>
<th>Terminal Traffic (TEU)</th>
<th>Apapa Market Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>196,888</td>
<td>108,864</td>
<td>55.1%</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>199,844</td>
<td>114,770</td>
<td>57.4%</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>236,683</td>
<td>150,055</td>
<td>63.4%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.2: Container Throughput: - Total Nigerian Traffic & Apapa: 1995 - 1997.

Table 4.6: Container Traffic Growth. 1995-1997

<table>
<thead>
<tr>
<th></th>
<th>Apapa</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>5.43%</td>
<td>1.5%</td>
</tr>
<tr>
<td>1997</td>
<td>30.7%</td>
<td>18.4%</td>
</tr>
<tr>
<td>1998**</td>
<td>13%</td>
<td>9.95%</td>
</tr>
<tr>
<td>Average Growth</td>
<td>16.5%</td>
<td>9.95%</td>
</tr>
</tbody>
</table>
Table 4.7: Apapa Terminal - Exponential Growth at 16.5%: 1995 - 2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Traffic (TEU)</th>
<th>Apapa Traffic (TEU)</th>
<th>Apapa's Share (%)</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>196,888</td>
<td>108,864</td>
<td>55.29%</td>
<td>2.6</td>
</tr>
<tr>
<td>1996</td>
<td>199,844</td>
<td>114,770</td>
<td>57.43%</td>
<td>6.4</td>
</tr>
<tr>
<td>1997</td>
<td>236,683</td>
<td>150,055</td>
<td>63.40%</td>
<td>3.9</td>
</tr>
<tr>
<td>1998</td>
<td>252914.4</td>
<td>169962.81</td>
<td>67.20%</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>289440.8</td>
<td>211837.63</td>
<td>73.19%</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>316441.1</td>
<td>247716.6</td>
<td>78.28%</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>356665.7</td>
<td>302253.91</td>
<td>84.74%</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>393918.4</td>
<td>358491.51</td>
<td>91.01%</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>440994.8</td>
<td>433303.7</td>
<td>98.26%</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>489259.4</td>
<td>517171.83</td>
<td>105.71%</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>546083.8</td>
<td>622479</td>
<td>113.99%</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>607066.7</td>
<td>745045.79</td>
<td>122.73%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>676667.8</td>
<td>895080.87</td>
<td>132.28%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>752904.6</td>
<td>1072657</td>
<td>142.47%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.4: Apapa Terminal - Exponential Growth at 16.5%: 1995 - 2008
But it would be unwise to assume that traffic would grow at a given rate without consideration for the probability of variation in the negative or positive aspects. In fact, considering Nigeria's volatile economic and political fortunes, a less ambitious scenario should be considered.

It may be observed that a forecast based on a three-year data is not sufficient. Perhaps this is so because traffic throughput for the Nigerian ports in the past ten years have been so volatile that to use them would amount to far worse distortions. The only measure of consistency was found in the years; 1995 -1997. 1998 was omitted because the fourth quarter data on throughput was not available at the time collation.

Using the correlation between GDP and traffic growth, conservative scenarios of a "best case" at 5% growth and a "worst case" at 2% growth were estimated for a 10-year forecast for the country.

Table 4.8: Best Case Scenario (At 5% GDP Growth).

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Traffic (TEU)</th>
<th>Apapa Traffic (TEU)</th>
<th>Apapa's Share (%)</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>196,888</td>
<td>108,864</td>
<td>55.29%</td>
<td>33568</td>
</tr>
<tr>
<td>1996</td>
<td>199,844</td>
<td>114,770</td>
<td>57.43%</td>
<td>35715</td>
</tr>
<tr>
<td>1997</td>
<td>236,683</td>
<td>150,055</td>
<td>63.40%</td>
<td>37116</td>
</tr>
<tr>
<td>1998</td>
<td>247,573.1</td>
<td>162,664.34</td>
<td>65.70%</td>
<td>38971.8</td>
</tr>
<tr>
<td>1999</td>
<td>267,826.1</td>
<td>183,843.81</td>
<td>68.64%</td>
<td>40920.39</td>
</tr>
<tr>
<td>2000</td>
<td>289,091.8</td>
<td>206,082.24</td>
<td>71.29%</td>
<td>42966.41</td>
</tr>
<tr>
<td>2001</td>
<td>311,420.8</td>
<td>229,432.6</td>
<td>73.67%</td>
<td>45114.73</td>
</tr>
<tr>
<td>2002</td>
<td>334,866.3</td>
<td>253,950.47</td>
<td>75.84%</td>
<td>47370.47</td>
</tr>
<tr>
<td>2003</td>
<td>359,484</td>
<td>279,694.24</td>
<td>77.80%</td>
<td>49738.99</td>
</tr>
<tr>
<td>2004</td>
<td>385,332.6</td>
<td>306,725.2</td>
<td>79.60%</td>
<td>52225.94</td>
</tr>
<tr>
<td>2005</td>
<td>412,473.6</td>
<td>335,107.7</td>
<td>81.24%</td>
<td>54837.24</td>
</tr>
<tr>
<td>2006</td>
<td>440,971.7</td>
<td>364,909.33</td>
<td>82.75%</td>
<td>57579.1</td>
</tr>
<tr>
<td>2007</td>
<td>470,894.7</td>
<td>396,201.05</td>
<td>84.14%</td>
<td>60458.05</td>
</tr>
</tbody>
</table>
Figure 4.5: Best Case Scenario (At 5% GDP Growth).

Table 4.9: Worst Case Scenario (At 2% GDP Growth)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Traffic (TEU)</th>
<th>Apapa Traffic (TEU)</th>
<th>Apapa’s Share (%)</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>196,888</td>
<td>108,864</td>
<td>55.29%</td>
<td>33568</td>
</tr>
<tr>
<td>1996</td>
<td>199,844</td>
<td>114,770</td>
<td>57.43%</td>
<td>35715</td>
</tr>
<tr>
<td>1997</td>
<td>236,683</td>
<td>150,055</td>
<td>63.40%</td>
<td>37116</td>
</tr>
<tr>
<td>1998</td>
<td>235,999.9</td>
<td>150,561.79</td>
<td>63.80%</td>
<td>37858.32</td>
</tr>
<tr>
<td>1999</td>
<td>255,278.1</td>
<td>169,063.08</td>
<td>66.23%</td>
<td>38615.49</td>
</tr>
<tr>
<td>2000</td>
<td>261,625.7</td>
<td>175,945.21</td>
<td>67.25%</td>
<td>39387.8</td>
</tr>
<tr>
<td>2001</td>
<td>276,977.4</td>
<td>190,957.51</td>
<td>68.94%</td>
<td>40175.55</td>
</tr>
<tr>
<td>2002</td>
<td>286,718.3</td>
<td>200,941.88</td>
<td>70.08%</td>
<td>40979.06</td>
</tr>
<tr>
<td>2003</td>
<td>300,599</td>
<td>214,677.94</td>
<td>71.42%</td>
<td>41798.64</td>
</tr>
<tr>
<td>2004</td>
<td>312,127.4</td>
<td>226,320.8</td>
<td>72.51%</td>
<td>42634.62</td>
</tr>
<tr>
<td>2005</td>
<td>325,639.7</td>
<td>239,775.08</td>
<td>73.63%</td>
<td>43487.31</td>
</tr>
<tr>
<td>2006</td>
<td>338,253.4</td>
<td>252,446.1</td>
<td>74.63%</td>
<td>44357.06</td>
</tr>
<tr>
<td>2007</td>
<td>351,898.5</td>
<td>266,072.08</td>
<td>75.61%</td>
<td>45244.2</td>
</tr>
</tbody>
</table>
The worst case scenario had a correlation with GDP growth of 70%. Apapa terminal's share of the traffic in both cases ranged between 75% to 85% of the total Nigerian traffic.

**Land Area Required for Forecasted Traffic:**

Port planning, especially with regard to infrastructure investment should always be long term in perspective. Currently, the Apapa port of Lagos has a total land area of 150.8 hectares. The container terminal depot, administered as a separate port entity, is located in the 50.8 hectare 3rd Wharf Extension and has 200,000 sq. metres of storage area, and has a stacking capacity of 22,000 TEU (Source: NPA Abstract of Port statistics). It has a further inland storage area of 250,000 sq. metres of storage at the Lilypond terminal, Ijora, a distance of 1.8 km from the port. Total covered storage accommodation for the 3rd Wharf Extension is about 6,400 sq. metre. Total quay length of both Apapa and the extension is 4,050 km. Current maximum depth at the quays is 11.5 metres.

