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Project Management in the Shipping Industry

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Abstract
Every individual and business depends on shipping industry,shipping industry is the movement of people,raw material and finished good. Although the shipping industry provides the link between tourism generating and destination region the industry's role as an agent in destination development has been largely over looked. If the ability of tourism to travel to preferred destination is inhibited by inefficiencies in the shipping system there is some likelihood that they will seek alternative destination. Containerized shipping is of paramount importance to the development of Nigerian economy, hence, the need for logistics and port development in our seaports. With reference to Apapa port, which is Nigeria's largest port in containerized shipping. However the port is being saddled with inadequate transport infrastructural development that undermines its potentialities. The study, through qualitative and quantitative approaches, has proposed logistics infrastructure at which the congestion could be reduce, as well as, the port realizes its full potentialities within the framework of business investment for the country. The study recommends amongst many other that the concept could only be realized through Private Finance Initiatives (PFI) that incorporates societal marketing principles. This will promote the use of intermodality and offer increasing range of services to prospective customers, consequently, encourages synergies between the ports and various industrial area within geo-political zones in the country, which will equally be incorporated in policy making at both port and national level.

INTRODUCTION

THE CONCEPT OF CONTAINERIZED SHIPPING

As technology advanced to the point where increasingly heavier loads by handled easily and quickly, material handling "shifted" paradigms traditionally, packaged goods were received at the terminal by dockworkers who loaded the packages on hand trucks and trundled them to the place of rest to await moving to the ship's side.

The individual packages were stowed by hand in the appropriate spaces in the ships. The whole operation was infinitely laborious and consumed much time for which the ship was not paid, for ship earns money only when at sea actually moving cargo from one point to another.

The great expense of this activity was always of major concern to senior executives, terminal managers, stevedore superintendents, and ships officers, and over the years many suggestions were offered to improve the traditional practices. There was, for instance, the logical proposal that cargo piled on pallet-boards should be strapped to permit each loaded pallet to be placed aboard ship as a single unit. Out of this concept of utilizing cargo developed the thought of placing certain types of cargo, especially fragile items, in large boxes that would be transported to the overseas destination without rehandling the contents.

Containerized shipping of goods dates as for back as 1911. then, several commercial enterprises engaged in the packing, crating, and shipping of household goods began to stow these valuable items in heavy steel boxes for intercity movement by rail overseas shipments of household goods in these steel boxes was occasionally accomplished, but in each case shipment was a matter of series of disconnected movements arranged for and supervised by the shipper. As for the carriers, the container was nothing more than an oversized and sometimes excessively heavy unit handle as any other package would be. The number of these shipments in containers was small and cannot be considered as anything more than a minor part of conventional break bulk carriage.

About 1935, the forklift was introduced to the marine terminal. Its use required that packages be piled systematically on a pullet so won by the proponents of 20 and 40 foot units, and most of the containerships built today are designed to accommodate either or both sizes.

To aid in the identification of containers, each container has a unique alphabetic number. The name of the owner is encoded in a four-letter system proceeding the number. The codes are generated by Paris-based organization Bureau International des containers and are known as BIC codes.

Besides, being built in various sizes, containers are designed to accommodate a variety of cargoes. There are dry-freight containers for the conventional cargo, dry-bulk containers for grains and other similar cargo, tanker containers for liquid-bulk cargo, refrigerated/insulated containers for perishable cargo, flat-rack

and open top containers for odd-sized cargo or cargo that weeds special handling, garment containers, livestock containers, automobile containers, and chemical tank containers for specially chemical cargo.

PURPOSE/AIM OF THE STUDY

Sequel to the problem, the study intends to contribute to containerized shipping in Nigeria by:
Ensuring that the flow of containers across the country coincide with the routing of containerships, since containers do not spend all their time onboard ships. Containers need to be picked up and delivered at inland locations the moment they arrive at our port. In this regard it is to ensure that at every location, enough empty containers are available so that all transport requests from customers can be satisfied.

Besides, the economic contribution of containerized shipping to the country's gross domestic product (GDP) is also considered. Some West African countries like Benin Republic and Togo containerized shipping contributes more than 50% of these countries GDP. If this sector is properly funded, this could be another goldmine for Nigeria. With the recent concessioning of Apapa container terminal to APM terminal, the company saves the country 240 million dollars annually (The Spectator, December 26, 2008).

