

# Prospects of Gwadar Port as a Hub Port

Kausar Takrim\* & Mustafa Afeef\*\*

## Abstract

*The successful hub and transshipment ports throughout the world are earning huge revenues for their countries. However, every port cannot be a hub port, it needs to qualify some conditions like excellent geographical location, great area for extension of terminal facilities, to be able to handle large ships safely, efficient operations for container handling, availability of frequent feeder services, attractive charges for cargo handling and quick turnaround time etc. An attempt is made in this study to analyze Gwadar port as hub port and to focus on the economic potentials of Gwadar port that can enhance the economy of Pakistan.*

**Keywords:** Hub ports; Gwadar; Transit trade; Trans-shipment.

## Introduction

With the rapid growth in world trade, seaport container terminals have undergone dramatic changes. With the use of mega container ship, establishment of an efficient hub seaport network needs to speed up. At the same time, to cater to the cargo owner's demands of better service at lower costs, mega container ships with 6600 TEU were being put into use in 2002 with the expectation that ships of even larger capacities of around 10000 TEU ~15000 TEU would start sailing the waters in 10 years. Many countries are planning to build more hub seaports with larger and deeper berths in order to provide services to newer types of vessels and earn more revenues by taking full advantage of the economy of scales. Gwadar port will prove itself a successful hub port and on materialization will be able to capture tremendous trade of the region.

## Hub Port and its Benefits

It was the Federal Express's courier service who introduced the Hub and spoke transport service and was adopted next by airlines. Persons, freight and parcels are transported to a central hub and then to different areas through a network of spokes under a hub-and-spoke transport arrangement. As a result of globalization the shipping industry have adopted this arrangement speedily and world can see the emergence of a lot of hub ports connected to smaller feeder ports. The introduction of container shipping has further strengthened this arrangement.

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\* Dr. Kausar Takrim, Assistant Professor, University of Peshawar

\*\* Dr. Mustafa Afeef, Assistant Professor, IQRA National University, Peshawar

About 25% of containerized cargo is transshipment and it can be expected that this percentage will be increased in future.

‘A hub port is a container port that provides terminal and marine services to handle and facilitate the transfer or transshipment of containers between feeder and mother vessels in the shortest possible time.’ (Hoi, 1999)

Among the requirements of a transshipment hub, the most important one is its strategic position. The transshipment hub should have a location that it can reduce the steaming time for ships, should be close to the trunk routes which can minimize the deviation time, should allow shortest trunk-haul transit time, should be capable for the use of fastest feeder services for surety of door-to-door movements for various spots and should be time and cost competitive with alternative direct shipping. Some additional qualities which can attract users are, adoption of advanced IT technologies, 24 hours service, facilities of all supporting activities, and availability of all services required by customers. In addition it must be cost friendly and should provide some savings to them who want to choose it for their business.

Good infrastructure is another element in the success of a hub port. It is estimated that the poor infrastructure accounts for more than 40 percent of predicated transport costs. It is estimated that there is decrease in trade volume by 28% and increase in transportation cost by 12% if the infrastructure declines from 50% to 75%. (Lima, & Venables, 2001) It is also analyzed that the rate of growth of both manufactured exports and GDP per capita reduces with the increase in shipping cost (Radelet S. and Sachs J., 1998). Transport costs can be minimized by providing quality onshore infrastructure. The most important factor that affects the transportation costs is the distance. There is 20% increase in maritime transport cost by 100% increase in distance (Clark & Dollar, 2001). Port efficiency also counts a lot in hub and spokes system. Shipping costs reduce by 12% if the efficiency of the port increases by 25% (Ibid). Port efficiency is one of the main factors of maritime transportation and hub ports all over the world are working at their best possible efficiency and, therefore, are a very useful instrument in the development of country's economy. The Internet and wireless communications have facilitated both operational as well as transactional management of operations and logistic services, making increase in efficiency of a hub port possible, with the aim of getting maximum benefit out of the opportunities offered by transshipment.

Hub ports are established not only for the reduction of cost of collection and distribution of containers moved by large container vessels to/from different smaller ports, but its objectives includes the improvement in delivery of cargo in-time, reduction in transit inventory, and making of the whole process of moving containerized cargo more

easy and faultless. In other words, the purpose is not just to reduce origin-to-destination transport and handling or transfer costs but to make the whole supply chain, including all involved transactions, more efficient and more responsive to the ever-changing market place.

