

# DRY PORTS: A COMPARATIVE STUDY OF THE UNITED KINGDOM AND NIGERIA

Paul Garnwa\*, Anthony Beresford\* and Stephen Pettit\*

## ABSTRACT

This paper reviews the development of dry ports in the United Kingdom of Great Britain and Northern Ireland and in Nigeria. In the United Kingdom, P&O developed a group of dry ports at strategic locations close to the main population and industrial centres. They were branded "containerbases" and became widely recognized as models for dry port development elsewhere. Inland Container Depot (ICD) operation in Nigeria started in 1979 and two ICDs have been successful. However, the legislative framework in the 1990s requiring containers to be customs-checked at the port gateway undermined the successful operation of ICDs. More recently, the legal conditions have been changed so that inland terminals can act as the sole point of departure or arrival for containerized consignments. Accordingly, the Government of Nigeria, through the Shippers Council and other relevant bodies, has launched a fresh programme to construct dry ports adjacent to the main inland cities in order to offer modern logistics services to match those available elsewhere.

**Keywords:** Dry ports, SWOT, United Kingdom, Nigeria

## INTRODUCTION

Since the advent of specialization in shipping, especially containerization, the freight transport industry has gradually shifted from the traditional port-to-port concept towards a total system approach. This has stimulated the growth of multimodal transport, and dry ports have emerged as a means of making better use of inland infrastructure and hence improving the overall efficiency of international logistics. The containerized trade has penetrated further inland and volumes have risen substantially with the consequence that cargo traffic through seaports has created congestion in the vicinity of these ports. Dry ports have thus become an integral part of logistics by extending seaport functions inland.

There are three principal reasons for the establishment of dry ports or inland container depots around the world, namely:

---

\* Transport and Shipping Research Group, Logistics and Operations Management Section, Cardiff Business School, Cardiff University, Aberconway Building, Colum Road, Cardiff, CF10 3EU, United Kingdom

- The constant need to improve the efficiency of inland transport
- The ever-growing congestion in the land areas around major ports (and concomitantly, the lack of available backup space for handling the increasing volume of container/cargo flows)
- The transformation of shipping from a port-to-port activity to an integral component of the broader logistics operations

This study highlights the role of dry ports in international trade and logistics with particular focus on the United Kingdom and Nigeria.

## **I. DEVELOPMENT OF ICDs IN THE UNITED KINGDOM AND NIGERIA**

### **A. United Kingdom**

The development of ICDs in the United Kingdom commenced during the early 1960s as a result of the shipping industry's increasing use of containers for general cargo shipments. Examples are the P&O-operated containerbase in Birmingham, which opened in December 1968, and others in Coatbridge, Glasgow, and Barking, London, shortly afterwards (Ingram, 1992).

In the United Kingdom, two major effects arose from the change to containerized shipping:

- Ports in the south-east of the country were more attractive to shipping lines because of their proximity to continental Europe
- The major producers and owners of cargo were often no longer located conveniently near the port at which their cargoes were handled

The exploitation of the intermodal characteristics of the container to overcome problems posed by the separation of ports from manufacturers was clearly one of the main reasons for the development of ICDs. Furthermore, the increase in number of ICDs was hastened by the introduction of roll-on roll-off shipping on cross-channel routes. Another reason was that in the mid-1960s British shipping companies decided to introduce container shipping to their Australian trade circuits. Expensive new shipping dictated the need for minimizing the time spent in port, and so a "one United Kingdom port of call" strategy was designed. Focus was to be on Tilbury, London. This did not mean that the northern industrial cities in the United Kingdom which traditionally had been served by ships calling at their nearest ports would lose out, because by using inland transport, containers could be loaded and discharged at inland centres. Thus, the need for inland depots was brought into focus by the introduction of container ships to Australian trade circuits. While the conversion of the Australian trade to

container shipping provided the stimulus necessary to introduce the containerbase network, many other trades were also catered to, and the containerbase business grew as the advantages of inland clearance depots near centres of production and consumption became apparent (MacDiarmid and Chambers, 1978).

The economics of ICD operations was a serious problem during the early 1960s in terms of double-handling, at the ports for purposes of customs intervention and inspection. These setbacks and delays were recognized by the authorities in the United Kingdom in 1966 when HM Customs laid down guidelines for the establishment of ICDs. Until 1966, almost all customs intervention work in the United Kingdom was carried out at ports but it was recognized that the container revolution required different means of intervention if the economics of the country's trade was not to be affected.

