THE ECONOMIC IMPORTANCE OF THE SAUDI ARABIAN PORTS

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ABSTRACT

The Kingdom of Saudi Arabia is considered to be the world's main oil exporting country. The Saudi government, therefore, has to have efficient, fully equipped ports that are capable of functioning effectively. The demands of commerce encouraged the early development of roadsteads, precursors to ports and harbours, which soon became hubs of social and trading activity. Indeed, until the advent of air travel, the ports of Saudi Arabia represented the only practicable channels of physical interchange between the Kingdom and the outside world. Following the discovery of oil in the 1930s, investment in ports and terminals capable of handling ocean-going tankers has been crucial to the country's wellbeing. Now the Saudi Ports have become major contributors to Saudi economy and a link between the national and international economy. Therefore, this paper aims to identify the level of ports in Saudi Arabia and their important characteristics.
Keywords: Ports, Industrial Port, Commercial Port, Economy, and Saudi Arabia.

INTRODUCTION

The transportation infrastructure including ports is considered an essential feature of all modern economies. The transportation infrastructure was considered for a long time to be the most important factor in regional, economic and social development. Transportation has an important role in increasing production, reducing travel times, increasing employment and improving accessibility. Furthermore, it plays an important role in reducing regional disparities and in improving the competitiveness of regions, by facilitating trade, the movement of labour, and economies of scale. The Kingdom of Saudi Arabia is considered to be the world's main oil exporting country. The Saudi government, therefore, has to have efficient, fully equipped ports that are capable of functioning effectively. The demands of commerce encouraged the early development of roadsteads, precursors to ports and harbours, which soon became hubs of social and trading activity. Indeed, until the advent of air travel, the ports of Saudi Arabia represented the only practicable channels of physical interchange between the Kingdom and the outside world. Following the discovery of oil in the 1930s, investment in ports and terminals capable of handling ocean-going tankers has been crucial to the country's wellbeing. Now the Saudi Ports have become major contributors to

Saudi economy and a link between the national and international economy. Therefore, this paper aims to identify the level of ports in Saudi Arabia and their important characteristics.

PORTS IN SAUDI ARABIA

The Kingdom of Saudi Arabia is considered to be the world's main oil exporting country. The Saudi government, therefore, has to have efficient, fully equipped ports that are capable of functioning effectively. According to the Saudi Ports Authority (SPA) (2000), the demands of commerce encouraged the early development of roadsteads, precursors to ports and harbours, which soon became hubs of social and trading activity. Indeed, until the advent of air travel, the ports of Saudi Arabia represented the only practicable channels of physical interchange between the Kingdom and the outside world. Following the discovery of oil in the 1930s, investment in ports and terminals capable of handling ocean-going tankers has been crucial to the country's wellbeing. The Saudi ports used to be managed by different bodies with different rules, regulations and tariffs for each port. But in 1976 the Saudi Government created an independent Ports Authority to improve and develop all Saudi Ports and to run them in the most advanced and effective ways, in a unified manner. For example, between 1974 and 1976 ships calling at Jeddah had to wait up to six months before discharge. The queues of ships for berths were up to 200 in Jeddah and up to 125 in Dammam. Success in the elimination of such delays was achieved by the establishment of an autonomous Saudi Ports Authority. Now the Saudi Ports have become major contributors to Saudi economy and a link between the national and international economy.

Saudi Arabia has a number of ports located on its two coasts which comprise a 1,800 kilometre coastline along the Red Sea, and one of 530 kilometres on the Arabian Gulf (see Figure 1). Some of them are for industrial purposes and others are primarily commercial:

1- Jeddah Islamic Port:

Jeddah Islamic Port has a geographical advantage in that it has an excellent location in the middle of the international shipping route between east and west. In other words, it is a link point between the Indian Ocean, the Mediterranean and Europe. The importance of Jeddah Islamic Port increased and reached its maximum limit when the Kingdom was developing into a modern and civilized country. It is considered the Red Sea gateway for Saudi Arabia and it is the Kingdom's principal port serving the holy cities of Makkah and Madinah. Based on SPA (2004), Jeddah Islamic Port is the largest port in Saudi Arabia, and handles 59 per cent of the country's imports through its 58 deep water berths. The start of development for this port was the establishment of the Seaport Authority in September 1976, and it expanded from a modest 10 operational berths in 1976 to the 58 berths of international status in service today (see Table: 1). This port, which is a congestion free harbour, occupies 10.5 square kilometres, with 58 deep water quays having an overall length of 11.2 kilometres with a draught reaching 16 metres. This can accommodate the latest generation of large container vessels (with a capacity of 6500 TEUs).