Hub ports will be successful if the financial benefits are more than the additional costs like cargo handling costs, port charges and any extra distance traveling. The attainment of economies of scale is a must for hub ports along with the provision of logistic chains. Among the benefits of a hub port the most certain one is the income generation by double handling of containers. Hub ports also provide direct access to line haul service to domestic traders and therefore reduce their cost and time to/from overseas markets. Reduction in transportation time directly affects the competitiveness of traders positively by reducing their costs. The reduction in cost further generates income and enhances employment throughout the nation. It is a common practice in the developing countries to open free trade zones in the locality of hub ports to increase and facilitate trade. To exemplify one can consider the port of Jebel Ali of UAE which is creating enormous economic activities as a result of an associated free trade zone in conjunction with the port.

Hub port is a product of globalization and outsourcing. Globalization of trade and outsourcing requires both the ability to effectively manage logistic chains and change their structure and/or direction to respond to the new technology, markets, and economic conditions.

### **Prospects of Gwadar Port as a Hub Port**

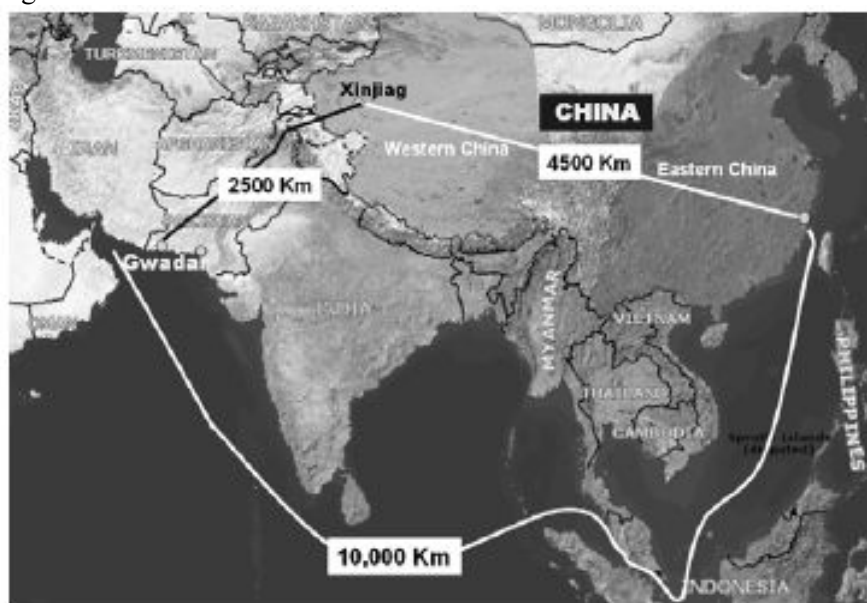
The Asian Development Bank (ADB) wanted a hub port outside the Straits of Hormuz (Qazi, 2007). The geography of Pakistan is supporting Gwadar port to act as a hub port. Pakistan is linking Central, West, South, and East Asia and ties the surrounding regions in a web while acting as a hub for trade. This significance of the geography of Pakistan was perfectly presented in June 2006 by the former president Pervaiz Musharraf, in a statement,

‘Pakistan provides the natural link between the Shanghai Cooperation Organization (SCO) states to connect the Eurasian heartland with the Arabian Sea and South Asia... We offer the critical overland routes and connectivity for mutually beneficial trade and energy transactions intra-regionally and inter regionally’. (Musharraf, 2006)

Being a part of Indus Valley Civilization, Pakistan has been used as a trade route, between China and rest of the world. In the new concept of a globalization and increase in communication means and diversification of the transportation conveniences, Pakistan has got more significance. The importance of Gwadar is linked with trade and energy wealth of its surrounding countries in geo-political reference. Its 600 KM long

Makran coast lies at close proximity to the Straits of Hormuz and is in connection with the Gulf region which has more than 60% of oil and 25% (U.S. Department of Energy, 2002) of world gas reserves, making it a very attractive location for both East and West. As Gwadar is providing the shortest route to the Central Asian States to the Arabian Sea, having over 23 billion tons of oil and 3000 billion cubic meters of gas, has created new geographic imperatives for Gwadar. Because of its geographical location, Gwadar seaport will serve as a trade transit point for Afghanistan, Central Asia and Middle Eastern countries. Gwadar is 2,500 km from Xinjiang while its distance from China's eastern seaboard is 4,500 km. China wants Gwadar port to be the transit point for Xinjiang. For China's interior regions it is more feasible and cost friendly to carry trade through Gwadar port.