The new customs guidelines effectively meant that approved inland clearances depots were "ports without water". They would have their own permanent customs staff on site and export LCL<sup>1</sup> cargo would be inspected before being packed into containers. Import LCL cargo would be inspected after deconsolidation at the depot. Interventions on FCL<sup>2</sup> cargoes would be made at the depot, where disruption could be minimized. Security seals would be affixed to containers and inspected at both the depots and the ports to ensure that cargoes were not interfered with during the main leg of the journey. The movements of sealed containers, and depots themselves, were to be under customs control, in order to try to ensure that minimal loss to the treasury of customs dues took place. Effectively the sea border was "moved" to an approved ICDs and they became the points at which goods effectively entered or left the country (Ingram, 1992). The port health authorities were also able to exploit the opportunities offered by ICDs, concentrating activities relating to international trade at the ICDs rather than the ports.

The guidelines laid down by HM Customs for the establishment of ICDs had a significant effect on the establishment of the first facilities. The main restrictions were:

- (i) Depots should be located near trunk roads preferably with access to/from main railway lines;
- (ii) They should be available for use by any international operator using containers or vehicles;
- (iii) They should be set-up by broadly-based consortia;
- (iv) They should be based on a spirit of cooperation rather than competition between modes.

Restriction (i) was one that would be met by any reasonable operator, but (ii) and (iii) meant that single-company ownership ICDs were prohibited

---

<sup>1</sup> LCL = less than container load (multi-customer) boxes

<sup>2</sup> FCL = full container load (single customer) boxes

and some of the original plans of the shipping companies had to be severely modified. General guideline (iv) would take time to take root, as deep-seated rivalries between haulage operators and road-rail antagonism would work against the ICD principle in the early years. The involvement of nationalized industries meant that British Rail, the Transport Holding Company (later the NFC) the Port of London Authority, the Clyde Port Authority, the Mersey Docks and Harbour Company and the Manchester Ship Canal Company were all early shareholders in some ICDs (Ingram, 1992).

In the United Kingdom, ICDs were established by various consortia, usually as an extension to existing business operations. The largest group, consisting of six depots, was the containerbase companies, established by P&O, the major deep-sea shipping line (with other shareholders) as a distribution network for its "Through Transport System". Five of these depots were situated next to railway lines, so that they could be linked with the ports of Tilbury and Southampton by overnight trains. These ICDs were clearly transport nodes, as well as cargo clearance depots. Other ICDs, notably the London International Freight Terminal and the Manchester International Freight Terminal, were established by British Rail and grew out of the existing businesses of packing railway wagons for transport by train ferries. These depots continued to pack wagons, but also extended their activities into container packing and unpacking. Some ICDs were established by companies involved in warehousing, such as Greenford ICD (Butlers Warehousing) and Dagenham Storage Co. Ltd., while others were established by property companies with the intention of forming services around which other industries could cluster. An example of this type of depot is Milton ICD in Berkshire. Such depots generally had difficulty initially attracting business because they were not situated near large existing industrial centres. The final category of ICDs were established by Road Transport contractors who were involved in international trading and wanted to by-pass some of the congestion at ports (Lenham International Freight Terminal and Northampton ICD were typical of this type of depot).<sup>3</sup> In the United Kingdom, privatization of the ports in the 1980s brought changes to the ownership and management structure of ICDs and, in the 1990s Roadways Container Logistics (RCL) was formed. A combination of takeover and rebranding led to the P&O-operated containerbases becoming part of the AP Moller Group, under the title Maersk Line but retaining the original brand identity of P&O. In December 2008, a further ownership change occurred when RCL was sold by the AP Moller Maersk group to the privately owned

---

<sup>3</sup> It should be noted that, in countries such as the United Kingdom, where concentrations of industry are to be found in most regions and the population is evenly spread, it is appropriate for there to be a relatively large number of small/medium-sized ICDs serving the logistical needs of the country. In other States, e.g. Thailand, Egypt or Kenya, where the population is concentrated into a small number of dominant large cities, the least cost solution for freight distribution is a small number of large ICDs located on the edge of the cities. A full explanation of this is to be found in UNCTAD (1991).

