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The Transformation of Arab Transportation Infrastructure: Part One – Sea Ports

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The Arab Middle East is in the midst of a fundamental change in its transportation infrastructure. Many Arab countries have heavily invested in sea port development, and some major projects are still under construction or in the pipeline; a second wave of change, underway now, relates to rail transportation, in which Arab states have initiated massive plans to transform their land-transport infrastructure through new rail projects. Though independently planned by the respective governments, these sea and rail projects add up to a coordinated system that re-shapes the regional transportation infrastructure, creates a new network of regional "land bridges," and entails far-reaching economic and strategic repercussions.

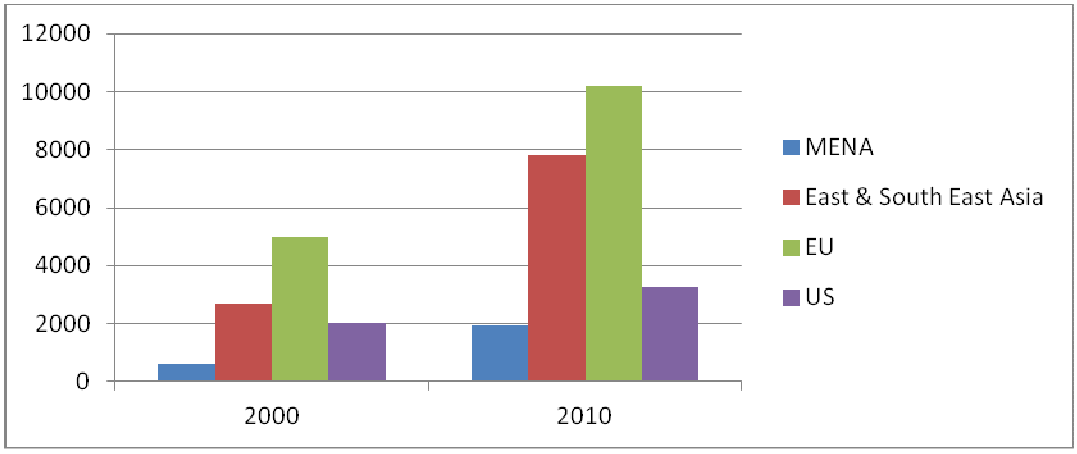
This article will discuss the first wave of change, relating to the Arab sea port network. The second wave, regarding new rail projects, will be presented in a forthcoming article.

The Middle East is strategically located on the most important global trade route, between Western markets and the mushrooming economies of East and South-East Asia. This latter area's volume of exports and imports grew from about $2.5 trillion in 2000 to almost $8 trillion in 2010, nearly twice as fast as that of the US and EU economic blocs combined. By 2010, East and South-East Asian trade represented

almost 30 percent of total world international trade, compared to slightly over 20 percent in 2000. A large part of this trade is shipped through the Middle East.

The volume of trade of the Middle East and North Africa (the MENA region, including all Arab as well as non-Arab countries of the region – Turkey, Iran and Israel) countries increased at similar rate to that of East and South-East Asia. MENA's international trade (imports and exports) more than tripled between 2000 and 2010; and, by 2010, it was equal to 60 percent of that of the US (compared to only one third in 2000); and almost 20 percent of the EU's trade (compared to only 12 percent in 2000).

Chart 1: International Trade (Exports and Imports) by Regions: 2000-2010
($ billions, current prices)