It should be observed at this stage that the parameters used, to arrive at the given stacking capacity is currently not known to the author. From physical observations however, the 22,000 TEU stacking capacity could have been derived through the maximisation stacking to a height of 3 containers and the exploitation of any available
space. The menace of pilferers in port in the past few years necessitated the construction of walls as a security device. This of course is not ideal for a container terminal and consequently has taken up a lot of space that could enhance operational flexibility.

Going by UNCTAD prescription on Container terminal development, approximately 50% of Apapa Container terminal's 200,000 square metre would be deducted as operational reserve area (assuming a Peaking factor of 30% and an average Operational Reserve factor of 25%). Taking the ground area of one TEU as 15 sq. metres, the remaining 100,000 square metre would accommodate 6667 Twenty-foot ground (TGS) slots. When multiplied by its regular stacking height of 3, the container should accommodate only 20,000 TEU. In this regard, the terminal has exceeded its safe stacking capacity by about 2000 TEU. Its equipment system is predominantly the Front-end Loader (FEL) system. The UNCTAD study estimates a possible land utilisation of the FEL system to be 275 TEU per hectare - assuming a 50:50 import/export balance. A 20 hectares FEL-operating terminal can therefore be expected to accommodate only 5,500 TEU. Once again, it seems the terminal has exceeded its capacity. There is therefore the need for expansion.

Considering its ambition to become load centre for the region, and an optimistic scenario based on the exponential growth forecast as given in Table 3.8, the target like in other hubs of the world should at least, be a million TEU. In view of the unreliability of any forecast on economic fortunes, and the capital-intensive nature of port infrastructure investment, it is considered prudent to plan for a capacity of 1 million TEU. This is with specific reference to quays and channels only. Terminal pavement and equipment investments can always be done when the need arises.

**Planning for 1,000,000 TEU:**
Due to the lack of data to determine current average dwell time of cargo in port, the derivation of dwell time as an important variable in this equation will be based on the observations and assumptions of the author.
Table 4.10: Dwell Time:

<table>
<thead>
<tr>
<th>Container type</th>
<th>Dwell time (days)</th>
<th>Probability</th>
<th>Expected Days.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laden Export</td>
<td>4</td>
<td>20%</td>
<td>0.8</td>
</tr>
<tr>
<td>Export Empties</td>
<td>8</td>
<td>10%</td>
<td>0.8</td>
</tr>
<tr>
<td>Re-circulation</td>
<td>8</td>
<td>10%</td>
<td>0.8</td>
</tr>
<tr>
<td>Import Empties</td>
<td>8</td>
<td>10%</td>
<td>0.8</td>
</tr>
<tr>
<td>Import FCL</td>
<td>5</td>
<td>20%</td>
<td>1</td>
</tr>
<tr>
<td>Import LCL</td>
<td>7</td>
<td>10%</td>
<td>1</td>
</tr>
<tr>
<td>Transhipment</td>
<td>7</td>
<td>20%</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td><strong>6.6</strong></td>
</tr>
</tbody>
</table>

Required Land Area Assumptions:

a). Throughput = 1,000,000 TEU  
b). Peaking Factor = 30%  
c). Operational Reserve Allowance = 25%  
d). Stacking Height = 2.5  
e). One TEU occupies 15 sq. metre of land space.

Stacking Capacity: 1,000,000/365 *6.6 days *1.3 *1.25 = 29384 TGS

Twenty-foot Ground Slots: 29384/2.5(stacking height) = **11754 TGS or 176,310 sq. metres**. (17.6 hectares).

It is evident from the above calculations that a million TEU can be comfortably accommodated in Apapa port, which has a total land area of 150.8 hectares. All that is required is structural reformation aimed at creating sufficient terminal pavement space. Proposals for restructuring the terminal layout will be examined in detail in the subsequent chapter.
4.4: Nigeria’s Maritime Policy:

It may seem odd, but true, that Nigeria with its long history of participation in the maritime field has no formal and comprehensive maritime policy. In every facet of the nation’s maritime industry, the national policy seems to shift according to the prevailing whims of the existing government.

‘...Perhaps of greatest significance among the many ills of the maritime industry is policy inconsistency. The advent of a new administration, the appointment of a new minister and the coming of a new fiscal year are known to herald changes, sometimes fundamental changes, on Nigeria’s import/export guidelines, tariff structure and even cargo delivery procedures.

The maritime industry is now used to the routine and always anticipates correctly. Thus, there is always an upswing in port activities towards the end of each year as importers hurry to conclude their transactions under the prevailing tariff regime. This also accounts for the lull in activities at the beginning of each year as the business community waits the unfolding of new policies.

And when the policies are announced, they are often made to take immediate effect or even retroactive effect as was the case with the still-born introduction of the Destination Inspection in the 1998 budget...’. (Maritime Quarterly. p.16.).

The only consistencies behind most policies appear to be fierce nationalistic motives. This may be seen in the inclination to be protectionist in outlook and the reluctance to deregulate the industry. And perhaps the government’s suspicion of deregulation is well founded on an innate knowledge of its system.

The status of any port is a function of the policy of its home government. To determine Nigerian government’s policy inclination therefore, a few of the issues that concern the subject of this study will be examined in order to assess the feasibility of achieving the objective of this study.

1) **Nigerian Port Authority Statutory Function**: As earlier mentioned, NPA statutory function as at its creation in 1954 was in the typical tradition of 1st generation ports; to provide infrastructural, superstructural and navigational facilities, and to fully
operate the cargo-handling function of the port, as well as serve as national carrier. With the creation of the National shipping line however, the national carrier status was transferred to the shipping company.

In 1990, the desire to rid the authority of public service inefficiency without outright privatisation necessitated the commercialisation by decree of the organisation. Much is left to be desired on the level of autonomy enjoyed by the parastatal. An overview of the Nigerian government policy on maritime issues will be examined on the following issues as appraised by Iheduru.

2) Total withdrawal of government from the maritime transport sector:
The scenario under consideration here entails that the government would:

- withdraw from the UN code on liner conferences;
- repeal its national shipping policy decree no. 10 of 1987;
- abolish cargo allocation and other practices of flag discrimination;
- fully privatise the newly established National Unity Line (NUL);
- commercialise the Nigerian Ports Authority and reduce the agency to a landlord, while the operation of docks, wharves, warehouses would be privatised;
- the forwarding sector would be entirely private, open to foreign ownership without restrictions;
- coast guard operations, light houses, piloting and other navigational aids would all be sub-contracted to private operators, who would bid for operating franchises for such services.

The benefits of this scenario are substantial. Besides the conservation of resources that would be gained from efficient management, shipping operators interviewed unanimously agree that liberalisation would open markets as well as make Nigerian trade competitive through the development and provision of efficient and cost effective maritime services.
The Nigerian government is inclined to favour this line of argument as evident from the commercialisation of NPA and a few other maritime services. It is however afraid that total liberalisation would be counter-productive in that:

‘...Nigerian trade could become a haven for tramp operators who would take advantage of the laissez-faire atmosphere. Currently, independent operators control between 60 -80 % of this trade, following the collapse of the Conferences in 1992. A large entry of tramp operators could spell doom for the country. Finally, almost every member of Nigeria’s maritime elite interviewed for this report was vehemently opposed to this scenario because of its security implications for a country that, notwithstanding its current political and economic mess, is fiercely nationalistic.’ (Iheduru, p.7).

2) Acceleration of Hub development within the region: It is required in this scenario that Nigeria would renounce protectionist policies and, in harmony with coastal neighbours, develop a regional hub. This principle conforms to the current trend in the maritime industry where costly port to port calls are being phased out for hub and spoke system.