The study is further aim at curbing perennial congestion at the container terminal ports. This has affected freight charges, cost of port operations, and negative effects on our general economy. Operations of containers vessels at the container terminal in Apapa have slowed down significantly due to the extreme congestion effects of the terminal yard space.

This is causing serious delays in the liner carrier networks, causing cost to increase and even freights for vessels calling at Apapa and other ports in the country (The Punch Friday, September 26, 2005). It is interesting to mention that each of the Geo-political zones in Nigeria has inland container depots (ICDs) as a measure to decongest existing ports and to balance industrial development in the country.

SCOPE OF THE STUDY

The scope of the study will centre on containerized shipping and with emphasis on its contribution to the Nigerian economy. This study hinges on five basic area;
Port Congestion: Port congestion connotes an abnormal situation in terms of operational functioning in which the container port witnesses a kind of stampede or clog at its various segments of operations, such as the quay side or apron, berths area, stacking areas etc (Ndikom, 2006). This has always affected ships and berthing performance thereby affecting the over all ports performance at the end.
Economic Impact: Containerized shipping has become an integral port and an indispensable tool of international trade and shipping. The extent of revenue accrued to government, cargo owners, shipowners, carriers, etc for out-weighs that in a loose system.
Container Terminal Port:-This accommodates cargo that has been loaded in to containers for transportation in containerships They have very large open areas known as container yards (CY) and Specialized container handling equipment.
Intermodality: Intermodal transport in basic terms is about utilizing more than one mode of transport
In the transport Chain that is,, combining truck, rail and sea transport in one chain from the point of origin to the point of delivery.
Inland Container Depots (ICD): This could be a store house for storing metal containers that are transported from the sea, to the interior (hinder land) of a country. It is interesting to mention that each of the Geo-political zones in Nigeria has Inland Container Depots (ICDs) as a measure to decongest existing ports and to balance industrial development in the country.

SIGNIFICANCE

The importance of containerized shipping contribution to the Nigerian economy is quite enormous. This study will be of great si5nificance in the following ways:

It will help container terminal operators in good planning and control system of the ports.

It will also help the government to see the need in developing inland container depots (ICD) as a paunceu to port congestion.

It will be of great benefit to the country to ensure it

LITERATURE REVIEW

HISTORICAL BACKGROUND

The concept of containerized shipping was introduced in Nigeria as far back as 1975 by members of the United kingdom West Africa conference liners (UKWAL). Members of the conference were Elder Dempster, Palm line, Hoegh line, Black star, and Nigerian National Shipping Line (NNSL).

They established a joint container company, called African container express Ltd. NNSL vessels like Mv Dan Fodio, Mv Oranyan and Mv King Jaju more involved in lifting the aboutable containers, as there were

no special bugs or storage position on vessels of that early storage.

Following the quick turnaround of vessels, the members of Uk West Africa conference moved to the next storage of running combo vessels (container/break bulk vessels) like Mv River Majiduu and Mv River Guraru vessels were then loading 30% containers and 70% break bulk cargoes.

In 1979, following the success of the operation, Elder Dempster, lending other members of the United Kingdom West African conference liners (UKWAL), established inland container depot in Kano, with the National Insurance Corporation of Nigeria (NICON). The Nigerian Railways carried the containers with 'through bill' of loading to Kano.

TRADE AND TRENDS IN CONTAINER SHIPPING

The container shipping industry is one of the fastest growing segments of the domestic and international logistical systems. International container volumes have increased from 47 million TEU (twenty foot equivalent units) to over 140 million TEU in the period from 1997 to 2007. This implies an annual average growth rate of nearly 10% per year.

North America is the third largest importing market for containers (at 21 million ten) following Asia (40 million TEU) and Europe (30 million TEU). The transpacific trade routes have the highest trade volume (22 million TEU at 10% average growth rate), followed by Far East trade, but reached 18000 TEU for Europe/Asia trade. They indicate that as larger containerships are adopted, they are first adopted for Europe/Asia routes, then adopted for transpacific routes, then adopted for Americas/Africa or intra Asian trade routes. They also indicate that as containership speeds are also increasing.