Figure 1



*Shortest Route from Western China to Gwadar*

Port of Singapore Authority (PSA) was being chosen to operate Gwadar port. An agreement was being signed between the Gwadar Port Authority (GPA) and a subsidiary of the PSA the Concession Holding Co (CHC) for \$550 million (Haider, 2007). This agreement was for forty years but The Pakistani cabinet approved the transfer of Gwadar from Singapore's PSA International to the state-owned China Company on January 30 2013.

Having the population 125000, Gwadar town is going to be a hub of economic activities like shipping, commercial and industrial activities. Gwadar port with modern approach, new technologies, well

communication links and excellent offshore infrastructure would attract a lot of countries from Asia, Africa and Asia Pacific for trade. If all the requirements are provided at Gwadar port then it can earn as much as \$60 billion per year for Pakistan only from transit trade. (Kiani, 2007)

### **Physical Development of Gwadar Port**

Gwadar port is decided to be constructed in two phases.

#### *Phase-I*

In 2001 an agreement was signed between Pakistan and China for the development of phase I of Gwadar port. It was decided that phase I will be constructed with the amount of \$248 Million out of which China will provide US \$ 198 million and government of Pakistan US \$50 million. It was 22<sup>nd</sup> March, 2002 when the construction was started. Chinese Harbor Engineering Company have constructed the first phase of this wonderful project within the given time period. This port is 14.5 meters deep and has five kilometer long channel. It has currently 200 meters wide three multipurpose berths. At present the port can handle up to 50,000 deadweight tons bulk carriers.

#### *Phase-II*

Phase II of the project is planned to be undertaken after the first phase was made operational. The system of BOT - Built Operate Transfer- and BOO -Built Operate Own- is being adopted for the construction of Phase II through the private sector. The cost of Phase II of Gwadar port project is estimated at US\$600 million. China is also going to participate in second phase of Gwadar port. The construction of four container berths, one grain terminal one bulk cargo terminal, one Ro-Ro terminal; and two oil terminals are included in phase II of the project. (Gwadar Master Plan, 2006)

### **Port Associated Infrastructure**

Along with the construction of Gwadar port there is a complete plan for the construction of supporting infrastructure. Gwadar Development Authority is already being established to work with Gwadar Port Authority by the government of Pakistan to accelerate and unite all the activities related to the completion of this big project. The population of Gwadar is forecasted between 400,000 to 500,000 in about five years and a population of above 1.5 million in 2020. (Gwadar Master Plan, 2006) The following major infrastructural projects may positively impact the success of Gwadar port.

### **Road Links**

The development of Gwadar's hinterland connections is crucial for the success of port. Pro-active actions are needed to secure the timely completion of the key roads and railway projects.

#### *Makran Coastal Highway (M-10)*

The very important road from Gwadar to Karachi, the Makran Coastal Highway, which is 700 kilometers is completed simultaneously with the first phase of the port. This road is the lifeline of Gwadar port project. The road also links the ports of Ormara and Pasni along Gwadar to Karachi. The government of Pakistan is planning to extend it to Iran in the future. The highway has reduced travel time to Karachi from 48 hours to only 7 hours only.

#### *Gwadar-Ratodero Project (M-8)*

It connects Gwadar to Turbat, Khuzdar, Shadadkot and Ratodero. It links Gwadar to the Indus corridor and is critical to enhance Gwadar competitiveness for import and export traffic.

#### *Baima-Sorah-Quetta-Chaman Link*

To attract reasonable amount of business from Afghanistan like Transit Trade or container cargo to the port of Gwadar, road connection from Chaman to Afghanistan is a considered pre-requisite. In this way total or part of Afghan transit trade can be shifted to Gwadar Port. US\$500 million is already provided by the Asian Development Bank for the construction of roads connecting Pakistan with Afghanistan and Central Asian States. However, there is delay in this process because of the instable political conditions in Afghanistan and domestic disturbance in Pakistan.

It is also planned to develop rail links like road networks. Road links, rail links and development of dry ports are the basic requirements of promoting trade in a country. In this regard, to forward a step, Different interested companies were invited for the preparation of feasibility report by Pakistan Railways. Two companies were short listed by Pakistan Railways, one a joint German-Austrian company, ILF Consulting Engineers, and other a Chinese company to give their feasibility report for 1000-kilometer rail-track between Pakistan and Xinjiang. 750 kilometer long railway track will start from Havalian, a small town near Abbotabad in the province of Khyber Pakhtoon Khwa up to Pak-China border at Khunjerab within Pakistan. 250 KM track will be constructed inside Xinjiang, the Chinese western region. There will be a lot of hurdles in the construction of this track especially the mountainous terrain and poor condition of soil. Experts say that at minimum ten years will be required to complete this project. Regarding the cost of construction, it would be as costly as similar mountainous

terrain in Tibet, which cost US\$5 million per kilometer. This simply shows that the construction of a rail track from Havelian to Xinjiang will cost US\$5 billion, an enormous financial commitment. (Akbar, 2006)