This will certainly be beneficial to the region and the chosen port because, currently, the West Africa’s cargo is being transhipped outside the region. A good example is Maersk’s operation at Algeciras. Hub development is considered important for Nigerian national carriers as it may provide the opportunities of feeding cargo from and to Lagos since it’s national carriers can hardly operate deep-sea shipping competitively. Besides, Nigeria’s export of general cargo tonnage is insufficient to sustain an indigenous merchant fleet while they do not have the bottoms for the import tonnage. Nigerian cargo generating capacity and economic potential makes the citizens quite resentful of the idea that a regional hub would be sited outside Nigerian waters. ‘...Even though some of Nigerian ports’ competitors may be attracting a lot more cargo, more than 60% of West Africa’s cargo originates or is destined for Nigeria...’ (Iheduru, p.9). Contrary to the emotion of Nigerian, expert opinions based on researched economic and operational considerations of shipowners favour the port of Abidjan as a potential hub for the region. Palsson’s study entailed a cost comparison (Stripped Unit Cost approach) between the current multiple port call
system and a hypothetical hub operated by shipping lines on the Europe-West Africa trade. Though the study indicated that the region would be better off under a hub and spoke system, the benefits in terms of cost reduction (US$ 12 maximum potential) offered a low level of comfort. He identified a major constraint as being the draft limitation that would restrict the use of truly large vessels to exploit the advantages of economies of scale. In his opinion:

‘... The only clear “winner” would be the hub - Abidjan. Alternatively, under a hub and spoke system all West African ports would be “losers,” except for Abidjan. As such, that port would reap all the benefits, while in terms of cost and, to a great extent, service level, all other ports in the region would be worse off’.

But there are other equally potent and perhaps less easily quantifiable variables that hinder the effective implementation of the hub system in the region. Along this line, Iheduru observed that:

‘...the “human factor” at Nigerian ports were indeed identified by both public and private sector operators as a major hindrance to the development of a hub and spoke system in West Africa anchored on Nigeria. Several interviewees also expressed dissatisfaction with the French colonial legacy in the region, by which they claim that with the region’s shipping currently dominated by the French, it was unlikely that Nigerian ports would be patronised as a hub even if it did not have the problems noted above. The natural inclination of French ship owners to patronise francophone Cote d’Ivoire, in addition to whatever distinctions it possesses, would work against Nigeria as a regional load centre.’

3) **Port Development and Intermodal Movement in Nigeria.**

This calls for the development and refurbishment of existing ports in the country. The essence is to facilitate door to door movement of freight with the shipping companies having control of their cargo movements not only within the ports, but also through to inland points. This requires an operational integration of forwarding companies, truck operators, railroad and Inland Container Depots (ICDs), for efficient and effective implementation of the movement of cargo.
Constraints against implementation in Nigeria today are the road and rail transport infrastructure, which are in dismal states. The Nigerian Railway Corporation, “a sink-hole of waste” (Iheduru, p.11), has in recent times, been given a lot of attention, aimed at revitalising it. Its status cannot currently be ascertained with any accuracy as the effect of the resuscitation is yet to be felt on the national economy. Nigeria’s 40,000 km of federal highways cost an annual estimate of USD 3.7 billion to maintain. Rural roads suffer neglect.

Another identified impediment to this scenario has been the excessive number of security checkpoints on the Nigerian highways. These cause delays and actually serve as illegal “tax collection centres” by corrupt security officials. A most recent development towards solving this anomaly by the government has been the disbandment of the checkpoints on highways.

Information technology, a major ingredient of this scenario is yet to be developed to the desired level. In addition, the port Authority’s monopolistic status may have to be redefined and the Indigenisation laws of the ’70s repealed.

4) The Development of a Regional Shipping Line Providing Service between the Region and Major Markets World-wide.

Following the collapse of national shipping lines of the region, the idea to establish a regional shipping line was endorsed by the Economic Community of West African States, (ECOWAS). The instrument created to implement this project was the Ministerial Conference of West and Central African States on Maritime Transport (MINCONMAR). Such a venture would require fundamental changes in the national shipping policies of member states towards regional harmonisation and co-ordination. The major constraint to the attainment of this goal is the different socio-political and institutional frameworks existing in member states - a legacy of colonial history. Reconciling nationalistic pride with the principle of regional co-operation may seem a very difficult hurdle.
It is generally evident that the Nigerian government is aware of the pre-requisites of creating a conducive environment for the development of maritime activities. The key lies in the enactment of policies and legislation to facilitate the implementation of load centre operations based on a Nigerian port.

4.5: Port User’s Perspective of the Nigerian Ports System.

The establishment of load centre operations in any port is not purely dependent on the chosen port’s efforts at structural and, or operational improvement. Though its record of efficiency and performance is a vital factor that attracts the patronage of ship operators, its service quality should be tailored towards the specific needs of its customers.

The obvious deficiencies of the Nigerian ports system notwithstanding, the impression of the port users needed to be gauged to determine the areas of strength and weaknesses of the system. A questionnaire was used to sample the opinion of shipping companies. Interviews were also held with forwarders to understand their viewpoint of the system. Physical observation of the operating practices of the port was also carried out by the author.

The Questionnaire:

The scope of the questionnaire was aimed at gauging how NPA services met the requirements of ship operators with regard to feasibility of establishing a regional load centre anchored on Nigeria. A sample of the questionnaire is attached in the appendix.

Four of the major shipping companies operating in the country or their respective agencies were selected as respondent and these were: Maersk, CMBT, WASA-Delmas and Alraine. Soliciting response from the shipping companies was nearly impossible. In the absence of any sensible reasons, it is assumed that respondents wanted to be discrete in a country that was at the time, going through political turmoil.
Only two of the targets responded to some extent, and their response is summarised under the subjects covered by the questionnaire as given below.

a) **Nautical Access and Draft:** Nautical access was found to be satisfactory, but the draft at the harbour and the quays, while sufficient for the type of ships currently in use, will not be adequate for the contemplated post-panamax ships that will be employed in hub and load centre operations. The vessels currently in use conform to the findings of Palsson and fall within the range of 1000 to 2000 TEU capacity.

b) **Geographical Location:** While the geographical location of the port of Lagos, Apapa, and indeed any port on the West African coastline is not considered strategically ideal with regard to the mainline routes of world seaborne trade, the respondents being mostly Nigerian citizens consider that it is ideal. It is not difficult to see that this response is a nationalistic expression of the preference of a Nigerian port over that of any other country in the region.

c) **Adequacy of Cargo Handling Equipment:** The answer here was unanimously negative. Of particular reference was the ship to shore gantry crane. Besides being frequently out of service, the two gantry cranes were considered insufficient for the six-berth container terminal. This is what prompts the shipping companies’ frequent refrain that NPA should render services for which it is paid.

d) **Nigerian Share of the West African Container Traffic:**
The two respondents claimed that 68% and 75% respectively, of their total West Africa-bound container traffic is attracted to, or generated by Nigeria. This is rather puzzling considering that world trade statistics show Abidjan as handling more containers consistently over the years. Iheduru, claims that 60% of the West Africa container trade is Nigeria bound. The only probable explanation could be found in the revelation that shippers seeking to avoid the difficulties of the Nigerian ports’ system, especially with regard to imports, preferred to route their cargo through other West
African ports; ‘...the result has been the diversion of much of Nigerian cargo to neighbouring ports like Cotonou, Lome and Abidjan since 1996...’: (Iheduru, p.10)

Providing documentary evidence of this development is difficult. While shipment Bills of Lading may point to Abidjan, Lome or Cotonou as ports of discharge, no document covers the informal overland haulage arrangements that follow the movement of the un-stuffed cargo to Nigeria through its very porous borders. Physical observations and interviews carried out by the author at the Seme border between Nigeria and the Republic of Benin in late 1997 revealed an average of 100 trailers fully laden cross into Nigeria daily at just that point alone. Documentary evidence could not be provided because of the prevalent practices of corruption carried out by Customs officials in aiding the smuggling of the goods into the country.

e) Performance of the Nigerian ports Authority:
The poor rating of the port authority in this regard is largely due the inadequate provision of efficient ship to shore logistic services as earlier mentioned. It is interesting to note that verbal interviews revealed that cargo-handling performance in many respects is considered satisfactory. What irks users is that NPA’s monopolistic position affords it the luxury of being insensitive to the yearnings of the shipping companies in the past, especially in the case where the gantry crane is frequently out of service while pertinent charges, fully pre-paid to NPA and are considered non-refundable. For now, ship operators incorporate these loses into their freight charges and pass it unto the shipper. Other areas that need improvement as proposed by the respondents are in the area of documentation and security.