Goa developed a two stage model to determine optimal container fleet size minimizing capital and operational costs of containers while considering leasing options, devanning times at ports (assumes these are fixed by port, i.e. a port is able to devane containers at a fixed time continuously). The model first computes least cost flows, then linear programming model is used to adjust flows so that supply and demand of containers are equalized. He shows a couple of examples and list references that had modeled prior fleet sizes (money of which assumed fleet size was fixed and only look at optimal allocations).

Cullinane and Khanna quote Pearson (2001)) indicate that as ship size increase, total ship costs at sea per ton or TEU decrease. And the efficiency of a ship is closely related to total time spent on that voyage. Thus, they point to Jansson and Schneer (2005) who indicate that with increases in ship size, "economics of ship size are enjoyed at sea and diseconomies of ship size are suffered at port". Given the current trend, companies making investments believe that economies of sea travel exceed value of diseconomies at port. Comparisons between different ship sizes are complicated by different vessel specifications, operational standards and accounting methods.

Besides the trend towards larger ships, there are two other note worthy trends. The first is a rather significant design change – constructing containerships without hatch containerships without hatch covers. This allows for faster discharge and loading, and it allows some added flexibility in the sequence with which containers are worked.

THE INTERMODAL TRANSPORTATION CONCEPT

Intermodal transportation is defined as a systems approach to transportation in which goods are moved in a continuous through-movement between origin and destination using two or more modes of transportation in the most efficient manner. However, current emphasis is on the container as the package of choice due to its convenient interchangeability (Kandall, 2005). The purpose of intermodal transportation is to give shippers those routings that will result in the fastest and least costly carriage of their goods.

Sequel to the above, it is rational to understand that intermodal transport is part of a supply demand chain, the transport company supplies the demand by offering transportation resources.Inland shipping should be fully integrated into door-to-door transport services. The further development of freight intermodality should have beneficial effects on the mode. However, integration of this type is only possible when the individual modes, such as shipping are constantly developing to meet the services, requirement of the customers (Somuyiwa et al, 2007).

Rail service in Nigeria is the sole responsibility of Nigeria Railway Corporation. Ideally, rail offer a diversity of special services to the shipper, ranging from the movement of container from the water-front to the inland container depot (ICD). This is more important, especially when one considers issues such as congestion and environmental effects (external effects and impact of road based transportation). The above solution is favorable compared to sea/rail/road alternative when considering serving inland container depots in the counting.

Trucking in contrast with rail, trucking is a transportation services of semi finished and finished products in container in most Nigeria roads. Also trucking moves freight with smaller average shipment sizes than rail. The inherent advantages of trucking are its door-to-door service such that no loading and unloading is required between origin and destination. Like rail, there are problems of poor roads and frequents mechanical

problems as a result of inability to make periodic maintenance, due to leading to traffic congestion along the road.

Water mode of transportation has very large carrying capacity and is permissive to ecology of the environment. However, the situation in Nigeria is only been used for passengers transport. There are many navigable Rivers in Nigeria that includes: Rivers Niger, Benue, Hadejia and many others. For this reason, the federal government has recently awarded the contract of the dredging of River Niger so as to linking with the Hinterland (like Onitsha). They are linked to one another with little technology; water transport if well explored will make the country to realize their dream of being the maritime hub of Africa (the punch 21st May 2007).

Fast cargo handling procedure an accommodating railway and the Highway, running from Klaipeda-Kaunas-Vilnius-Minsk-Moscow (Corridor 9) from a reliable transportation sea/rail/road links between western Europe and other countries of the world, particularly the Baltic Republics, Ukraine, Kazakhstan and Russia Again, ports in Mekong Delta-Hochiminh city (Cantho port and New port) vietnam transporting container by truck is more expensive than by barge about 16%. Another notable example is the port of Lillie, which is one of the main inland ports in France that can handle large flows with its sizeable storage capacity (Soumuyiwa, 2007).

ECONOMIES OF SIZE IN CONTAINER SHIPPING

Economies of sizes in ocean container shipping have been the focus of several studies including Cullinan and Khanna (2004). Harrison and Figgliozzi (2006), Gao (2004) and Lim (2005). Lim provides or general discussion of impacts of increasing ships size in an effort to capture economies of scale for containers ships. As ship-owners increase ship sizes, rates have drop more in costs due to over building ship-owners (i.e. rather than limited ship-owners building larger ships, he argues too many ship-owners add larger ships beyond what industry supports). The result of firm's response to economies of size is to provide or direct subsidy from ship-owners to shippers and consumers.