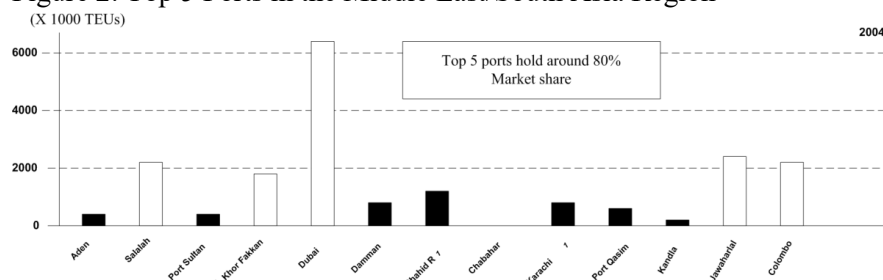
### The Competing Ports

While analyzing the competing ports, all major ports between Aden (Yemen) and Colombo (Sri Lanka) have been considered.

In the Middle East /South Asia region, where the top 5 (Dubai, Salalah, Khor Fakkan, Jawahar Lal Nehru and Colombo) currently holds 80% of the container market, most parts are aggressively expanding their capacity. In Gwadar direct neighborhood Shahid Rajaei is the strongest player in the liquid bulk, whereas Karachi and Port Qasim together dominate dry bulk (Gwadar Master Plan, 2006). The container transshipment hubs are generally better equipped in terms of infrastructure to handle the 4<sup>th</sup>/5<sup>th</sup> generation vessels. Major competing ports are often linked to free trade, special economic or export processing zones, which offer additional investment incentives.

The top five container ports in the region have an estimated market share of around 80% of all containerized volume.

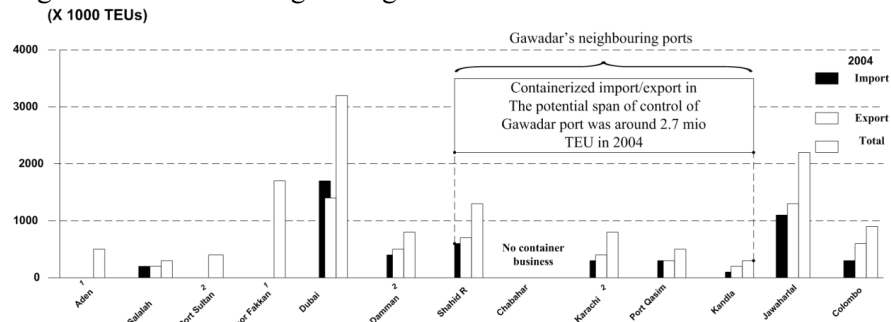
Figure 2: Top 5 Ports in the Middle East/South Asia Region



Source: (Gwadar Master Plan, 2006, p. 79)

In 2004, total containerized volumes handled in the Middle East/ South Asia region exceeded 18 million TEU. Dubai is leading container port with over 6 million TEU in 2004, representing 30-35% of the region's container volume. All ports east of the gulf region in Iran, Pakistan and Northern India have relatively small container volumes, not exceeding 1-3 mio TEU per year. Containerized import /export within the sphere of influence of Gwadar port was around 2-7 million TEU in 2004. Dubai is main import/export port for containerized products; volume is around 2-3 million TEU.

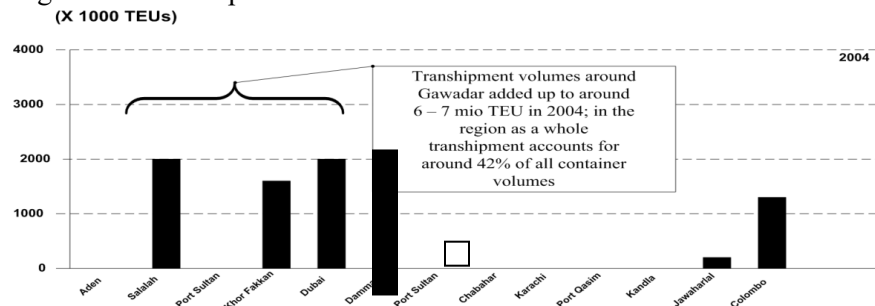
Figure 3: Gwadar's Neighboring Ports



Source: (Gwadar Master Plan, 2006, p. 80)

Container transshipment volumes in Gwadar's influence sphere (Salalah, Khor Fakkan and Dubai) amounted to around 6-7 million TEU in 2004. There are only few ports in the region with strong position in container transshipment, for all other ports not focusing on trans-shipment, the volumes are assumed to be negligible.