Comparisons with other West African ports rate NPA tariff as being relatively consistent with what applies in other ports of the region, and the dock labour quality as being satisfactory. Though one of the respondents did however, rate the dock labour quality as low, it has been observed that labour unrest has been minimal in the container terminal. Where it occurs, it is often in sympathy with a Union cause that is often not directly related to the terminal.
f) Status of NPA Relationship with Ship Operators: Much is left to be desired in this regard as NPA tries to shake off its public service mentality in conformity with new trends in shipping.

g) Status of Customs Relationship with Ship Operators: The rating on this issue is fair though there is an indication that there is much room for improvement.

h) Desirability of a privately owned or operated terminal: On this point, the response is affirmative. This points to an alignment with the global trend of the incorporation of logistic services in the scope of shipping operations.

i) Benefits of Transhipment Operations: As expected, all respondents expect high revenue yields when hub operations centred on Nigeria are effected.

Interviews:

Transit Cargo to Land-locked Countries: Attempts to decipher the reasons for the dwindling tonnage of cargo transiting Nigeria to Niger and Chad necessitated the conduct interviews and some measure of research.

The Nigerian Customs absolved themselves of blame as such cargo by legislation, is exempt from duty and attracts little or no attention from the service. Examined from various perspectives, the factor militating against Nigeria in this regard may be the transit time of cargo to Niger or Chad. A study of factors influencing port hinterland and transit cargo done by J. Grossdidier de Matons revealed that while the Nigerian ports may offer cheaper rates, there are a host of other factors to consider. Nigeria’s multiplicity of security checkpoints on the highways and Niger’s francophone lineage may be very important determinants.

Harbour Draft: The NPA harbours department, responsible for the dredging and maintenance of navigational facilities revealed that, besides the constraint financial
cost, only two obstacles would prevent the dredging of the harbour to a depth suitable for post panamax vessels; i) the pilings of the port’s quays which would have to be reconstructed to withstand such depths and; ii) the submarine oil pipeline in the harbour would need to be re-laid at greater depths.

Observations:
This was mainly carried out in the area of NPA operational practices. Preservation of records needs to be improved upon. The ship to shore gantry - the subject of much complaint, has been unserviceable for long periods. Downtime could be as much as 85%, and yet no record of this available in the terminal’s statistical records. Other anomalies observed were in the area of tally records. Sometimes, containers shifted in holds or via the quay were not reflected in the cargo handling records. It was discovered that shipping companies wishing to cut down on the charges to be paid to NPA per box would often connive with NPA staff and the stevedore to eliminate the records. A dubious system off-record settlement took care of the benefits that would accrue to the stevedore. This goes a long way to affect the recorded throughput of the terminal. This practice is more pronounced in the general cargo sector.
CHAPTER FIVE

Title: Restructuring the Port for Hub/Spoke Operations

5.1: Scenario for Hub Operations.

Despite the number of constraints listed against the establishment of Hub/Load centre operations in the region anchored on Nigeria, well-researched opinions express the optimism that transhipment operations will eventually take effect in the region. It is only a matter of when, and the port of choice. For now, the port of Abidjan seems favoured. Palsson’s study indicates that ‘...the region would be marginally better off under a hub and spoke system than the current direct route system’. But in considering several caveats, ‘... the findings do not indicate a clear-cut case for or against a hub and spoke system in the West African - European trade. (Palsson. 1999, pp.3 -4). Grosdidier de Matons (1998. p.6), thinks that ‘...transhipment will certainly develop since technical limitations are severe; a second generation container vessel carrying 1620 TEU of 14 tons average is limited to 1420 boxes and need to be nearly empty to access Doula.

As indicated in chapter three, the aim of this study is to propose modifications towards preparing the port of Apapa for the eventual role of sub-regional pivot. The port will be hypothetically modified in terms of infrastructure, facilities and institutional organisation. Recognising the fact that the presence of requisite facilities and efficient operations do not pre-suppose the commencement of load-centre operations, it is hoped that the goal will be achieved through small beginnings. In this regard, it is expected the port of Apapa could hone its transhipment skills by playing load-centre to the numerous ports scattered along the coast of the country. Container vessels could then be expected to make only one port call to Nigeria - Apapa.
5.2. Infrastructural Modifications.

**Channel & Quay Depth:** The NPA owns and operates three trailing suction, hopper dredgers of varying capacities. This is the responsibility of the Marine department which is technically equipped to handle periodic maintenance dredging. The hydrography unit carries out the surveys to determine dredging needs and specifications. Capital dredging is sub-contracted to specialist dredging firms. A good example is the on-going dredging project of the Calabar channel by the China Harbour Dredging Company.

Question regarding the economical use of the port-owned equipment cannot be answered with any certainty as requisite statistics were not accessible. Dredging work by the marine department is however operated as a cost/revenue centre and the Authority pays the department for the quantity of work done as charged.

Since the commencement of the Continental Shipyard Company - a subsidiary ship repair facility of the Authority, maintenance is often sub-contracted to the company. Little is known of the extent to which environmental considerations are factored into the dredging exercises.

To prepare for hub operations, UNCTAD recommended a minimum draft of 12 metres (UNTD/B/C.4/AC.7/10). 4th generation container vessels today require 14 metres draft. Prudence dictates a minimum draft of 14 metres be recommended for the port of Apapa. This being a capital dredging exercise, should be sub-contracted to specialist dredging firms because a host of other factors like environmental impacts will need to be taken into account.

Dredging to a minimum depth of 14 metres, also raises another fundamental issue; the existing sheet pilings for the quay walls. The existing quay piling as shown below cannot withstand the recommended depth.
Figure 5.1: Existing Quay pilings at Apapa Container Terminal.

For such depths, de Heer recommends the EECV type suitable for soft sub-soils typical of Lagos estuaries. It is considered a more economical design ideal for deeper berths, farther outreach and heavier surface loads.
Named after the Rotterdam quay at Maasvlakte, it is probably the biggest of its kind in the world. At low tide, it is accessible to ships drawing 21 metres of water. The difference in height between the top of the quay and the bottom of the harbour is nearly 27 metres. (De Heer, p.19).

**Cost:** Port infrastructure is a long term project and should be executed bearing in mind the uncertainties of international trade and its impact on the port traffic and the value of money required to undertake construction projects. In 1972, the EECV quay was constructed at the cost of US$50,000 per metre at 1972 prices. In the Amazon basin in 1989, it was constructed at the cost of US$25,000 per metre. The reduction in cost could be due to improvements in material design and construction methods.
The proposed area to be constructed includes the existing quay and extends across the adjacent quay of Apapa general cargo port, a length 2441 metres, covering a total area of **608835 square metres**

*Figure 5.3: The Proposed Container terminal*

Assuming the construction cost stays the same over time, (but it could actually be less as hinted by de Heer), the estimated cost of constructing the 2441 metre quay of the proposed terminal would be **US$ 61,025,000**. When interviewed, the NPA marine
department hinted that with a suitable quay in place, they could handle capital
dredging at an estimated cost of USD 120,000. Maintenance dredging estimates were
not taken into account during the interview.

**Terminal Pavement/ Layout:** Unlike the dredging of depths and construction of quays,
terminal development in this case is to be done in stages. This is due to fact that the
port’s forecasted throughput of half a million in 5 years, and over a million in 10 years
will take some time to attain. It is expected that conversion of general cargo to berths
to container pavements will be done when the throughput growth necessitates it. The
ultimate aim of the exercise is the conversion of the whole 608835 sq. metres as
shown in the figure below, into a dedicated container terminal. Total area required for
handling the estimated 1 million TEU as earlier calculated will be 21.2 hectares or
35% of the total new development area.

**Choice of Pavement Type:** The choice of pavement type is ultimately dependent on
the equipment factor. Its operating features and dimensions influence the land area
utilisation in terms of the mean number of TGS required, stacking height and
operational reserve area for manoeuvrability purposes, and the surface structure
requirements relating to loads and wear imposed by equipment.

The container terminal had a throughput of 250,000 TEU in 1998 and operated a
combined Straddle-carrier relay/ tractor-trailer/ Front-end Loader equipment system.
The system is considered quite adequate for its current level of throughput. While
anticipating an annual growth of 16.5%, it is considered quite ideal to introduce a Rail-
Mounted and one Rubber-tyred yard gantry crane to supplement the current system.
The yard gantries are expected to help in optimising space through the stacking of
export and empty containers.