The Tioga group (2004) indicates an increased trend towards larger containerships. Currently, the largest containerships being delivered to shipping lines are 13000 + TEU. Expectations are for sizes to increase to 12,000 TEU for transpacific and transatlantic to Europe (17million TEU at 12% average growth rate) and distantly the Trans Atlantic route (6million Teu at 5% growth) in 2007 and then domestic growth route (Notteboon, 2005).

North America is also a large container exporter. Over one-half of its exports go to Asia and this trend has been forecast to continue (Drewry). However, North America imports more containers than it exports and forecasts for growth in US container trade are greater for imports than exports

As container values have continued to grow, so has the pressure on container terminals to increase the speed and therefore efficiency at which container handling operations are conducted. The burden for this is borne by the development of more sophisticated cargo handling facilities and more efficient in port container management practices, since the terminal itself is prone to congestion at the giving face, terminal gate and at the interchange to rail transport.

Yard space is also own important consideration and may in certain ports be our overriding concern. (Drewry, 2006). It should be noted that the improvement of port facilities is an extremely capital intensive operation and therefore one which an operator will embark upon if they foresee a positive net present value for the project.

At present massive increases in Chinese imports and exports have driven a dramatic increase in the need for shipping services and this is reflected in increasing volume of container traffic.

The ports of mainland china handled, 11million TEUs in 2003, 48million TEUs in 2003 and in 2006 60 million TEUs. This made the mainland china become the largest container shipping market for the first time. In addition, both Shanghai and Shenzhen joined the mega – port league of over 10million TEUs throughputs. China ministry of communications had a forecast last year that the country's container port throughputs would reach 100million TEUs by 2007.

Plus those handled in Hong Kong, whose 20 million TEUs annual traffic were largely transshipments for Peal Delta area in southern china, china accounted for nearly one fourth of world total container throughputs of 280million TEUs. As a result, on the two most important container trades from Asia to North America and to Europe, mainland china and Hong Kong take account of over 60% and 50% of market share respectively (World shipping submit 2004).

THE ECONOMICS OF CONTAINER SHIPPING

Much literature has addressed the issue of the economics involved in containerized shipping. Van de Voorde (2005) examines the process of unitizing merchandise in container was a logical step by carriers in their search for more economical ways to handle cargo. This technique had several advantages: (a) Pilfering the individual package was more difficult. (b) the time required to check the condition of individual cartons was reduced (c) stowage in and breakout from the ships hold was more expeditions and efficient; (d) the cargo operations could be carried out in almost any whether and (f) individual packaging costs were less.

Robinson R. (2006) is of the view that container shipping, the task of stuffing and stripping the

container was transferred from the carrier to the shipper and consignee, thereby reducing significantly the ship-owners cost check the condition of cargo when received and delivered. Additional benefits in which all parties shared were the allocation to the shipper of responsibility for proper storage of goods in the container, a marked reduction in the total transit time from warehouse to warehouse, and the elimination of money re-handlings of the merchandise.

Grahoman M.G. (2006) points out clearly that handling individual package of merchandise in the marine terminal before placement aboard ship and after removal from the vessel represents a major portion of terminal expense. By transferring this process and its associated costs back to the shipping and consignee of the goods, the ocean freight rate could be restated (Kendell 2001). Containerization saves times by having cargo brought to the ships side in boxes that could be loaded directly into the vessel. The benefits to the ship owner of the shortened story in the port having already been delineated. To the shipper, the reduction of the time needed to deliver the goods to the ultimate consignees meant receiving payment with less delay (Heaver, 2005).

The operation of the modern, well-outfitted container terminal required fewer dockworkers, checkers, and equipment but remained a major item of ship-owners cost because if the large number of expenses machine needed to handle the containers straddle carriers, very high-capacity forklift trucks, mobile cranes and similar equipment were indispensable. Their operators, being especially skilled, commanded premium wages (Notteboon, 2005).

SUMMARY

From the review of literatures, in container shipping industry is considered the fastest growing segments of the domestic and international logistical systems. With the growth in cargo generation over the years, containership sizes and speed have also increased considerably.