Table 1: Jeddah Islamic Port Throughput Type of Cargo (Tonne)

CARGO TYPE	DISCHARGED	LOADED
BULK CARGO (SOLID)	5,570,490	4,500
BULK CARGO (LIQUID)	230,734	--
GENERAL CARGO	3,238,351	459,970
CONTAINERS	16,592,369	12,210,817
RO-RO & VEHICLES	956,875	122,218
LIVESTOCK	125,702	--
TOTAL	26,714,521	12,797,505
TOTAL PORT THROUGHPUT	**39,512,026**	

Source: Saudi Port Authority (2005).

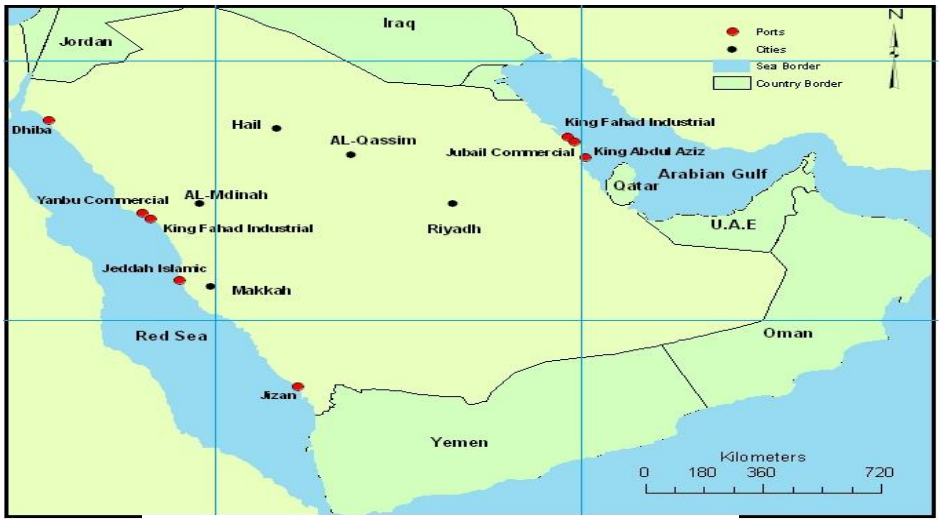

Figure 1- Ports in Saudi Arabia

According to the SPA (2005) one of the important facilities in the port is the King Fahad Ship Repair Yard. It is equipped with the most modern facilities for maintenance and repair of vessels and building of small craft. It comprises two floating docks, which can receive vessels up to 45000 tonnes, and in addition two berths of 170 metres long to receive vessels up to 60000 tonnes. Furthermore, a 2.5 square kilometre area which is used as storage areas divided as follows: open storage area of 2.1 square kilometres and a covered storage area of 0.4 square kilometres consisting of 59 warehouses and transit sheds.

2- King Abdul Aziz Port, Dammam:

King Abdul Aziz Port is considered to be the main gateway for cargoes to the Eastern and Central Provinces of Saudi Arabia. In addition, it is the second largest seaport in the Kingdom after Jeddah, and is also the second in the Arabian Gulf after Jebel Ali Port in the United Arab Emirates. According to Al-Naeem (2000), the port has excellent communications with the interior of the country, particularly to the Eastern and Central provinces. Also, it is the only seaport in the Kingdom with a railway link, which connects the port's quays and city directly to industrial complexes and other customers, especially in the dry port of Riyadh, with a regular daily schedule of passenger and freight trains. King Abdul Aziz port was

established in 1949, and the responsibility for the port construction rested with ARAMCO. Development started after the Kingdom established the Seaport Authority in September 1976, and it has expanded dramatically since the first two operational berths were inaugurated in 1949, to 38 deep sea berths of international status in service today. Moreover, it can handle visiting ships without delay but there is ship room for expansion, in the shape of a further 2 possible berths, when required. Put simply, King Abdul Aziz Port is strategically placed to service the requirements of the oil industry, the continuous development of Riyadh, the capital, and the major provincial cities in the Eastern and Central Provinces.