**Cost:** It is considered that in view of the current traffic throughput, the existing
complement of straddle carriers and FELs are adequate for terminal operations. The
specifications of the two yard gantries required are:
a) 1 RTG: 23 -27 m span; maximum lift - 40t; lift height - 1 over 5.
Purchase cost = USD 2,500,000
Erection cost = 10%
Transport cost = 3%
Total purchase cost = \textbf{US$ 3,575,000}

b) 1 Rail-Mounted Gantry: 30 -50 m span; maximum lift - 40t; Lift height - 1 over 5.
Purchase cost = USD 3,000,000
Erection cost = 10%
Transport cost = 3%
Total cost = \textbf{US$4,290,000}
(Cost estimate source: UNCTAD Secretariat based on 1996 manufacturers prices)

Maintaining the current use of FEL/SC-relay/Trailer system require strong pavements that could withstand load and stress of the machines. FELs have a high terminal development cost, inflicting heavy wear on the terminal surface due to poor distribution of wheel load.

Even when equipment type eventually changes, prudence dictates that the worst case scenario should be taken into account - that is, the consideration of the pavement that can withstand the equipment that generates the most maintenance cost. Of the different pavement types in use, the concrete paving blocks is viewed as suitable for this terminal. Coincidentally, this pavement type is currently in use in the terminal, though very much in need of rehabilitation.
Table 5.1: Pavement Types (Suitability of Pavements for Different Operations taking into Account Cost Effectiveness & Performance)

Key: 1= Avoid if possible; 5= Reasonable solution; 10 = Recommended solution.

<table>
<thead>
<tr>
<th>Type of Operation</th>
<th>Asphalt</th>
<th>Conventional in situ concrete slabs</th>
<th>In situ fibrous concrete</th>
<th>Concrete paving blocks</th>
<th>Gravel beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container stacking</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Trailer parking areas</td>
<td>2</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Straddle carrier running lanes</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Straddle carrier marshalling</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Fork lift marshalling</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Highway vehicle marshalling</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>Mobile crane working</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Yard stacking cranes</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Maintenance areas</td>
<td>1</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>

(Source: UNCTAD, IPP2)

**Cost:** The depth of terminal to be paved extending from the existing container terminal quay to the adjacent general cargo quay Apapa port is approximately 583 metres. Based on the cost estimates provided below (UNCTAD, IPP2), an extrapolation of the cost for 400 and 200 metres depth is required to determine the cost of paving 583 metres, because the table does not provide for a depth of more than 400 metres.
Table 5.2: Land Reclamation and Paving costs. (Based on land-fill aggregates).

<table>
<thead>
<tr>
<th>Depth</th>
<th>Reclamation cost (US$-m)</th>
<th>Paving cost (US$-m)</th>
<th>Paving Maintenance (US$-m)</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>20.7</td>
<td>4.2</td>
<td>105.3</td>
<td>200</td>
</tr>
<tr>
<td>210</td>
<td>21.7</td>
<td>4.4</td>
<td>110.7</td>
<td>210</td>
</tr>
<tr>
<td>220</td>
<td>23.0</td>
<td>4.7</td>
<td>115.3</td>
<td>220</td>
</tr>
<tr>
<td>230</td>
<td>24.0</td>
<td>4.9</td>
<td>120.0</td>
<td>230</td>
</tr>
<tr>
<td>240</td>
<td>25.2</td>
<td>5.1</td>
<td>124.0</td>
<td>240</td>
</tr>
<tr>
<td>250</td>
<td>26.5</td>
<td>5.3</td>
<td>130.0</td>
<td>250</td>
</tr>
<tr>
<td>260</td>
<td>27.5</td>
<td>5.6</td>
<td>133.3</td>
<td>260</td>
</tr>
<tr>
<td>270</td>
<td>28.5</td>
<td>5.8</td>
<td>137.7</td>
<td>270</td>
</tr>
<tr>
<td>280</td>
<td>29.7</td>
<td>6.1</td>
<td>141.3</td>
<td>280</td>
</tr>
<tr>
<td>290</td>
<td>30.8</td>
<td>6.3</td>
<td>145.3</td>
<td>290</td>
</tr>
<tr>
<td>300</td>
<td>32.5</td>
<td>6.5</td>
<td>150.0</td>
<td>300</td>
</tr>
<tr>
<td>310</td>
<td>33.0</td>
<td>6.7</td>
<td>153.3</td>
<td>310</td>
</tr>
<tr>
<td>320</td>
<td>34.3</td>
<td>6.9</td>
<td>157.3</td>
<td>320</td>
</tr>
<tr>
<td>330</td>
<td>35.3</td>
<td>7.1</td>
<td>162.7</td>
<td>330</td>
</tr>
<tr>
<td>340</td>
<td>36.7</td>
<td>7.3</td>
<td>166.7</td>
<td>340</td>
</tr>
<tr>
<td>350</td>
<td>37.7</td>
<td>7.6</td>
<td>170.0</td>
<td>350</td>
</tr>
<tr>
<td>360</td>
<td>39.2</td>
<td>7.8</td>
<td>174.7</td>
<td>360</td>
</tr>
<tr>
<td>370</td>
<td>40.0</td>
<td>8.0</td>
<td>180.0</td>
<td>370</td>
</tr>
<tr>
<td>380</td>
<td>41.3</td>
<td>8.2</td>
<td>182.7</td>
<td>380</td>
</tr>
<tr>
<td>390</td>
<td>42.7</td>
<td>8.4</td>
<td>186.7</td>
<td>390</td>
</tr>
<tr>
<td>400</td>
<td>43.5</td>
<td>8.6</td>
<td>190.0</td>
<td>400</td>
</tr>
</tbody>
</table>

(Source: UNCTAD, IPP2).

Land reclamation will not be required in this case, as there is sufficient land.

Paving cost  = USD 12.8m  
Maintenance = USD 295.3m  
Total cost   = US$ 308,100,000
5.3: Facilities

**Information Technology:** This is an area in which Nigeria, like most developing countries is relatively poor. Defined as the paperless, electronic transmission, through telecommunications networks, of commercial documents in standard format directly from a company's computers to those of another company, EDI reduces re-entry of data, and thus, minimises human error. It enhances documentation quality and efficiency between business entities.

Unlike in parts of the developed world where EDI has witnessed rapid growth, poor EDI development in Nigeria is basically due to the problems identified by ESCAP/UNCTAD as being common to most developing countries:

- poorly developed telecommunications infrastructure.
- poor understanding of EDI and its role in the trading community. This also leads to a reluctance to change existing trading practices.

Nevertheless, there exists in Nigeria, a number of private EDI initiatives. The awareness of the uses of information technology in modern day businesses and the will to adopt its principles is gaining ground. This is evidenced by the frequent usage of "computerisation" in the business plans of both private and public organisations. It is currently a priority on the agenda of NPA and all ports are in the process of installing their respective systems. The only apparent drawback is a seeming lack of co-ordination between ports in order to have a common system. The consequence is a babel of activities with very little positive impact on the general efficiency of the port system. The customs are currently implementing the UNCTAD Automated System for Customs Data (ASYCUDA). Any efforts at linking the facility with NPA services is yet to be manifest.

What is required for the full benefits of EDI to be realised in the maritime sector is the implementation of a maritime information network, an interface integrating the data of the operators in shipping companies, agencies, freight forwarders, container freight stations, Customs, hauliers, stevedores and the Nigerian ports cargo handling and vessel traffic systems. A prerequisite for this scenario is the development of a port information network by the NPA. This requires as first step, the establishment of an
intranet system within the different ports, linking each pertinent department with its operators, allowing on-line processing of information and instructions. Secondly, the different ports spread along vast geographical distances but being under the same executive administration need to be linked by an extranet. What should emerge in the final stage is an integrated and standardised system providing information services in real time to users, with the port at its core. Existing examples of this proposal could be found in the Ademar system in Le Havre, Zhis in Zeeland seaports, Spark system in Malta port, and that of Aarhus port, Denmark.