Sequel to this growth, intermodal transportation of goods in fastest and least cost effective way have also evolve. In reviewing the trends that support the growth of intermodalism (rail, road and water), it must be noted that the ocean carrier has come to depend increasingly upon supporting activities and various third portions doing business in cities far inland.

RESEARCH DESIGN

The study adopted qualitative paradigm approach in its methodology. This stems from the fact that this type of research produces findings not only arrived by means of quantitativeness, but by Heuristic concept. Nevertheless, descriptive statistics like graphs, charts and tables were adopted to reflect pictorial representation of the situation as contained in data collected.

Suffice it to stress that mixed method procedures that constitute on expounding field within research design adopted (Creswell, 2003). They are often used in social and human science, especially the concurrent triangulation strategy that is best suited for this project. The original term triangulation refers to a survey/nautical process in which points (and their angles) are used to determine the unknown distance to a third point (Tashokkon and Teddlie, 2000).

The scope of the population of study will be Apapa port which is the largest container port in Nigeria and with emphasizes on congestion reduction through improved rail and inland water ways revitalizations within and around the port. Again, the study is predicated on development of Apapa container terminal through port reform within the context of logistics/intermodal infrastructure provision, such that water, rail and road modes of transportation will function in an integrative manner that will ultimately provides solutions to the research questions.

SAMPLING DESIGN AND PROCEDURES

Again, mixed method, triangulation is selected when a researcher uses two (2) different methods in our attempt to confirm cross-validate, or corroborate findings within or single study (Creswell, 2003). It is interesting to note that the results are usually integrated during the interpretation phase, as reflected in the course of this project. Service choice among the user of transport has a wide range of services at their disposal, all-revolving around the four (4) basic modes (water rail, truck and air).

DATA COLLECTION

The primary data for this project were collected through observation, measurement and document review. It is pertinent to stress that the purpose of the data collected through the above mentioned way, is to examine the potentials of available logistics infrastructure within the context of intermodal handling (transportation) of container transport; consequently, there will not be measurement of intermodal parameters in monetary terms.

PRESENTATION AND ANALYSIS OF DATA

Transportation of containers at Apapa port, there is no general accepted definition of the terms intermodal or

combined transport. There is however, a general agreement in all definitions that intermodal transport constitutes a transport process in which the following conditions must be fulfilled.

Two or more different modes (lorry, train, barge, ship, plane) are deployed.

The goods remain in one and the some transport load unit for the entire journey.

To further access the impact of container shipping vis-à-vis intermodal transport the following parameter was considered:

No of total vessels called at port

Total no of inward cargo (containers)

Total no of outward cargo (container)

Total no of containers blocked stacked at port.

No of days at port

Total no of inward cargo (containers) moved to inland container depot by rail

Total no of inward cargo (containers) moved to inland container depot by road.

Average no of days storage before lifting

Average no of days for inward normal cargo oil port

Average no of days for outward normal cargo at port

Total average no of containerized cargoes diverted to other weight burring ports of Lome, Cotonou and Tama (Ghana).

Relating intermodal transport of container to the area under study, it is estimated that there are 4 exit gates at Apapa port and the total number of trucks coming in/out daily from the port with containers and general cargos are estimated to 1070 trucks on the average. It is estimated that 75% of this number are outgoing trucks this makes the figure to be 803. The port works 5 full days in a week. This makes the figure to be 4015 trucks. Suffice to acknowledge that the number of trucks that leaves the port in a week, equally contribute to the level of congestion in the area.