Table 2: King Abdul Aziz Port, Dammam Throughput Type of Cargo (Tonne)

CARGO TYPE	**DISCHARGED**	**LOADED**
BULK CARGO (SOLID)	3,593,411	288,317
BULK CARGO (LIQUID)	56,587	2
GENERAL CARGO	3,714,874	134,703
CONTAINERS	4,830,054	3,698,628
RO-RO & VEHICLES	278,576	2,552
LIVESTOCK	23	--
TOTAL	12,473,525	4,124,202
TOTAL PORT THROUGHPUT	**16,597,727**	

Source: Saudi Port Authority (2005).

The port boasts 29 covered storage sheds, 17 of which are completely enclosed plus 260 hectares of open space. The port is capable of an annual throughput of 15 million tonnes of every type of cargo: containers, ro-ro, dry and liquid bulk, grain, general and reefer cargo and livestock (SPA, 2002) (see Table: 2). According to the SPA (2004), the port is fully self-sufficient with its own administration offices, mechanical and marine workshops, electrical, telephone and marine communications networks and water refinery. It has its own clinic, fire department and a large housing complex for port employees, with mosques and a supermarket. Furthermore, staff training on every level is a high priority as the Saudization programme gathers pace.

3- King Fahad Industrial Port, Jubail:

The King Fahd Industrial Port at Jubail lies on a sea-lane to the north of the Jubail Commercial Port. The location for the industrial complex and port were chosen for their proximity both to the petroleum and natural gas reserves of the region and the deep navigable waters of the Arabian Gulf and thence to the markets of the Far East and Asia. The port was designed for the import of raw materials which are needed by the industries and for the export of the manufactured products. It products include petrochemicals, chemical fertilizer, sulphur and refined oil products. The construction of the King Fahd Industrial Port began in 1974, adjacent to the Jubail Industrial City. The port played an essential role in the construction of the Jubail Industrial City itself by providing specialized berths for the import of prefabricated modules. Because of its importance, the Saudi Arabian Seaports Authority has paid the utmost attention to the Jubail Industrial Port. Since it opened to traffic in 1982, the port has participated in this continuing success story and today takes pride of place among Jubail projects (Al-Kurtas, 2000). The height of success was in March 2005, when the King Fahd Industrial Port in Jubail was awarded the International Arch Prize

for Europe Agreement, platinum class, in addition to a merit certificate for comprehensive management for 2005.

Table 3 : King Fahad Industrial Port, Jubail Throughput Type of Cargo (Tonne)

CARGO TYPE	DISCHARGED	LOADED
BULK CARGO (SOLID)	5,824,117	5,037,828
BULK CARGO (LIQUID)	625,378	27,682,698
GENERAL CARGO	5,708	3,967
CONTAINERS	--	--
RO-RO & VEHICLES	--	--
LIVESTOCK	--	--
TOTAL	6,455,203	32,724,493
TOTAL PORT THROUGHPUT	**39,179,696**	

Source: Saudi Port Authority (2005).

According to SPA (2003a), the King Fahd Industrial Port has many good features: it has a total of 27 berths of which 19 are fully operational; there are 5 berths available for shallow draught vessels and port craft and there are 3 berths of 346 metres in length with 30 metre depth of water capable of accepting vessels of 360,000 MT DWT. Most of the berths operated by Saudi Aramco and the Saudi Iron and Steel Company (HADEED), where they handles the export of sulphur, oil, petrochemical products etc (see Table: 3).