**Costs** vary from about half to over **US$1,000,000.** It depends on the software type.

**Figure 5.4:** IT/EDI network.

![IT/EDI Network Diagram]

### 5.4: Institutional Modifications

**Operational/Administrative set-up:**

The statutes that create and guide it often dictate a port's role in the economy it serves. In most developing countries, ports can be found to be in a quagmire of contradictory policies. The UNCTAD studies on the Development and Improvement of Ports noted that a few of these issues could include being expected to generate
revenue and contribute to national budget, as well as play the welfare function of providing employment - leading to over recruitment.

Figure 5.5: The Proposed organisational Structure.

Executive Directors
Operations & Marine Services
Finance & Administration
Engineering & Technical Services

Port Managers
Container Terminal Port
Tin Can Island Port
Flt. Onne Port
Ro - Ro Port
Apapa Port
Port Harcourt Port
Calabar Port
Warri Port
Such is the case with the NPA, it is supposed to be autonomous while being very much tied to the strings of the government. It receives no subventions but pays dividends to the government - the only shareholder. Investment decisions have to be approved by government. The existing organogram as shown in chapter 3 is the result of much political and bureaucratic interference. Some offices are actually duplication of functions - influenced by the political need to have some interest groups represented in lucrative organisations across the country. It is the opinion of this study that either the Executive Directors' level or the General Managers' level be eliminated. The two levels are mere duplication of functions, adding to extra costs and lengthier bureaucratic processes. Alternatively, the two levels should be scrapped completely and the Port Managers be given greater powers to run the ports, reporting only to the Managing Director.

It is important that the port’s role be redefined towards greater autonomy, deregulation.

**Labour Relations:**

Poor cargo handling operations have negative repercussions on the maritime industry. The human element involved makes it a potentially volatile issue and when not well managed, represent a number of problems:

- an increase in port transit costs, if the port has no competitor;
- if the port has international competition, a diversion of traffics (as in the case of Cotonou and Lagos), and an impoverishment of port potentialities, which reflects on the port itself.

Prevot observed that as a consequence, ports must be able to solve two types of problems:

1. How to organise in the best possible way, handling operations according to the characteristics of its geo-political environment - status, state of the economy and competition.
2. How to be sure that the breakdown of handling costs between shippers and shipowners is done in such a way that the competivity of the port is preserved. (Prevot, 1998).
In 1996, a total of 51 stoppages were recorded resulting 53,172 lost man-hours. As a result of agitation carried out by the Dock Workers branch of the Maritime Workers Union of Nigeria.

A number of measures could be taken to check this problem, for instance, the mechanisation of handling operations. It has been observed that strike actions are less frequent in the container terminal than in general cargo ports in the country. This is largely due to the reduction in manning levels influenced by mechanisation. Studies carried out on French ports by Phillipe Prevot (1998) also revealed that while port handling constituted between 9% to 10% of the total sea - land transport cost for conventional cargo while it constituted only 5% - 6% for container.

Efforts towards reform could involve the consideration of providing dockworkers a sense of security through offering:

- permanent employment - the elimination of casual labour;
- training and the creation of an integrated gang system with multiple skills;
- guaranteed earnings - whereby the law creates a system that guarantees the Dockers a minimum amount of pay even when there is no work.

If well handled, this could result in dock labour reliability, increased productivity and the development of a harmonious rapport between employers and the unions.

Customs.

Port activities concerning ships and cargo are numerous and involve a varied number of procedures and actors. In most ports, the important procedures are usually administered by the customs. The statutory function of customs vary from country to country but they usually cover three main areas:

1. Fiscal: The collection of customs duties excise and taxes on goods or transactions.
2. Policing: To ensure efficient control of people, goods or services and to ensure compliance with stipulated regulations.
3. Economic: To facilitate international trade transactions in the interest of national economy.
Current trends in international trade have necessitated the growing emphasis on the economic role of the customs in assisting the foreign trade of their respective countries. A few of these factors earlier mentioned in the introductory part of this paper were:

- the general increase in world trade due to industrialisation,
- the extension and development of treaties and trade agreements,
- the standardisation of some customs procedures and/or legislation to cover a supra-national area,
- reduction of protectionism resulting in the lowering of customs barriers and the reduction/abolition of certain duties and taxes,
- the development and introduction of new technologies in communications and the processing of data,
- the realisation of the economic factor of the movement of goods between production and consumer: no stocks and “just in time” supply.

As ports evolve from the traditional functions of handling import/export and transhipment cargoes, customs activities also evolve to cope with the new economic and industrial developments. Reynolds (1998) observed that ‘...controls no longer need take place at the quayside but can take place in the factory. Customs are operating in “virtual” space with “normal” areas between their “virtual” bonded areas/warehouses where they no longer need to be permanently physically present’.

There exists a paradoxical relationship between the demands of new developments in international trading activities and the need for customs to effectively apply their traditional fiscal and control functions. The introduction of free zones is a typical example of a response to this dilemma. Another method currently favoured, especially in the EU is the interfacing of customs national computer clearance system to the port community network.

In this field, the Le Havre Customs have shown themselves to be the forerunners in experiments towards the simplification and anticipation, not only thanks to their own innovative spirit and their excellent relationship with the Le Havre port community, but above all thanks to the security provided by the EDI
data exchanged through the Havre Port services network. Indeed this communications forum and port community system is the first to be completely interfaced with the Customs data processing system of their country.’ (Reynolds, p.15).

Likewise, the New Swedish Customs’ business concept sums up the ideal scenario, in which they pledge to offer:

• flexible Customs routines within the framework of regulations for foreign trade,
• simple border passage for travellers and efficient border protection,
• We will constantly improve Customs routines in order to achieve the greatest possible public benefit and strengthen Swedish competitiveness,
• We will co-operate in our work with industry and other authorities.

‘The Swedish Customs has gradually developed the national computerised Customs Information System (TDS) and over 70% of Customs declarations are now submitted in a paperless form by electronic documents (EDI/DTI) to Customs. Further development of the computer system will provide for even more simplification in the future. Another very important task for the Customs is to prevent violations of the regulations’. (The Swedish Board of Customs).

This implies greater reliance on international co-operation on intelligence. The most important ingredient to the attainment of this situation is the eradication of irregular practices and corruption in the Customs. Considered the major setback to Nigeria’s development, this issue is not wholly within the control of the Port Authority. But the Authority can influence the process through the development and co-ordination of an efficient IT network for the port community.

Port Community
‘Ports have gone beyond their original vocation of simple frontier posts and have become complex economic areas. The necessities of commercial competition, the effects of world over-tonnaging, the intense research for efficient cargo flows, all mean an adaptability to new criteria: more competition between ports, a more aggressive commercial policy, the federation of the various professions into a single community. ...The port community must therefore concern itself, act as a catalyser, participate in
or initiate efforts to simplify all procedures affecting their overall performance and if necessary bring their weight to bear on, and/or directly influence their powers-that-be to ensure that only the minimum of procedures within the bounds of absolute administrative and commercial necessity are required. The survival of their port may depend on this one factor.’ (Reynolds,1998).

In this wise, it is recommended that the port board be composed of members representing a broad section of the community that is vital to the port and vice-versa. Representation should therefore cover the Chamber of Commerce, the government, the port users (ship and cargo interests), freight forwarders and trade unions - as it obtains in the port of Le Havre and other well advanced ports. A vital tool for the implementation of this project is the establishment of an effective information technology based on EDI designed with a feedback system to monitor the needs of customers and to enable quick response by port management.

5.5: Marketing Strategies.
The Nigerian ports area of strength in the West African container market lies in its cargo-generating capacity. Its main weaknesses are the institutional problems of:

- excessive government interference,
- the lack of consistent, comprehensive and a long-term, market-oriented development plan,
- corruption in the nation’s polity, and
- the lack of an efficient information system based on EDI.

All these negative attributes led to the diversion of a substantial quantity of Nigeria-bound cargo ports of neighbouring countries. Capitalising on the obvious strength of cargo generation and the prospect of growth envisaged with the new political dispensation, strategic plans should cover feeder service development, inter-modal links facilitation and the building of infrastructure to serve the needs of valuable customers, like cargo distribution and consolidation centres. Improvements in the quality of cargo-handling service should also be given priority.
**Feeder Services:**

This paper advocates small beginnings for the development of transhipment operations using local container traffic. 40% of Nigeria total container traffic pass through other ports in the country. The proposal is for deep-sea vessels to discharge all containers destined for Nigeria at Apapa port where it should be transhipped by local feeder vessels to other ports. On the out-bound leg, export containers could also be consolidated.