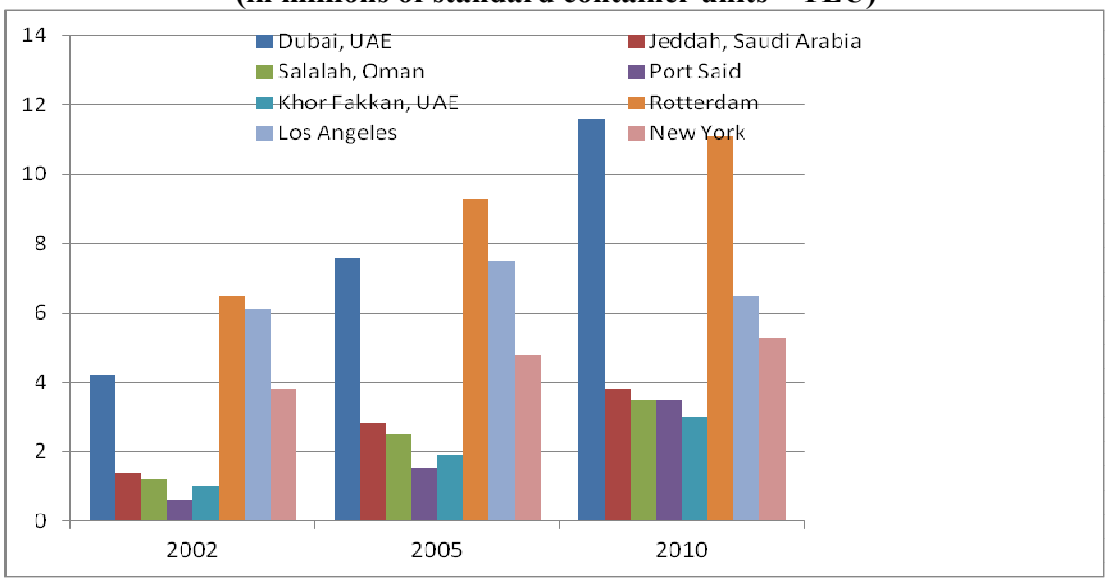
Source: UN, International Merchandise Trade Statistics, 2011, Table A

The combined effect of the growth in MENA's trade and in East-West trade passing through the region resulted in growing pressure on regional sea ports and the Suez Canal. Between 2002 and 2008, the total volume of containerized shipments handled by MENA ports grew by two thirds, compared to only one third growth in North American ports and 45 percent in Europe. Only the East and South-East Asia regions registered faster growth rates than the Middle East.

In 2010, five Arab ports were among the top forty largest container ports in the world compared to seven European ports and three American ports. Dubai Port is, since 2007, the largest container port west of China. It is among the world's ten largest

ports, surpassed only by East and South-East Asian ports. It is larger than Europe's top container port, Rotterdam; and it handles almost twice as many containers per year as the largest American one, Los Angeles.

Chart 2: Main Middle Eastern Sea Ports,
Compared to Largest US and European Ports: 2002-2010
(in millions of standard container units – TEU)



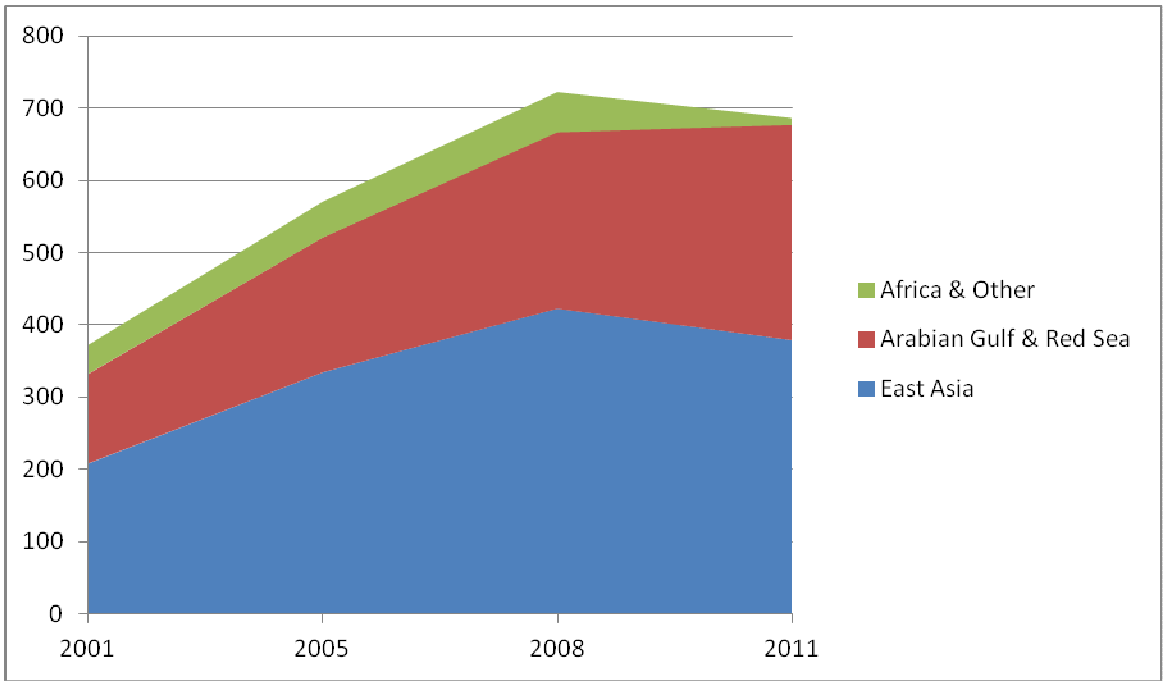
Sources: World Shipping Council; American Association of Port Authorities.