4- King Fahad Industrial Port, Yanbu:

King Fahd Industrial Port at Yanbu has a strategic geographical position, being close to the Suez Canal and midway between America, Europe and the Far East through Bab Elmandeb. The port is situated near the Yanbu Commercial Port, and contributed to the setting up of Yanbu Industrial Complex, exporting its products to various parts of the world. This port lies on the Red Sea coast some 300 kilometres north of Jeddah Islamic Port, and extends some 25 kilometres along the coast. It is considered to be the largest port for loading crude oil, refined products and petrochemicals in the Red Sea. The Director General of King Fahd Industrial Port at Yanbu, Dr AI-Saadi (2000) stated that this port is a natural port of call for oil tankers, containers, ro-ro and break-bulk vessels, offering access for a significant volume of local cargo, both import and export. More than one million tonnes of break-bulk and containerized cargo are generated annually at this industrial city (see Table: 4).

Table 4: King Fahad Industrial Port, Yanbu Throughput Type of Cargo (Tonne)

CARGO TYPE	DISCHARGED	LOADED
BULK CARGO (SOLID)	--	118,645
BULK CARGO (LIQUID)	1,899,295	30,322,636
GENERAL CARGO	3,503	3,058
CONTAINERS	126	--
RO-RO & VEHICLES	49	--
LIVESTOCK	--	--
TOTAL	1,902,973	30,444,339
TOTAL PORT THROUGHPUT	**32,347,312**	

Source: Saudi Port Authority (2005).

This port was built specifically to serve the industrial complex and meet its requirements including export of the various industrial products such as construction material and equipment, which gives the port a significant role in the economy of the region. In 1981, the Saudi Aramco crude oil terminal started operations and other large-scale projects soon followed. One of the first was the Yanpet joint venture producing ethylene, ethylene glycol and polyethylene, which came on line in 1985 (SPA, 2000). In terms of berths, this port has 24 berths and there is provision for all types and sizes of oil tankers and containers, general cargo, bulk cargo and Ro-Ro vessels. This port has storage areas such as an area of 167,067 square meters for container storage, an area of 10,000 square meters for storage of general cargo, an area of 800 square meters for hazardous cargo, and an area of 18,000 square meters covered by warehouses.

5- Jubail Commercial Port:

Jubail Commercial Port lies on the Arabian Gulf in the Eastern Province of the Kingdom of Saudi Arabia. The port functions as a commercial and industrial port and it is about 80 kilometres north of Dammam. The port was inaugurated by the late King Khalid bin Abdulaziz on October 1977, before which it was a small fishing harbour on Saudi Arabia's eastern Gulf coast. The modern port covers an area of about 50 hectares and in the east and west of the Port there is a breakwater berth of ten kilometres. Jubail Commercial Port is considered to be one of the biggest construction projects in the Kingdom, and has the most modern cargo handling, safety and fire fighting equipment.

Table 5: Jubail Commercial Port Throughput Type of Cargo (Tonne)

CARGO TYPE	**DISCHARGED**	**LOADED**
BULK CARGO (SOLID)	1,531,202	172,106
BULK CARGO (LIQUID)	788	--
GENERAL CARGO	529,627	126,688
CONTAINERS	4,894	9,232
RO-RO & VEHICLES	--	--
LIVESTOCK	--	--
TOTAL	2,066,511	308,026
TOTAL PORT THROUGHPUT	**2,374,537**	

Source: Saudi Port Authority (2005).

This port has an economic importance because of its effective role in export and import policy in the Eastern Region of Saudi Arabia, especially for the manufactured products of the Jubail Industrial City. This is because it is near to centres of production, which could lead to low costs of materials coming to Saudi Arabia and material export to world markets. According to the Director General of the Al-Jubail Commercial Port, Mr. Al-Tayeb (2005) the volume of the handled cargo (exports and imports) through the port increased considerably to 851,238 tons in 2003, up from 551,709 tons in the previous year, however in 2005 exceeded 2000,000 tonnes (see Table: 5). The port is also set to play an increasing part in alleviating pressure on King Abdul Aziz Port in Dammam, 100 kilometres to the south.

Furthermore, this port provides job opportunities for Saudi nationals, so it is playing an important part in the life of Saudis.