DATA PRESENTATION

TABLE 1: CONTAINER TRAFFIC CONGESTION

Year in view	No. of vssl call at port	Total no of inward cargo (ctns) (TEU)	Total no. of outward of cargos (ctns) (TEU)	Total no. of ctns blocked stacked at port (TEU)	No. of average days at port (Days)	Total no of inward cargo ctns moved to various ICD (TEU)	Total no of (ctns) moved by road (TEU)	Total no of (ctns) moved by rail (TEU)	Total average cargo (ctns) diverted to neighboring ports of Lome, Cotonour and Ghana (TEU)
1995	500	65,850	51,200	30,000	15	40,000	50,000	400	50,025
1996	620	70,200	65,000	25,000	18	50,230	52,300	300	60,450
1997	450	56,400	45,378	20,000	14	31,300	40,000	291	40,330
1998	650	75,000	67,100	22,000	21	45,750	51,300	100	43,780
1999	400	50,000	42,000	21,230	11	35,600	40,200	95	30,800
2000	680	78,300	69,230	28,300	10	47,000	45,250	70	40,500
2001	700	80,500	71,350	30,225	14	53,100	60,300	67	65,000
2002	650	75,100	68,000	29,300	15	50,200	55,000	50	44,500
2003	690	77,000	69,440	24,850	17	63,400	59,300	20	51,300
2004	670	76,800	69,850	32,000	70	64,000	57,500	-	58,800
Total	6010	705,150	618,548	262,905	155	620,500	570,450	1,395	485,485

Sources: Nigerian Ports Authority (2006), Author's Field Work (2009). Where: ctns = containers

TABLE 2: FLOW OF TRUCKS FROM APAPA PORT TO GEO-POLITICAL ZONES AND INDUSTRIAL LOCATION (1995-2004)

Geo-political zones	Geographical location	Inland container depot location	No. of trucks (flow from Apapa)	Industrial areas within the Geo-political zones
North-Western	North	Kano	750	Kano, Sokoto, Katsina and Kaduna
North-central	North	Jos	830	Nassarawa, Ilorin, Mina, Lokoja, Jos and Markudi
North-Eastern	North	Bauchi	770	Adamawa, Bauchi, Gombe, Maiduguri and Jalingo
South-Western	South	Ibadan	2650	Lagos, Ibadan, Ife, Ota, Abeokuta, Osogbo and Akure
South-Eastern	South	Aba	1500	Umuahia, Akwa, Enugu, Owerri, Abakaliki and Onitsha
South-South	South	Calabar	1600	Uyo, Yenagoa, Calabar, Asaba, Warri, Benin and Port-Harcourt

Sources: Nigerian Ports Authority (2006), Author's Field Work (2009).

TABLE 3:DEGREE OF TRANSPORT FACILITIES AT GEO-POLITICAL ZONES

Modes (Potentialities of facility available)

Zone	Road	Rail	Water	What needs to be done
North-Western	High	Medium	Medium	Rail services to be improved to complement water
North-Central	High	Medium	Medium	Rail service to be improved to complement water
North-Eastern	High	Medium	Medium	Rail service to be improved to complement water
South-Western	High	Medium	High	Rail and inland services to be improved
South-Eastern	High	Medium	High	Rail and inland services to be improved
South-South	High	Medium	High	Rail and inland services to be improved

Sources: Nigerian Ports Authority (2006), Author's Field Work (2009).

ANALYSIS OF DATA BASED ON HYPOTHESIS/RESEARCH QUESTION

Base on the table 1, it can be deduced that substantial proportion of those containers are handle by wood based transportation to consignee and inland container depot, this contributes to traffic congestion around Apapa port. Indeed, it further confirms the increasing rate at which trucks will be made use at the transportation of these containers. Also containers tend to stay more days at the terminal rather than the 7 workings or even less international benchmark.

From table 2, Nigeria is divided into 6 Geo-political zones for efficient and effective administrative governance. It is interesting to mention that each of these zones has inland container depots (ICDs) which can be increased by roads, rail or waterway (tables 3) as a measure to decongest existing ports and to balance industrial development in the country. It is expected that the benefits as envisaged from ICDs and intermodal is in (road, rail and water) are as follows.

Improved communication and information flow.
Production in the intermediate service cost in terms of handling container.
Lower door-to-door freight rates
Reduce overall level of empty container movement
Saving inventory build up in the factors
Decongestion of the seaports, transforming them into transitory port.

Nigeria is a great maritime nation, it could be the maritime hub of West Africa if a well coordinated containerized shipping is embark on considering table 1, she looses so many containerized cargo to neighboring port of Lome, cotonou and Ghana. If this is translated to monetary value, it could get to millions of dollars between 1995 to 2004. Containerized shipping contributes immensely to Nigeria gross domestic product (GDP).