Between 2000 and 2008, the volume of cargo passing through the Suez Canal doubled, reflecting the fast growth of both Asian trade and that of the Arabian Gulf countries – as shown in Chart 3. In 2009, due to the global economic crisis, traffic fell sharply, but recovered in 2010-2011.

The growing pressure on the region's transportation infrastructure triggered plans for fundamental change, first, in the sea-port system, and, in recent years, in the formation of ambitious plans for extensive railway networks and new "land bridges," which would supplement the Suez Canal route and facilitate trade in and throughout the region.

Chart 3: Suez Canal Traffic: 2001-2011

(million tons of cargo)



Source: Suez Canal Authority.

The upsurge in trade and in related sea-port activity over the last decade was made possible by considerable expansion of port capacity. Though this process is still on-going, and several large projects are still in construction or in the pipeline for completion in the coming few years, the new regional sea-port system is mostly in place.

The most important part of the new Arab port system has developed in the GCC countries. The GCC (Gulf Cooperation Council) economic bloc includes the six Arab Gulf countries – Saudi Arabia, the United Arab Emirates, Kuwait, Qatar, Bahrain, and Oman. Their ports in the Arabian (Persian) Gulf have become key hubs for global East-West trade. They serve the enormous volume of trade in and out of the Arabian Gulf free-trade zones, as well as the enormous amounts of oil, chemicals, and other industrial exports coming out of the large oil-production and industrial areas on the East Coast of the Arabian Peninsula. In addition, these ports serve as the entry-point for most of the imports of Saudi Arabia and the other Arab Gulf countries.

The GCC countries' Arabian Gulf ports are complemented by Saudi Red Sea ports, and Omani ports on the southern shores of the Arabian Peninsula – as shown in Map 1 below. Many of the GCC's active ports are currently undergoing expansion, and several new ones are under construction or in the pipeline for this decade with a total investment in excess of $50 billion already committed for these projects.

The overall volume of containerized cargo, currently handled by the some thirty GCC ports, combined, is about 30 million TEU ("TEU" stands for "Twenty-foot Equivalent Unit," i.e. a standard 20-foot long shipping container).This is larger than the volume of containerized cargo handled by any country in the world, except for China and the US. It is double that of Japan, Korea, or Germany**.** By the early 2020s, the expansion projects of the GCC countries will double the volume of containerized cargo handled by GCC ports to around 60 million TEU.

In addition, the GCC ports handle large volumes of general and bulk cargo (the term general and bulk cargo relates to cargo types which are mostly not shipped in containers, such as grains, fuels, timber, certain chemicals and metals, specialized cargo like cement, vehicles, etc., but not including crude oil and gas)**.** Current GCC figures are slightly less than 250 million tons of general and bulk cargo, and by the early 2020s, are expected to be in excess of 400 million tons per year. By comparison, the total volume of containerized cargo in all Israeli sea-ports was, in 2010, 2.3 million TEU; and that of general and bulk cargo was about 20 million tons.

Besides the commercial and industrial port system, the GCC countries have developed a vast network of specialized oil and gas terminals, which handle more than 1.5 billion tons of crude oil and gas exports per year.

Among the GCC countries, the United Arab Emirates (UAE) has been the most aggressive in port development. It has already positioned itself as a world-class shipping power, as its ports handle as much containerized cargo as Japan or Korea. The Dubai Port is, by far, the largest of the Arabian Gulf ports. It is located near the Jebel Ali Free Trade Zone, which is one of the world's largest. The Dubai Port is continuously expanding to sustain the fast growth in traffic. The total volume of containerized cargo that it handled tripled from four million TEU in 2002 to above 12

million TEU in 2011. Current expansion plans would increase its capacity to 15 million TEU in 2013, and then to above 20 million TEU by 2020. In addition, the Dubai Port handles more than 50 million tons of general and bulk cargo.