Aegis Transport Ltd. The containerbases were thus taken on by ATL with no change to their operational brief (Anon, 2008). Containerbases play a dual role in providing ICD services for a wide range of shipping lines, container logistics companies and international road haulage operators which were used as regional transport control centres.

## **B. Nigeria**

ICD operations in Nigeria started in 1979 when Elder Dempster lines, a leading member of the United Kingdom West Africa Liner Conference (UKWAL), joined with the Nigeria Insurance Corporation of Nigeria (NICON) to establish ICDs in Kano and Kaduna (northern Nigeria) under the management of a company called Inland Container Nigeria Ltd. (ICNL). The two ICDs were originally conceived to serve the hinterland and its landlocked neighbours (Niger and Chad), and were established as extensions to seaports to operate within the Nigerian Ports Authority guidelines, whereby cargo discharged at the seaports destined for the hinterland is immediately land freighted to the ICDs under customs bond. One of the reasons for the establishment of ICDs was to cater for hinterland shippers in the landlocked countries, particularly those in the northern part of the country, who had to clear their cargoes through customs at the seaports. This constituted a serious bottleneck to their businesses.

Some of the problems faced by northern shippers at the seaports were:

- Cumbersome customs clearance procedures
- Multiplicity of security agencies at seaports
- Additional cargo handling costs
- Excessive travelling and hotels bills
- High inland transport costs
- Persistent congestion at the seaports

A customs transfer document is vital to the operations and is usually approved by customs at the seaport so as to obtain shipping release of the container for transfer to depots in the hinterland.

The management and operational success of the two ICDs in Nigeria was cut short in 1996 when a new port policy, instigated by the Federal Government of Nigeria, required inspections to be carried out only at seaports. The successes and failures of this approach are outlined in the Comparative Analysis section below. In 2000, the Federal Ministry of Transport of Nigeria, acting on the recommendation of the Nigerian Shippers' Council, approved the implementation of a feasibility study for the establishment of a number of ICDs at designated locations across the country. The study was commissioned in early 2002 and, by 7 November

2002, the final report of the feasibility study, conducted by Hamburg Port Consult GMBH Germany in collaboration with Spring Fountain Management Consultants, Nigeria, was submitted to Government. In response to the report findings, the federal Government has embarked on the implementation of these ICDs in a phased manner under the supervision of the Federal Ministry of Transport. The ICD Implementation Committee has been established, with the Nigerian Shippers' Council as the implementing agency. The project is being executed on the build, own, operate and transfer (BOOT) model. The first phase has been completed and preferred concessionaires have been secured in six states: Bauchi, Ibadan, Jos, Isiala Ngwa, Kano and Maiduguri (Nigerian Shippers Council, 2008).

## II. COMPARATIVE ANALYSIS OF ICDS IN THE UNITED KINGDOM AND NIGERIA

The locational and commercial relationships between an ICD and its gateway port(s) have a number of implications concerning ownerships, regulation, governance and fit within existing transport infrastructure. These can be summarized in table 1 and as follows:

**Table 1. Comparative analysis of ICDs in the United Kingdom and Nigeria**

ICD OPERATIONS	STRUCTURE		
	United Kingdom	NIGERIA	
		OLD	PROPOSED
ICD ownership structure	Private (100 per cent)	Private—ICNL/NICON	Private—BOOT model operators
Governing board/approving authority	HM Customs	Nigerian Ports Authority	Implementation Committee—ICD/NSC
Date of commencement	Mid-1960s	1979-1996 (closed)	2009—staged opening
Rail /railhead from port to ICD	Private (100 per cent)	Public NRC	Nigerian Railway Corp. (Public)
Road from port to ICD	Ministry of Transport	Fed. Government	Federal/state government
Inland waterways transport to ICDs	Yes (indirect via road)	No	No
Distance, port to ICD	below 350 km	200 km-1 500 km	200 km-2 500 km
Multimodal transport links from port to ICD	Many alternative routes	Few alternative routes	Limited alternative routes