**Figure 5.6:** Lagos as Hub for Other Nigerian Ports.

The port in association with the Nigerian ship-owners and shippers' council could initiate this. The Calabar Export Processing Zone is the main focus of this operation as a potential cargo source. 300 to 500 TEU vessels like the National Unity Line’s M/V Abuja and those of private operators could take advantage of the shallow draft of the Calabar channel to feed deep-sea going vessels at Apapa. In an optimistic scenario, they could even venture into Doula in Cameroun if their services prove competitive. Of course this would have to be in concert with major global carriers patronising the route.
like Maersk, CMBT and Delmas, as they will eventually have to subsidise the operation.

Table 5.3: Distance Between Lagos and Other Nigerian Ports.

<table>
<thead>
<tr>
<th>Route</th>
<th>Distance (km)</th>
<th>Time (Days &amp; Hours)</th>
<th>Voyage Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagos - Port Harcourt</td>
<td>311</td>
<td>0 day 22hours</td>
<td>2183</td>
</tr>
<tr>
<td>Lagos - Calabar</td>
<td>391</td>
<td>1 day 4 hours</td>
<td>2777</td>
</tr>
</tbody>
</table>

Source: Venon Distance Tables.

**Intermodal Services Development:**

With specific reference to the railway service, the example of the French port of Le Havre is considered an enviable model. Using the statistics of the origin and destination of cargo in port, the Port Authority could invest in the ailing Nigerian Railway Corporation with a view to resuscitating the freight traffic and expanding the port’s hinterland. In its deteriorated state, the only operational track that still contributed to container freight traffic was the Lagos - Kaduna route. The major shipper being the Peugeot car Assembly plant at Kaduna. It is usually a one-way traffic from Lagos with CKD of car parts to the assembly plant at Kaduna via the Inland Container depot. Railway track coverage still lay on a north-south axis - a legacy of colonial administration that lay the tracks for the purpose of linking the ports in the south with the major agricultural production centres in the northern hinterland. This study is proposing the laying of more tracks to cover the East-West axis and a further expansion in the north to cover new industrial and agricultural areas.

One of the major setbacks of the Calabar Export Processing Zone is that it is not rail linked. Despite the incentives designed to tempt investors, the project is yet to fully take off. The is partly because the dredging work aimed at accommodating deep-sea container vessels is yet to be completed. Besides that, a substantial cargo base is yet
to be established. Container vessels may still not find it attractive enough to make
direct calls even after the dredging work is completed. The siting of the Export
Processing Zone in Calabar was necessitated by the need to find employment for the
hitherto, under-utilised port. But this was done without consideration for the factors
that determine ship traffic.

The Export Processing Zone (EPZ), could still be a success if as a cargo
consolidation and distribution centre, it is rail-linked. This could provide the flexible
option of linking other ports by rail when local vessels do not find the economics of
operating feeder services viable.

An implication of this situation is that the government will have to fully involved, while
the port will have just as well invest in the rail industry like in the case of the port of Le
Havre.
Figure 5.7: Nigerian Railway Tracks Network.


Warehousing:
The statute governing the existence of the port entrusted in its custody a vast expanse of land - often situated adjacent to the ports. This study is proposing the utilisation of such currently under-utilised land for the development of warehousing and logistic facilities specifically designed to meet customer’s needs. Needless to say, it should be complemented with the creation of an “infostructure”.

5.6: Economic Contributions of the Project

To make a meaningful analysis of the costs and benefits of a port investment such as the type required in this study will entail an evaluation of the projected streams of
costs and benefits and a comparison with the initial capital outlay. But the reliable details of the inputs required to make the analysis are lacking in this study. Any attempt at a commercial analysis will therefore, only involve a simple payback based on rough assumptions on what the capital cost of the project might be. Reliable statistics on the port’s revenue is not easily accessible. For instance, the average revenue of the container terminal is put at an average of US$ 6,000,000 annually at its current level of operation. Details of operating costs are however not available. A commercial analysis of the project will therefore not be conducted. But an assessment of likely economic benefits to the port, the users and the nation will be highlighted.

**Benefits to the Port:** The increased economic activity will invariably yield additional revenue from dues on higher frequency of ship calls and increased ship sizes. This also implies an increased net cargo handling revenue, and additional rental of land made possible by the increased industrial and logistic activity expected around the port.

**Benefits to the Users:** Being a transhipment port ensures an increase in the out of port-user industry made possible by port investments like the Export Processing Zone of Calabar. Besides the assurance that the port’s facilities will be highly utilised, savings are expected in ship’s operating cost arising from scale economies. Savings in inland transport cost are also expected.

**Benefits to the Nation:** The resuscitation of the railway is expected due to the port’s investment in that sector. Likewise the development of the feeder service industry that should arise from the project is expected to boost the level of economic activity. The country’s local shipping tonnage that cannot participate favourably in deep-sea shipping will find gainful employment in feeder operation.
Conclusion:
Several operational and economic factors are found to be militating against the establishment of hub operations in the West African region. As matters stand today, Abidjan seems way ahead in the competition because of its stable political and operational atmosphere that is suitable for foreign investments. Of the World Bank’s assessments of obstacles that plague business environment in developing countries, a substantial number apply to Nigeria, a few of which are:

- rigid national regulations
- corruption
- policy and political instability
- inadequate supply of infrastructure.

Despite Nigeria’s impressive credentials of cargo generation, the “human factor” has been identified as its major undoing in the quest for being a regional hub. Other opinions on the issue claim that:

‘...with the region’s shipping currently dominated by the French, it was unlikely that Nigerian ports would be patronised even if it did not have the problems stated above. The natural inclination of French ship-owners to patronise Francophone Cote d’Ivoire, addition to whatever distinction it possesses, would work against Nigeria as a regional load centre.’ (Iheduru, p.10).

But in a world that is increasingly business-oriented, economic reasons should outweigh all other factors. It is the opinion of this study that where the Nigerian port is efficient in line with shipowners’ requirement, hub operations could just as well be sited in Nigeria when the need arises.

A 10-year container traffic forecasts for the country was carried out by this study, using a “best case” and a “worst case” scenario as well as an exponential growth forecast based on the determined 3-year average growth of 16.5%. While the exponential growth predicted a phenomenal growth of over 1 million TEU in 10 years,
the more realistic best and worst case scenario (5% and 2% respectively) placed the traffic at a high of 500,000 TEU and a low of 350,000 TEU. In either case, the Apapa terminal still handles about 70% to 80% of total traffic.

The Nigerian ports is still being practically run as a public service in spite of the commercialisation decree that accorded it autonomous status. And while the country is currently experimenting with its new-found political dispensation and struggling to get its economic act together, it is considered prudent to invest in projects that will upgrade the port for the following reasons:

- Shipping like all human endeavours is dynamic. Forecasts and expert opinions on many issues over the years have been found not to be infallible. Where investments in infrastructure are carried out at great capital cost with little traffic to justify the investment, the strides towards the attainment will generally improve the general efficiency of the striving port.

- Where traffic trends in the past do not justify the contemplation of such intensive projects, reasons could be found in the un-quantifiable hope that the region's improving political situation will spur economic activity in the near future. The region's political volatility is another important justification for the consideration of more than one port to serve as hub - in the event that the chosen hub is impaired due to any unforeseen reasons.

- Counter to the caution being expressed against the rush to invest in transhipment projects, it should be noted that the attraction of ship traffic is like the proverbial history of the chicken and the egg. While there should be an assurance of ship traffic to justify investment, the ports on the other hand need an accredited reputation of efficiency before ships can be attracted. In this case it would be wise to invest beforehand. In support of that argument, Ma, (1998) notes that;

  ‘… to overbuild may add only a few dollars, at most, per ton to freight cost, but to underbuild may cause congestion leading to additional cost of $100 per ton ... A port whose investment lags behind the demand will certainly hold back economic development, at least in the local region; but a port that invests ahead of demand may only slightly encourage development. In a competitive situation, early and substantial port investment can make a very large difference’.
Recommendations:

- It is considered in this study that perhaps the focus of the project should change from the mere attainment of hub status to a transformation of the port into a third generation port. Fulfilling the requirements to be considered a third generation port naturally implies having the qualities that will attract transhipment traffic.