The Dubai Port is not the only large port in the United Arab Emirates. The Khor Fakkan Port, located on the Gulf of Oman (the east coast of the UAE – see Map 1 below), has developed in recent years into an important hub for east-west global trade; and the new Khalifa Port,in the Abu Dhabi Emirate, is planned to grow, through phased development up to 2030, to a capacity of 15 million TEUs and 35 million tons of general and bulk cargo.

The UAE's port development program will improve its position in the global shipping industry to the league of the top five. The total volume of containerized shipments handled in UAE ports is forecast to be, by the 2020s, at the same magnitude of Singapore or Hong Kong, and surpassed only by China and the US. Furthermore, in 2010, Dubai Ports World (DP World), the international port-management arm of the Dubai Port Company, became the third largest globally. DP World manages more than 50 ports, and is engaged in the development of about 10 additional ports in more than 30 countries across six continents.

Saudi Arabia has two large commercial and industrial ports on the Arabian Gulf: King Abdul Aziz Port in Dammam, and King Fahd Industrial Port in Jubail. The Dammam Port serves the general trade and industrial needs of the Dammam area, the Kingdom's most important industrial center in the Eastern Province. It also serves the cargo movement to Riyadh and the vast in-land population and industrial centers around the capital, and Saudi east-oriented trade at large. King Fahd Industrial Port in Jubail, 100 km north of Dammam, is the most important Saudi industrial port, serving the huge complex of Saudi petro-chemical and heavy industry zones, which were developed around the oil production facilities there. A new port, Ras Al-Khair/Ras Al-Zour, 110 km to the north of Jubail, started operation in 2011. This port specializes in export of minerals and related industrial cargo. Its initial capacity is about 10 million tons of general and bulk cargo, and would expand to facilitate increased volume of mineral and industrial exports from the north-central and north-eastern parts of Saudi Arabia. The nearby oil and LPG Terminals in RasTanura and Juaymah,

together with a third off-shore terminal at Az Zuluf, 60 km to the north-east, handle around two thirds of Saudi crude oil and gas exports.

Since the last decade, Saudi west-coast ports have taken the lead in Saudi port development as the Saudi government accelerates the economic development of the western provinces of the Kingdom. By 2010, the Jeddah Port, on the west coast was already, by far, the largest Saudi container port, and the second largest in the Middle East, after Dubai Port, handling almost four million TEU of containers, in addition to 22 million tons of general and bulk cargo. The Jeddah Port's capacity is planned to expand to 13 million TEU by 2020. A new port, the King Abdullah Economic City Port, is under construction as part of the ambitious development project of the new King Abdullah Economic City, 120 km north of Jeddah. This new port is planned to develop into the largest Saudi port, with a capacity of 20 million TEU in the 2020s. The Yanbu Industrial Port, some 300 km north of Jeddah, serves the large petro-chemical complex of Aramco in Yanbu, and related industries that have developed around this complex.

Qatar, which has what is most likely the fastest growing economy in the world, is in the midst of an enormous jump in its port activity. The New Doha Port is planned to become a main international port. It will start operation in 2015 with container-handling capacity of two million TEU, and would be progressively expanded up to 12 million TEU. Qatar's main industrial port is the Umm Said Port, in the south; while the Ras Laffan Port, which serves the Qatari gas exports and gas-related industries, is, by far, the world's largest Liquified Natural Gas (LNG) export facility.

Bahrain's new Khalifa Bin Salman Port is also built as a large international port, planned to be expanded to above five million TEU over the next two decades. Kuwait has two main commercial and industrial ports, and a few specialized oil and gas terminals.

Oman's main commercial port is the Salalah Port on the Indian Ocean shore. It is the third busiest container port in the Arabian Gulf, after Dubai and Jeddah. The present capacity of its container terminal is 4.5 million TEU. In order to keep pace with the dramatic growth of East-West trade it serves, its container handling capacity will be

expanded, in stages, to reach a total of 15 million TEU by 2030. The general and bulk cargo terminals will be significantly widened as well, to cope with the double-digit annual growth rate forecast for this decade.

Yemen, which is not a member of the GCC, has only one port of some significance, the Port of Aden. Once a major international port, it has been dwarfed by Saudi and other GCC ports.