Table 1. Continued

STRUCTURE			
ICD OPERATIONS	United Kingdom	NIGERIA	
		OLD	PROPOSED
Regional transport development plans/ transport policies	Closely connected to European Union transport policies	No connection to African Union (AU) or Transport Policies	Fits Nigeria's Transport Master Plan (MITI), New Partnership for Africa's Development (NEPAD) and AU charter
Guidelines for ICD operations	HM Customs	Nigerian Ports Authority	Implementation Committee—ICD/Nigerian Shippers' Council
Competition	High	Medium	Medium
Labour (ICD)	Highly skilled/Private	Low-skilled	Low-/medium-skilled
Security for ICDs	Infrared closed-circuit television (CCTV) and alarmed fencing	Police personnel	Police personnel
Computerization of Port/ICD	Highly connected	Low	Detail to be confirmed
Environmental standards	Adhere to European Union standards	No accreditation	Partial environmental control
Cargo flows/ direction from port to ICD	Hinterland (whole of the United Kingdom)	Northern regions (Kano and Kaduna)	Whole of Nigeria plus landlocked neighbours
Quality Assurance	ISO9002	-	-
Services network from port-ICD to final destination	Containerbases, roadway transport and 3PL providers	Rail/ICNL truck	NARTO/private
Seaport delays due to logistics weaknesses	Periodic	Very high	Privatization should reduce delays
Traffic congestion (seaport)	Low	Very high	High—privatization may reduce congestion

*Note: Abbreviations:* ICNL, Inland Container Nigeria Limited; NICON, Nigeria Insurance Corporation of Nigeria; NSC, Nigeria Shippers' Council; NARTO: Nigeria Association of Road Transport Owners; AU: African Union; BOOT: build, own operate, transfer.

*Source:* compiled by the authors

### ***ICD ownership structure***

In the United Kingdom, a substantial number of public sector ports were transferred to the private sector in 1983, allowing market competition to penetrate ICD operations. The ownership system for ports and ICDs, principally focused on private ownership, has played a major role in increasing the trade volume of the United Kingdom by increasing the efficiency of port operations. The modernization of port facilities, adequate training of personnel and quick ship turnaround time have contributed significantly to ICD development. Additionally, the industry is highly consolidated and much of the trade is concentrated in the largest ports; in 2003, the top 20 ports handled 85 per cent of all the United Kingdom traffic. Out of a total 555.7 million tons, the top 20 ports handled 470.7 million tons. Of the top 20 ports, 15 are privately owned (Baird and Valentine, 2007). In Nigeria, the private sector has recently been allowed to develop ICDs through the BOOT approach. With fewer competitive advantages than other countries and a system where ports serve as providers of cargo, ICDs are still going through the privatization process and presently only terminal operations are privatized in Nigeria.

### ***Governing board/approving authority***

In the United Kingdom, the final approvals authority is HM Customs, which issues guidelines to regulate, inspect and declare a place as a designated ICD. HM Customs has ultimate power regarding the enforcement/implementation of all international standards for inspection of ICD operations. This has made the ICD operators abide by the standards and provide adequate logistics arrangements for all operations, including the handling of dangerous or extremely high value cargoes. In Nigeria, for the first generation ICDs, the Nigerian Ports Authority was the approvals authority, but for the newly proposed ICDs, the Implementation Committee-ICD, with a customs representative, is the approving authority.

### ***Railway/railhead***

In the United Kingdom, the railway system is largely privatized and is linked with all the main deep-sea ports and hinterland areas. One of the key successes of ICDs in the United Kingdom is that the rail transport system is highly integrated with other modes allowing successful multimodal transport trade-off between cost, time and distance. This has helped to increase the flow of cargo from the deep-sea ports to ICDs. In the case of Nigeria, the coverage is less, some tracks are in poor condition and the load-bearing capability is limited on most routes. These present serious disadvantages to shippers and ICD operators as they attempt to achieve satisfactory cost/time trade-offs. Additionally, the railways in Nigeria are publicly owned and short of funds; key routes need to be upgraded to container carrying standard.

### ***Road networks***

The road network in the United Kingdom is comprehensive with many dual carriageway routes enabling road haulage to compete or cooperate with railways for the delivery of cargo. In the United Kingdom this is one of the key successes of ICDs because road haulage invariably performs the first or last leg of door-to-door multimodal transport operations. This is exemplified by the combined road-rail service of Roadways Container Logistics. In Nigeria much of the road network is in poor condition making it difficult to deliver goods on time.