The Jubail Commercial Port consists of 16 deep water berths and has the capacity to handle all kinds of vessels except liquid bulk vessels: oil tankers, oil product tankers and petrochemical tankers and gas carriers. The old fishing port is also active, with 170 metres of quay, with a depth alongside of three metres that provides an important service in the off-loading of fish for local and inland markets. In terms of storage the Saudi Ports Authority has established open storage yards totaling 450,000 square metres, covered stores with total area of 87,000 square metres inside the port area, dangerous goods stores of 1800 square metres and storage yards with area of 900,000 square metres outside. The port has a vast area that can handle 14,000 containers in addition to a container station, the design of which is according to modern techniques of safety and fire fighting (SPA, 2003b).

6- Yanbu Commercial Port:

Yanbu Commercial Port is located on the west coast of Saudi Arabia approximately 206 kilometres north of Jeddah. It is a natural harbour sheltered by the mainland to the north and east and by coral reefs to the south and south-east. It is reached by a mile long channel. The port is considered to be Saudi Arabia's second Red Sea port, after Jeddah Islamic Port and is also the main port for Madinah, 160 kilometres to the east. In addition, it has served as the nearest gateway for seaborne pilgrims bound for the holy cities of Makkah and Madinah. Yanbu Commercial Port was, prior to 1978, relatively small, with only two berths and able to accommodate vessels of up to 10 metres draught. But from 1979 until today, its expansion increased capacity to nine berths with the most modern facilities and equipment, and the capacity to handle more than three million tonnes of cargo per year, however in 2005 the port throughput was 1,175,581 tonnes (see Table: 6). Uthman (2000) stated that Yanbu Commercial Port has many of the constituents and characteristics required for it to continue to perform its role and become more effective in serving the national economy and development. The port has links to all regions of the country via a modern road network, together with the presence of branches of all government departments at the port, facilitating its usage.

Table 6: Yanbu Commercial Port Throughput Type of Cargo (Tonne)

CARGO TYPE	**DISCHARGED**	**LOADED**
BULK CARGO (SOLID)	1,001,905	20,000
BULK CARGO (LIQUID)	--	3,995
GENERAL CARGO	56,961	74,780
CONTAINERS	159	16,937
RO-RO & VEHICLES	579	265
LIVESTOCK	--	--
TOTAL	1,059,604	115,977
TOTAL PORT THROUGHPUT	**1,175,581**	

Source: Saudi Port Authority (2005).

According to the SPA (2000) Yanbu Commercial Port is suitable for handling different types of ships including general cargo, ro-ro, passenger ships, bulk-cargo etc. Also, it has a large fleet of cargo-handling equipment suitable for handling various types of general cargo,

containers, unitized homogeneous cargo, heavy-lifts and dry-bulk cargo. In terms of storage, the cargo terminal is provided with extensive storage facilities. There are 6 transit sheds adjacent to berths and 3 warehouses with a total covered storage space of 61950 square metres. Additionally, it has a vast paved open storage area measuring approximately 529,400 square metres.

7- Jizan Port:

Jizan Port is ideally located on the southern-western coast of Saudi Arabia, around 190 miles north of Babalmandib Strait. It occupies the middle position between the ports of Sudan, Eritrea, Djibouti and Somalia, enabling its facilities to be used for the export of many Saudi industrial products to those countries. Also, locally, the Jizan region is linked to Asir and Najran by a good road network. In view of the proximity of those regions, which have a high population density and an active trade, the Port of Jizan is ideal for the import of their requirements and those regions nearby (Bakri, 2000). Based on Al-Ruwaithy (1983), Jizan Port consisted of two berths totaling 180 metres with 5-metre depth alongside. These facilities remained in use until the first stage of the modern port was completed in 1978. This stage was implemented as part of various measures to ease the mid-1970s congestion in the principal Saudi Arabian ports (Al-Sebaiheen, 1989).

Table 7: Jizan Port Throughput Type of Cargo (Tonne)

CARGO TYPE	**DISCHARGED**	**LOADED**
BULK CARGO (SOLID)	465,038	34,797
BULK CARGO (LIQUID)	--	--
GENERAL CARGO	27,662	280
CONTAINERS	--	--
RO-RO & VEHICLES	--	--
LIVESTOCK	--	--
TOTAL	492,700	35,077
TOTAL PORT THROUGHPUT	**527,777**	

Source: Saudi Port Authority (2005).