Iraqi ports are located along its narrow Arabian Gulf shore, and the Shatt Al-Arab waterway. The main Iraqi port, Umm Qasr, on the mouth of the Shatt Al-Arab, has limited capacity and handles around half a million TEU per year. The Iraqi government is promoting a plan to construct a new large port at the Al-Faw peninsula, the southernmost point of Iraq into the Arabian Gulf; in addition to upgrading and expansion of the Umm Qasr port. These projects are expected to meet Iraqi long-term East-oriented trade needs. Iraq's main oil terminal is the Khor Zubair Port on the upper Shatt Al-Arab, near Basra. West-oriented external trade, however, will continue to rely on the Jordanian Port of Aqaba and the land-routes through Jordan and Syria.

Jordan's Aqaba Port has traditionally served the transit-trade to Iraq, beside its role as the sole port of Jordan. In 2003, after the war in Iraq, Aqaba Port was flooded with Iraq-bound imports, and the monthly volume of imports entering the Port of Aqaba, in 2004-2005, was almost 150 percent higher than the pre-2003 Iraqi war monthly average. In order to cope with the significant increase in Iraqi and Jordanian external trade, as forecast for the coming decades, a new port is under construction, south of the city of Aqaba near the Saudi border. The capacity of the container terminal would increase to 1.5 million TEU, in 2013, and the overall capacity of the various general and bulk cargo terminals will be greatly expanded as well. Iraqi imports already account for about 40 percent of the volume of containers handled in the Aqaba Port; and as shown below, Iraq accounts for similar rates of activity in Syrian and Lebanese ports. The huge economic potential and fast growth of Iraq is expected to combine with the new Iraqi and Jordanian railway development programs to generate even faster growth in Iraqi trade through the Port of Aqaba over the coming two decades.

Egypt's Mediterranean ports take advantage of their strategic location, and boldly advance towards a dominant position in the Mediterranean maritime trade. Port Said, on the northern mouth of the Suez Canal, replaced Alexandria as the largest Egyptian port. It handled 3.5 million TEU in 2010, and ranked as the second largest container port in the Mediterranean (after the Spanish Port of Valencia). The two other main Mediterranean ports, Alexandria and Damietta, each handle around one million TEU per year. These three ports also handle around 50 million tons of general and bulk cargo combined.

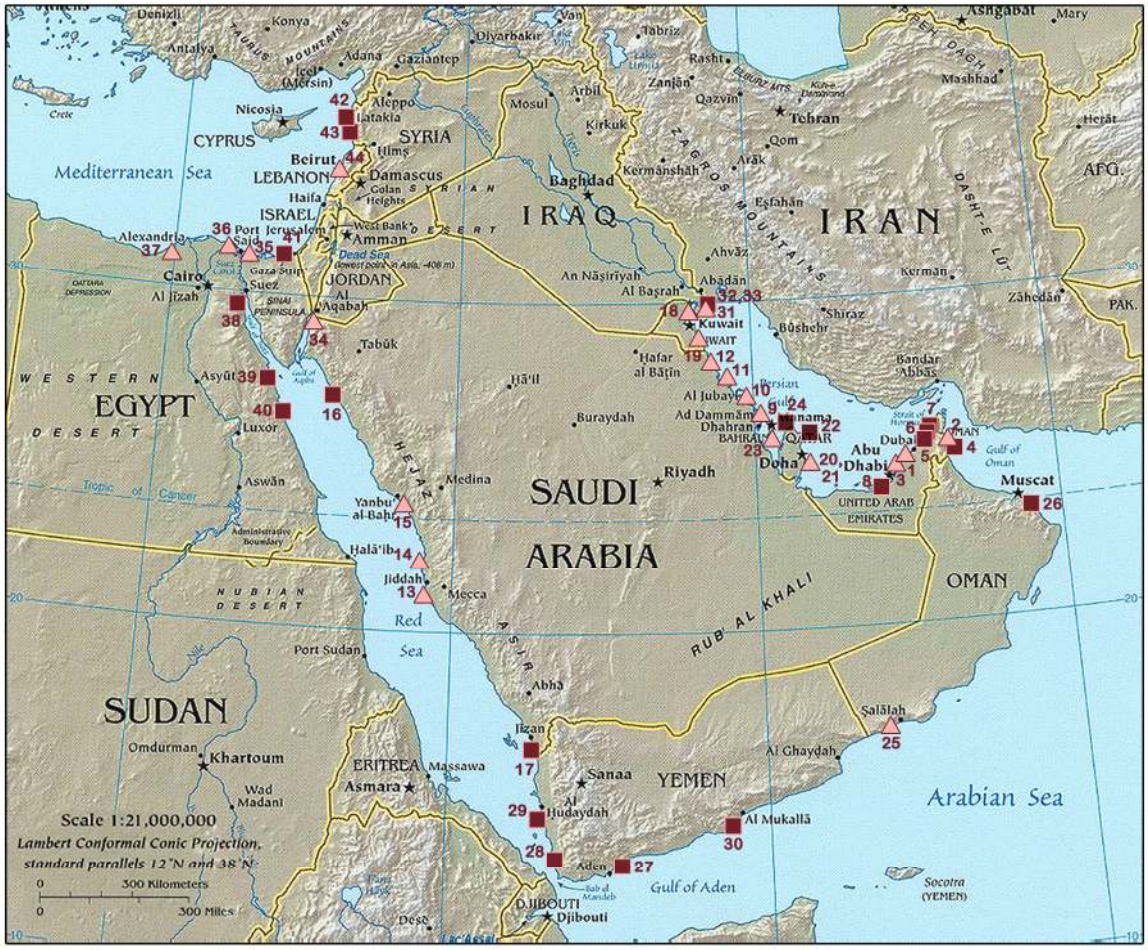
Most of Egypt's approximately ten ports on the shores of the Red Sea, the Gulf of Suez, and Sinai are small, except for the Port of Suez, on the southern entrance to the Canal, and Port of Al-Sokhna, about 50 km south of Suez, which will expand its capacity to about two million.