### ***Inland waterway transport to ICDs***

In the United Kingdom inland waterways transport is limited, but in areas such as northwest England, east London and Humberside, road-waterway intermodal movements to/from ICDs are possible. In Nigeria, no ICD will be connected to inland waterways, which puts shippers at a potential disadvantage, but in the future, through dredging of the river Niger and Benue channels, sea-road waterway combinations, involving inland customs clearance, could be achieved. , The encouragement of coastal transport is very important in Nigeria, especially with the introduction of the Cabotage Act in 2003; coastal shipping connections to ICDs could be part of the new ICD development strategy in order to increase or facilitate the flow of cargoes.

### ***Multimodal transport links***

In the United Kingdom, multimodal transport operators (MTO) use many route alternatives in order to save cost or time for the movement of cargo to ICDs and to final destinations. The advantage of having many alternative routes in the United Kingdom is to have given shippers cost, time or other service opportunities. It has also given them the option to spread risk or to broker price by using several routes. In Nigeria, only a few route alternatives are available making it difficult for shippers to achieve successful trade-offs between cost and time. Increasing the number of alternative routes in the longer term, perhaps by incorporating inland waterways, would provide shippers with a wider range of options.

### ***Guidelines for ICD operations***

In the United Kingdom HM Customs issues guidelines to regulate and inspect ICDs. HM Customs has full enforcement/implementation power for all international standards regarding the operation of ICDs; this regulatory system has evolved to suit changing commercial needs and new trading environments and the system works well. In Nigeria, the first closed ICD was regulated by the Nigerian Ports Authority, but for newly proposed ICDs the Implementation Committee-ICD/NSC acts as the ultimate regulator.

## ***Competition***

There is a high level of competition in the United Kingdom partly because of competition between ICDs, and partly because of competition from service providers by passing ICDs, e.g. those using clearance facilities at the ports. In Nigeria, competition is extremely low because of the shortage of ICDs and poor infrastructural development such as road and railway connections. Competition in the United Kingdom is strong due to privatized ports and ICD operators being able to compete in terms of cargo clearance with speed, cost and technique. Modern handling equipment and quick ship turnaround times also influence cargo flow to specific ports or ICDs.

## ***Labour***

The deregulation of labour in the United Kingdom ports is another factor that has played a positive role in removing restrictive and archaic employment regulations and helped to create an environment which has allowed the introduction of a range of new and flexible employment practices. In Nigeria, deregulation was recently addressed in the ports industry, but lack of trained personnel in ICD operations is, and will be, a serious problem unless provisions are made to train personnel and provide professional advice to ICD operators.

## ***Security for ICDs***

Security measures in the United Kingdom involve highly sophisticated systems, including movement sensitive infrared beams, closed-circuit television (CCTV) surveillance and alarmed fencing. Vehicles and containers can also be X-rayed for contents validation. The provision of security measures in the United Kingdom is very expensive but such systems were installed for the protection of general cargoes, especially expensive sophisticated cargoes such as electronics, cigarettes and alcohol which can be the target of organized crime. In Nigeria, such devices were not present in the original ICDs, although provision for police stations and patrol guards is proposed for the newer ICDs.

## ***Computerization of port—ICD links***

ICDs in the United Kingdom are fully computerized with radio frequency identification (RFID) technology and on-line cargo tracking for efficiency of cargo flow from ports to ICDs. In Nigeria some such facilities did exist in the original ICDs, but provisions were made in the proposed new ICDs for the private operators to organize their links as required but with emphasis likely to be on transaction facilitation and on-line cargo tracking to build confidence and reduce wastage.

### ***Environmental standards***

The upholding of environmental standards is one vital area that is taken into account when developing port or ICD projects in the United Kingdom. Elements such as waste, noise, dust, habitat loss/degradation, air quality and negative perceptions of such developments by interested parties could stop an ICD project from proceeding. In Nigeria, public views are generally not debated regarding the establishment of an ICD.

### ***Service networks from port to ICD***

ICDs in the United Kingdom are served by well-organized transport companies, such as third-party logistics (3PL) providers, including Roadways Container Logistics and independent road haulage specialists. The service providers in the United Kingdom have created strong networks with RFID technology and real-time cargo tracking from/to ICDs and ports. The networks are mature and robust, but also flexible to suit customer requirements, and adaptable so that regulatory changes can be easily accommodated. In Nigeria, such organized logistics are lacking and large roadworthy fleets are very few.