Now, the port of Jizan consists of 12 deep water berths receiving giant commercial ships. Furnished with modern equipment for handling goods, the Port has storage areas for various types of goods and some 450 ships call at the port annually. Jizan Port is sheltered by a 3000-metre rubble-mounted breakwater and it is a modern, well-equipped, deep-water port with a highly skilled work force ensuring a quick efficient turn around of vessels at every opportunity.

The cargo imports of this port include livestock, barley (in bulk) and general cargo. The cargo exports include general cargo, foodstuffs, and cement clinker (bulk and bagged) (see Table: 7). In terms of storage, there is shed storage about 17000 square metres, open storage of about 60300 square metres and container terminal (open storage) of 122000 square metres.

8- Dhiba Port:

Dhiba Port is strategically located at the north end of the Red Sea coast of Saudi Arabia. It enjoys a natural harbour protected on all three sides by hills. This port has vast hinterland on the inland frontier up to the northeast coast of Saudi Arabia and extends up to the Mediterranean Sea on the maritime front. It is the nearest Saudi port to the Suez Canal and other Egyptian ports. The distance between Dhiba Port and the Suez Canal is 253 nautical miles where the vessel takes approximately 17 hours knots between them. The port was inaugurated in 1995 by Prince Fahd Bin Sultan, Prince of Tabuk region to serve the vast North West provinces of the Kingdom. Dhiba Port is considered the northern gateway to the Kingdom of Saudi Arabia and the smallest of the major Saudi Arabian seaports. It is also the newest.

Table 8: Dhiba Port Throughput Type of Cargo (Tonne)

CARGO TYPE	**DISCHARGED**	**LOADED**
BULK CARGO (SOLID)	168,970	--
BULK CARGO (LIQUID)	--	--
GENERAL CARGO	32,669	38,978
CONTAINERS	--	--
RO-RO & VEHICLES	233,202	52,138
LIVESTOCK	--	--
TOTAL	434,841	91,116
TOTAL PORT THROUGHPUT	**525,957**	

Source: Saudi Port Authority (2005).

The port is under continuous development by Saudi Ports Authority and has three berths of 200 metres and depths alongside of 10 metres. In addition, the port has excellent links with the interior and the regional centre, Tabuk some 200 kilometres inland via fast, superbly engineered highway through the dramatic hanat Uwayrid coastal range. The major regular users of the port are passenger ferries, including a fast catamaran, which bring some 330,000 people through the port during the year. From the Table (8), the port sees a large quantity of bulk cargo, bound for the northern hinterland on the excellent highway leading from the port (Miery, 2000). Regarding the storage area, there is a full covered storage area about 6000 square metres, a top covered storage area about 6000 square metres and an uncovered storage area about 150000 square metres.

From the throughput and the facilities of the ports one can notice that the ports are considered one of the major sectors which given government attention from the start of the five year development plans. Now the Saudi Ports have become major contributors to the Saudi economy and a link between the national and international economy. Bakr (2001) stated that Saudi Arabia has the largest port system in the entire Middle East, in terms of both berths and cargo volumes. When the Ports Authority was created, the Kingdom had only 37 operational berths, but there are now more than 180 berths in six commercial ports and two industrial ports.

CONCLUSION

Economic growth and the development of transportation infrastructure are closely related. One reason for this positive relationship is that transportation infrastructure influences regional productivity through the facilitation of the efficient movement of goods and labour used in production. The reduction in time and effort required to produce goods translates directly into increased regional productivity. So, in vast countries like the Kingdom of Saudi Arabia, where the main population centres are not only scattered all over the country but are also separated by deserts, sand dunes, valleys and mountains, reliable transportation infrastructure is essential. Therefore, the government of Saudi Arabia appreciates the importance of this sector and a lot has been achieved during the last few decades. Additionally, Saudi Arabia enjoys a number of ports that are equipped with the most modern equipment, machinery, installations and facilities for the handling of cargo. The Kingdom today not only enjoys an effective transportation system but also provides opportunities for choice between different transport modes. Thus, the growing complexity of the transport system is increasingly reflected in the competition beginning to emerge between transport modes.

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