The El-Arish Port, on the east-northern shores of Sinai, has been developed over the last decade into a local secondary port, with total capacity of two million tons a year (general cargo only). In the long-run, however, it is strategically located to develop into the main port that would service the future Palestinian state, as well as the end-point of a land-bridge from the Red Sea and Arabian Gulf ports to the Mediterranean.

Syria and Lebanon have also seen increased port activity in recent years. Part of the increase in Iraqi imports and in the booming East-West trade has been channeled through these Mediterranean ports, trucked by land through Syria to Iraq, and through Syria and Jordan to the Arabian Gulf.

The Beirut Port doubled its container throughput from below 500,000 TEU in 2005 to around one million TEU in 2011. The main Syrian ports of Tartous and Latakia have also seen significant increase in the volume of trade, until the outbreak of the Syrian revolt in 2011.

Map 1: Main Ports in the Arab Middle East



Main Ports
Secondary Ports

Ports of the United Arab Emirates
1 - Jabel Ali in Dubai
2 - Khur Fakkan
3 - Khalifa
4 - Fujairah
5 - Sharjah (Khalid)
6 - al-Hamriyah
7 - Ras Al-Khaimah
8 - Port Zaid

Ports of Saudi Arabia
9 - King Abdul Aziz in Dammam
10 - King Fahd in al-Jubail
11 - Ras Tanura, Juaymah and Az-Zuluf
12 - Ras Al-Khair/Az-Zour
13 - Jeddah
14 - King Abdullah Economic City
15 - Yanbu
16 - Dhiba and Duba
17 - Jizan

Ports of Kuwait
18 - Shuwaikh
19 - Shuaiba

Ports of Qatar
20 - New Doha Post
21 - Ras Laffan
22 - Umm Said

Ports of Bahrain
23 - Khalifa bin Salman
24 - Manama (Salman)

Ports of Oman
25 - Salalah
26 - Muscat (Sultan Qabus)

Ports of Yemen
27 - Aden
28 - Mocha
29 - Al-Hudaydah
30 - Al-Mukalla

Ports of Iraq
31 - Al-Faw
32 - Umm Qasr
33 - Az-Zubair

Port of Jordan
34 -Aqaba

Ports of Egypt
35 - Port Said
36 - Damietta
37 - Alexandria
38 - Al-Sokhna/Suez
39 - Al-Ghardaqah
40 - Safajah
41- Al-Arish

Ports of Syria and Lebanon
42 - Latakia
43 - Tartus
44 - Beirut

Source: University of Texas Libraries. Port lisiting courtesy of Yitzhak Gal and Elena Kuznetsov.

Looking ahead, these ports are well-positioned to benefit from the surge of East-West and regional trade, as end-points of the new railway-based land bridges between the Arabian Gulf, Iraq, and the Mediterranean.

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For the previous issue of *Iqtisadi*, press here.