### ***Seaport-ICD interface***

In the United Kingdom, cargo destined for ICDs is immediately transferred to rail for onward movement, while in Nigeria, the logistics are extremely slow, and delays or congestion are caused by customs bureaucracy, security procedures, inadequate cargo handling equipment and sluggish inland transport. These factors are less of a hindrance in the United Kingdom ports, partly because of privatization and partly because of the maturity of European trading protocols. The United Kingdom ports have modern handling equipment and provide effective and efficient services to meet the challenges of the global trading environment.

### ***Congestion at seaports***

The major ports in the United Kingdom operate within a competitive environment such that each port competes for cargo; avoiding congestion is thus incentivized by cost reduction which is positive in terms of flows of goods. In Nigeria, congestion is still a problem, although some port terminals have been privatized, enabling them to streamline systems and take pressure off of shippers. Port operators in the United Kingdom generally seek opportunities to expand or grow their business and the government tends to give support to development projects which are seen to be commercially viable and environmentally acceptable.

### III. SWOT ANALYSES OF ICDS IN THE UNITED KINGDOM AND NIGERIA

A strengths, weaknesses, opportunities and threats (SWOT) analysis for United Kingdom and Nigerian ICDS highlights the contrasts in operating conditions between less developed and developed countries in general. A SWOT analysis for ICDS in the United Kingdom and Nigeria is presented in table 2 and table 3, respectively. An interpretation of the SWOT analyses for both countries is as follows:

**Table 2. SWOT analysis for ICDS in the United Kingdom**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Privatization - No Government interference or externally imposed budget constraints</li> <li>• High traffic flow to hinterland industrial areas</li> <li>• Competition</li> <li>• Well-developed infrastructure</li> <li>• Comprehensive cargo handling equipment</li> <li>• Economic development</li> <li>• European Union transport policies</li> <li>• Multimodal transport routes</li> <li>• Trained and experienced personnel re ICD Operations</li> <li>• Can attract loan capital for financing terminal investment</li> </ul>	<ul style="list-style-type: none"> <li>• High levels of competition suppressing freight rates and charges</li> <li>• Over-utilization of infrastructure, especially road</li> <li>• Over-reliance on road-transport</li> <li>• Traffic congestion in hinterland areas</li> <li>• Traffic regulations—night-time restrictions and congestion charges</li> </ul>
OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• High revenue to government from trade</li> <li>• Multimodal transport connections/trade-offs</li> <li>• Globalization of trade</li> <li>• Economic growth from International trade</li> <li>• Attraction of loan capital for financing ICD investment</li> </ul>	<ul style="list-style-type: none"> <li>• Volatile or unsustainable freight rates</li> <li>• Control of imported products</li> <li>• Anti smuggling and anti terrorist security measures</li> <li>• Trade imbalance</li> <li>• Increase in freight rate charges</li> <li>• Pressure on terminals in urban areas to be converted to other uses</li> <li>• Environmental legislation</li> <li>• Re-routing of freight to avoid ICDS</li> </ul>

Source: the authors

**Table 3. SWOT Analysis for Nigerian ICDs**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Substantial revenues from hinterland shippers' participation</li> <li>• Large volumes of cargo to hinterlands</li> <li>• Control cargoes destined for neighbouring countries, notably Chad, Sudan and Niger</li> <li>• Industrial development encouragement</li> <li>• Locking Nigeria into international trade flows</li> </ul>	<ul style="list-style-type: none"> <li>• Level of Government involvement/interference in ports</li> <li>• Inadequate infrastructural development e.g. railways</li> <li>• Excessive pressure on road transport</li> <li>• Slow implementation of the new ICD project</li> <li>• Lack of an integrated transport system</li> <li>• Lack of trained/experienced personnel on ICD operations</li> <li>• Shortage of computerized cargo tracking systems e.g. RFID technology for road haulage vehicles</li> </ul>
OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>• Increased revenue to Government from expanded trade</li> <li>• Multimodal transport connections and positive trade-offs</li> <li>• Consultation on freight rates</li> <li>• Diversified trade</li> <li>• Maritime developments, e.g. expanded shipping activities</li> <li>• Connections to landlocked countries, facilitating trade</li> <li>• Connection to African Union transport policies</li> <li>• Attraction of foreign investors</li> </ul>	<ul style="list-style-type: none"> <li>• Commercialization putting pressure on freight charges</li> <li>• Increase in freight rate charges</li> <li>• Increased security measures to counter terrorist threats and arms smuggling</li> <li>• Excessive imports leading to cargo imbalance</li> <li>• High cost of inland transport</li> <li>• Loss of maritime land due to privatization sales</li> <li>• Port activities and environmental hazards</li> </ul>