- Infrastructure development is important in improving port quality, but it is by no means the most important. Perhaps the most important is institutional - the human factor. Manning the maritime industry with the qualified personnel will pave the way for a lot of improvements.

- It is obvious that divestment of government interest from the port operation is vital in order to lead to a practical autonomy for the port.

- The integration of pertinent national economic and industrial interests in port development, through the creation of a dynamic port community is also a pre-requisite for becoming a customer-oriented port.

- It is inevitable that the port will have to encourage private participation, and in some cases, outright privatisation of some of its activities.

- Investments in inter-modal network development and the establishment of a dynamic information system based on EDI are important foundations. Government support for the project is important because most of these factors may be beyond the control of the Port Authority. But in a country where a comprehensive and consistent maritime policy is lacking, the onus is on the Port Authority to sensitise the government to the needs of the port industry. This implies that the Authority management may have to be erudite and persuasive through well documented facts based on trade statistics about the negative effects of government policies on the port. This also means that the port will have to first of all, put its house in order.
The port Authority should concentrate on making the port of Apapa a hub/load centre for the other Nigerian ports. This could serve a practice session allowing the port to polish its skills towards regional hub status. The port Authority should however, take the initiative in co-ordinating the project between the major shipping lines, local ship-owners, shippers and the government.

With so much emphasis on containerisation, it may be wondered what becomes of general cargo trade destined for Lagos ports if the proposal to convert much of Apapa is implemented. It should be borne in mind that there are two ports in Lagos, Apapa and Tin Can Island ports, with a combined annual capacity of 15 million tonnes of cargo. The proposal is, for Tin Can Island port to specialise in general cargo while a large part of Apapa will be dedicated to the handling of containers. Despite the proposed conversion of 5 general cargo berths to container, Apapa would still possess 10 berths (1 to 8, 19 and 20) with a quay length of 1500 metres. These could still handle a mix of dry/liquid bulk, and general cargo traffic. Tin Can Island port should handle the bulk of general cargo and Ro-Ro traffic. While some strain may be put on Tin Can Island port, the operational system will need an overhaul. The ports currently have no quay cranes - having all been scrapped, and awaiting replacements. Emphasis should be placed on purchasing equipment capable of high speed loading/discharge of bagged cargo - rice, sugar and fertilisers being the main constituents of the country’s imports.
BIBLIOGRAPHY


APPENDIX 1

NPA Departmental Memorandum: 24-hour Port Operations

NIGERIAN PORTS AUTHORITY

DEPARTMENTAL MEMORANDUM

TO: As Under

FROM: General Manager, Marketing

DATE: 6th May, 1998

OUR REF. RG/ADM/OP/8.2

SUBJECT: RE: CANCELLATION OF WEEK DAYS OPTIONAL SERVICE REQUESTS

Arising from the Port reforms of Federal Government of Nigeria and the subsequent National policy on twenty-four hours (24 hrs) service in Nigerian Ports, Management of Nigerian Ports Authority hereby directs as follows:

(a) With immediate effect, optional service requests during week days are hereby cancelled.

(b) Optional service requests during weekends and public holidays are still in operation.

This amendment must be given wide publicity amongst port users and the Workforce of Nigerian Ports Authority at the port level.

F.T. Onwosho
for: General Manager, Marketing

Distribution

Port Manager, LPC
Port Manager, Container Terminal Apapa
Port Manager, TCIP
Port Manager, Bonny Port
Port Manager, PH
Port Manager, Warri
Port Manager, Onne
Port Manager, Calabar

Chief Port Marketing Officer, LPC
" " " " C.T
" " " " TCIP
" " " " ROBO
" " " " PH
" " " " Warri
" " " " Onne
" " " Calabar

Chief Port Internal Auditor, LPC
" " " " CT
" " " " TCIP
" " " " ROBO
" " " " PH
" " " " Warri
" " " " Onne
" " " " Calabar

Chief Port Statistician, LPC
" " " " CT
" " " " TCIP
" " " " ROBO
" " " " PH
" " " " Warri
" " " " Onne
" " " Calabar

Traffic Manager, LPC
" " " " C.T
" " " " TCIP
" " " " ROBO
" " " " PH
APPENDIX 2

NPA Departmental Memorandum: Approval for Night Pilotage

NIGERIAN PORTS AUTHORITY

HQ/ALL/ EU/NO/OP/S.1/4
17th November, 1997
ACE Shipping Companies/Agents

APPROVAL FOR NIGHT PILOTAGE IN NIGERIAN PORTS

1. Federal Government in recognition of the need to derive maximum benefits from Nigerian Ports has granted approval for the commencement of night pilotage within the nations navigation channels.

2. The aim is to facilitate the smooth take-off of vital Federal Government projects such as the INO, Eleme Petrochemical, Oil & Gas Free Zone etc. as well as to ensure quick turnaround time for vessels calling at our ports.

3. However, in granting this approval, the government has deemed it necessary to balance the economic benefits with the security imperatives in order to maintain conducive atmosphere necessary for our operations.

To this end precaution is advised as follows:

a) Naval Units/Military Ports Commandants (MPC) should be informed well in advance about night pilotage/stevedore activities.

b) Movement of cargo out of the ports in the night must be in accordance with security checks as advised by naval units.

All concerned are advised to comply accordingly.

MALLAM B. I. GRANDIU
FMR. CHAIRMAN

SIGNATURE:

Port Manager, LITC
Port Manager, ILP
Port Manager, Roro
Port Manager, CT.
Port General, Quay
Port Manager, PH.
Port Manager, Onne
Port Manager, Calabar

CITIM/TM/TMELIT/TMELIT/CMIT/

For information pl.

CITIM should submit circular to all Shipping Companies and CAC.
APPENDIX 3

Questionnaire

The consideration of Lagos container terminal as a hub/load centre for the West African region.

COMPANY NAME: (Optional)

This exercise is in recognition of the fact that the establishment of a Hub and Spoke operation in any region of the world is ultimately dependent on the patronage of ship operators. Realising that the trend is catching on worldwide and that West Africa may be affected, your contribution towards the assessment of this phenomenon through this questionnaire is vital.

You are hereby assured that any information volunteered here will be treated as confidential and used only for an academic dissertation. Where the space provided is a constraint, additional answer sheets could be attached.

1) Do you find the channel and quay depth of the Lagos container terminal suitable for accommodating Hub/Load-centre operations for the West African region?

   a) Yes
   b) No
2) If your answer to question 1 is no, what would you consider to be the appropriate draught?

__________________________________________

3) Do you consider the container equipment supply of the terminal adequate?

__________________________________________

4) Please state the kind of equipment you might need in the terminal to facilitate your operations.

__________________________________________

5) What percentage of your annual container traffic to West Africa is attracted/generated by Nigeria?

__________________________________________

6) What percentage of the traffic discharged at other West African ports is actually Nigeria-bound? (Please give an estimate)

__________________________________________

7) How would you rate the performance of the Nigerian ports Authority as a terminal operator with regard to the container terminal of Apapa.
   a) Very poor
   b) Poor
   c) Fair
   d) Good
   e) Very good.
8) What specific services of the port need to be improved urgently?

9) The documentation and information system of the port in relation to the standards of other West African ports could be seen as:
   a) Very poor
   b) Poor
   c) Satisfactory
   d) Good

10) What suggestions would you proffer in order to improve the situation?

11) Please state your views on the current Nigerian port authority container tariff system, vis a vis the existing situation in other West African ports.

12) What do you consider to be the dock labour quality?
   a) Poor, (b) fair, (c) barely tolerable, and (d) good.

Any other comment:
13) How would you describe the relationship between ship operators and the Nigerian Ports Authority?

14) What is your assessment of the Nigerian Customs Service relationship with the ship operators?
   a) poor
   b) fair
   c) could be improved
   d) good
   e) Any additional comments:_____________________________________________________

15) What are your views on the prospect of privately operated container terminals?

16) Given the opportunity, would you like to operate your own terminal in Lagos port?
17) Would you consider investments in infrastructure by the Port Authority sufficient to warrant the commencement of hub operations in Lagos container terminal? Please, freely express any reservations you might have on this issue).

18) To what extent will the establishment of hub/load-centre operations in Nigeria help in reducing container freight on the Europe-West Africa route?

Thank you for your kind co-operation.