DISCUSSION OF RESULT

Port infrastructure facilities that will enhance intermodal and logistics activities are at lowest ebb. Apart from road based, railways is still based on technology at its inception in the century that is the 3-6 (106mm) gauge and equally been neglected, while inland waterways has only been used minimally for passenger traffic and consequently has not been developed for inland shipping. Although, the provision of these public infrastructure that are meant for general aim, is the responsibilities of Nigeria railways corporation and national inland waterways for rail and inland transportation, respectively. This is presented in table 3. The import of table 3

evolves around the fact that it serves as pointers to areas as well as type of logistics infrastructure that must be developed, for containerized shipping to thrive. Although, there exist some of these infrastructures but they are obsolete and they do not conform to the modern specification.

Furthermore, these ICDs at each GEO-political zones are centrally located and accessible from other states that make up each zone. Hence, they will serve as modes, where the respective owners can make use of road based mode of transport. Again the choice of these dry ports predicates on the fact that there will have been location of handling equipments/facilities that will enhance loading and discharging of cargoes, license need not be sited somewhere else within the GEO-political zones. Empirical research revolved that under certain conditions, combined transport can be viable over long distance of 300km, (Eurostat working group, 2002). The above solution is favorable compared to sea/rail/road alternative when considering serving inland container depots in the country. Ports in Mekong Delta-Hochininh city (Coantho Port and New Port) Vietnam transporting container by truck is more expensive then by barge about 16%. However, the time is faster than barges. Vietnam has tropical climate such that the weather is very hot such that it can affect the contents of containers, especially by road in case of any delay.

Another notable example is the port of Lillie, which is one of the main inland ports in France that can handle large flows with it sizeable storage capacity. The port is multimodal hub, combining rail, waters and road, thereby enhancing environmental friendliness. The port develops logistics projects in partnership with major industrial group.

No doubt, all the above mentioned ports played similar roles with Apapa container port, especially in the area of Geographical locations, however, the only leverage they are having over and above Apapa container port predicates on the presence of all these logistics infrastructure that enhance their relative roles. Perhaps of importance in logistics infrastructure is the untapped waterway or river Niger that can assist in decongestion of Apapa container port area, as well as playing hub port role to all neighboring countries. It is interesting to note that the river Niger begins in Guinea and flows about 4.18km (2.600miles) through that nations of Mali, Niger and Nigeria, empting into the Gulf of Guinea. The river Benue is the Niger's chief tributary that can also be used for inland waterways. However, the growth of containerized shipping, together with technological developments improving the systems for transferring cargo between different modes, has considerably affected modern transport patterns and practice.

CONCLUSION

It may be said that the idea underlying the use of containerized shipping in the transportation of goods over the world's sea routes has spread because it met a need and facilitate international commerce.

Apart from congestion around Apapa Port that often lead to longer road transportation time, intermodal transportation system through development of rail and inland waterways at Apapa ports in particular and in Nigeria as a whole linking mostly ICDs at all Geo-political zones for onward transshipment to various industrial areas will equally provide environmentally friendly opportunity.

In other words, Apapa port will enable the major industrial groups and the leading distribution chains to optimize their logistics through effective distribution of containerize cargoes. Since Nigeria is an import dependent country, most cargo that come into the country are in containerized form; government need to prepare for the framework for the development of logistics infrastructure by providing enabling environment that will facilitate the provision of these infrastructures.

In order to achieve efficient logistics system at Apapa port, extensive cooperation and collaboration among private establishments and government is essential. For instance, this can be done through the concept of private finance initiative (PFI) that incorporates societal marketing principle (Somuyiwa, 2007). The concept of PFI has created new opportunities for both the public and private sectors.

Private sector financing of transport infrastructure like rail and inland waterways, as it is done by independent marketers for oil products, by providing liquid carrier barges for transport of oil products.

RECOMMENDATION

There are several indications that expressed political will to realize a shift from round to intermodal transport is not always translated into concrete action, especially in cases where policy measures would directly have an impact on road transport.

This is particularly true in the case of Apapa port, however, in achieving a modal ship away from roads at the ports environment to rail and inland waterway, cultural, management and ownership issues in non-road modes must be addressed, as identified as a gap in chapter three. In line with this, government need to formulate a clear set of common objectives for intermodal transportation, integrating transport policies influential individual modes and non-transport policies, such as spatial development, economic development and environmental issues. However, there is a need to monitor the progress made in achieving the objectives.

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