Source: the authors

### A. Strengths

The privatization of the United Kingdom ports played a major role in increasing the efficiency of ports and improving their performance. Competition between ports means that shippers have a number of options for the shipment of their cargoes which can meet the logistics demands of cargo owners. Governmental non-interference has allowed ports to operate effectively in a competitive market. ICDs likewise offer great advantages in terms of customs clearance, cargo security and consolidation of consignments. Importantly, infrastructure such as equipment, road and rail links and commercial frameworks embed ICDs into the multi-modal transport system. This in turn has enabled shippers to make cost-time-service tradeoffs on fine margins.

One of the benefits of privatization has been that ports can attract loan capital for financing investment on a commercial basis. In the recent past, private ports in the United Kingdom have invested significantly in new port capacity, as their existing facilities have been operating close to or beyond designed limits due to trade growth, e.g. Southampton, Liverpool, Tilbury, Hull, Immingham, Forth and Teesport (Baird and Valentine, 2007). This has increased the level of traffic moving to ICDs. The United Kingdom has a rating standard for the training of personnel in all fields of transport operation, which is internationally recognized especially for the handling of dangerous goods. A safety and quality assessment (SQAS) certificate is required and personnel must be ADR trained. Additionally, ICD personnel undergo constant training and re-training to keep abreast of current international shipping activities.

From the Nigerian perspective, the economy benefits from the participation of hinterland shippers and neighbouring countries in the transport of Nigerian import and export cargoes. Shippers will no longer be required to travel to the seaports to take delivery of or ship goods to their overseas partners; these functions will be performed by the ICD operator at the ICD. ICDs, especially those which are to be located near the borders of northern Nigerian states, will be of strategic transit importance to landlocked countries such as Niger, Burkina Faso and Chad, thereby increasing cargo traffic and economic development to Nigeria.

## **B. Weaknesses**

In the United Kingdom, private companies have invested to make a profit through increases in freight charges which are consulted on, and negotiated by, the service providers and users. Although the final result is that such charges are passed on to the final consumer, due to the large number of ports and intense competition freight charges are not a serious issue because shippers have room to negotiate and can go for alternative ports. There is no particular issue with a lack of infrastructure, rather over-utilization of road transport occurs because it is the fastest, and the finishing leg, of door to door multimodal transport. This adds a cost burden to government in terms of repairs and maintenance.

In Nigeria however there is a lack of infrastructure development. An effective, integrated transport system is the bedrock of ICD operations and one of the weaknesses in Nigeria is the condition of road and rail transport infrastructure which needs to be seriously addressed before the final development of the new ICD project. The rivers Niger and Benue, which link Niger and Chad, could serve as additional multimodal transport connections to neighbouring countries. Modern road haulage operations often use radio frequency identification systems to track cargo, which allows for real-time tracking of cargo on the Internet, thereby building confidence for shippers during shipment. Such technology is largely unavailable to road haulage

transport operator vehicles in Nigeria. Nigeria also lacks sufficient trained and experienced personnel for ICD operations, a vital element for the effective operation and delivery of ICD services.

### **C. Opportunities**

ICDs have, in part, facilitated the development of global trade links for the United Kingdom, especially with the opening up of the Far East and developing countries in other areas. Access to a wide range of cheap manufactured goods has become possible through the linking of suppliers, the customer and the seaports. ICDs have allowed the rationalization of cargo movements between seaports, the ultimate consignors and consignees. The further use of ICD by manufacturing industries in meeting “just in time” requirement and global sourcing has increased opportunities for international trade and economic development in general.

In Nigeria, ICDs are regarded important for industrial development, enhancing the export of finished goods, solid minerals, agricultural produce or raw materials due to proximity of ICDs to the source of production. This gives exporters the option of direct routing via the appropriate seaport, with maritime customs clearance, or utilizing the ICD facility where responsibility for the cargo is transferred to the MTO locally. These options can indirectly encourage trade and contribute to regional development. The availability of an ICD with road-rail intermodal capability also gives shippers a modal choice for exports and imports. This choice can be made on customer preference or criteria such as volume. ICDs can also provide greater control over hinterland trade and neighbouring countries shippers. Opportunities exist in Nigeria through an ICD system to control cargo flows from hinterland and landlocked countries thereby increasing trade relations, revenue and economic development. Finally, ICDs will create opportunities for foreign investors to participate in both seaport and ICD development and also industrial development around the ICD facilities.

### **D. Threats**

Following privatization much of the pre-privatization port land bank has been sold for development. The sale of such land may create possible problems in the future, affecting the ability of the government to expand ports operations. Environmental protection is a major consideration for United Kingdom ports and, as they are generally located on the coast or on river-banks, a range of environmental problems exist (including discharge of cargo, cargo handling and storage, port maintenance, development, creeping industrialization) and the development of inland transport infrastructure to ICDs are major problems. There are many European Union policies and regulations in place to protect environmentally sensitive areas, for example article 19 of Council Regulation 797/85, European Commission Council directive 92/43/EEC, Nature 2000 Network of EC Commission, etc.

(Goulielmos, 2000). Such regulations create increased costs for ICD operators.

Private companies are economically strong and have the power to increase freight rates and other charges to increase profits. Although the Nigerian Shippers' Council has some power to negotiate such charges, they are always likely to be a threat to shippers. Since ports and ICDs are gateways for import and export cargoes a security risk exists and adequate security measures need to be in place according to international standard of ISPS code. Finally, as with the United Kingdom, there are concerns about the environmental impact of ICD developments. The construction of any major infrastructure project like a port or ICD has to undergo public investigation, meet international environmental standards, and undergo a full environmental impact assessment before government approval is given, in order to avoid future environmental hazards.

## **CONCLUSION**

The comparative analysis between Nigeria and the United Kingdom reveals that ICDs in the United Kingdom are effective in encouraging the integration of port, road and rail freight operations. ICDs are predominantly private in terms of provision and funding of facilities, with government participation limited to the unfettered role of HM Customs in ensuring cargo security and trade legitimacy. This central role in cargo inspection at all ICDs determines the nature of security measures and operational procedures on site. This approach has worked well and has formed a model for ICD development globally. Inland waterways have not played a major role in encouraging ICD development in the United Kingdom, but there is the possibility that they could in Nigeria. ICD development in Nigeria has been hindered by the continued public ownership, especially of ports and railways, and the limited level of infrastructure development.

In Nigeria, however, long-term public ownership of the ports, railways and other transport facilities, coupled with a shortage of funds for infrastructure improvement, has restricted trade growth through the ports and slowed the full implementation of an ICD network with facilities planned at strategic locations, especially where significant export volumes exist, or in some cases close to large internal markets. The current ICD development programme in Nigeria takes account of earlier experiences and developments within multimodal transport generally.

## REFERENCES

- Anon (2008). "Maersk sells Roadways". *World Cargo News - Inland / Intermodal News*, December 2008, p.16.
- Baird, A. J and V. F Valentine (2007). "Port Privatization in the United Kingdom" in: Brooks M.R and Cullinane K. ed. *Devolution, Port Governance and Port Performance Research in Transportation Economics*, vol. 17, pp. 55-76, Elsevier, the United Kingdom.
- Goulielmos, A. M. (2000). *European Policy on Port Environment Protection*, vol.2, University of Piraeus, Greece.
- Ingram, R. A. H. (1992). *The Development of Inland Clearance Depots, 1952-1992*-International Cargo Handling Coordination Association (ICHCA)-40<sup>th</sup> Anniversary Review. pp 85-87.
- Macdiarmid, K. J. and J. D. C. Chambers (1978). *Inland Ports-The UK Containerbase System Containers-Their Handling and Transport*, National Ports Council .pp 295-(15).
- Nigerian Shippers' Council (2008). <http://www.shipperscouncil.com/nsc/portal/services/support.html>.
- UNCTAD (1991). *Handbook on the Management and Operation of Dry Ports*, Geneva, RDP/LDC/7, pp. 16-18, 59-61.