Figure 4: Transshipment Volumes around Gwadar Port



Source: (Gwadar Master Plan, 2006, p. 81)

Table 1: Competitive Position of Gwadar Port for Transshipment by Different Factors

Factors	Weight	Dubai	Salalah	Khor Fakkan	Nehru	Gwadar	Karachi	Chabahar	Kandla	Qasim
Location	30%	3	5	3	3	3.5	2	3.5	2	1
Infrastructure	30%	5	5	4	3	3(+/-1)	3	2(+/-1)	2	2
Synergy with Ex/Im Cargo	15%	4	1	2	4	1	3	1	2	4
Productivity	15%	5	5	5	5	3.5(+/-0.5)	3	3.5(+/-0.5)	2	2
Costs	10%	4	4	4	4	4(+/-1)	5	4(+/-1)	3	3
Weighed scores		4.15	4.30	3.55	3.35	3.03(+/-0.47)	2.90	2.73	2.60	2.10

Score: 1=poor, 5= best

Source: (Little, 2006)

Competitive position of Gwadar port for transshipment is determined as follows:

- Location (30% weightage). Proximity to main shipping lanes



- Physical capabilities of a terminal in handling large vessels (30% weightage), like capacity, ship size access, berth length/draft, connectivity with other regional hubs.
- Synergy for combining Export-Import & transshipment operations (15% weightage). Improvement according to the scale economies from large consignment size.
- Productivity (15% weightage). Container's movement /hour, Container through put.
- Container-related costs (10% weightage). Container handling and storage fee structure.

Proximity to major long haul trade routes allows a port to become a logical transshipment hub. Salalah is a star case example of how an excellent location can boost to attract transshipment. In terms of infrastructure Dubai and Salalah are better positioned for the future. Dubai's synergy between the transshipment and Export-Import cargo has provided a competitive advantage over its competitors, counter balancing its weaker geographical location. Dubai, Salalah, Khor Fakkan have established productivity levels almost comparable to other leading international ports. Container related fees for transshipment traffic are similar for the market leaders. Jawaharlal Nehru offers lower fees to attract transshipment traffic. Location wise Gwadar and Chahbahar's positions are the best due to their proximity to the Gulf region. Ports in the 2<sup>nd</sup> table are currently lacking sufficient drafts (less than 14m) to handle the largest vessels and do not have adequate equipment (e.g. super post/post panamax gantries). Gwadar and Karachi have clear plans to address these difficulties, giving them an edge over the rest. Chahbahar is only planning for 15m drafts. Gwadar and Chahbahar will need to build up critical volume of Export-Import cargo from scratch. Gwadar & Chahbahar still have flexibility to adopt a competitive tariff scheme.

### **Comparison of Ports**

Dubai, Jebel Ali, Salalah and Khor Fakkan ports are well-established hub ports. Dubai's trade accounts for 16.5 percent of a \$20 billion economy of the UAE and these ports contribute significantly in the income (Swibe, 2004). Today about one-fourth of Dubai's GDP is contributed by Jebel Ali Free Economic Zone. The income generation of port of Salalah was above \$58 million through the transshipment business in 2003. The present cargo handling capacities of Qasim and Karachi ports are 17 million and 25 million tons per annum respectively and are reaching their capacity. As far as Iran is concerned, both ports do not have enough capacity to handle the flow of natural resources of Central Asia.

Moreover, international isolation of Iran hampers the ports operations, as it is not open to international users.

### **Conclusion**

The presence of geopolitical turbulence in the Middle East and lack of capacity expansion in case of domestic ports will provide opportunity for Gwadar port to attract reasonable share of the market and try to establish itself as a hub port. It can be concluded that after completion of both phases, Gwadar port will have requisite infrastructure to attract its share of business. It, however, needs to be accepted that emergence of a new port would only mean a tighter competition to share the market. Only an appropriate set of policies, priorities and incentives would decide the future of the transshipment business in this area.

## Reference List

- Akbar, N. (2006) Railways shortlist two companies for China rail link study. *The Nation*. 16th November.
- Clark, X., Dollar, D., & Micco, A. (2002) *Maritime transport costs and port efficiency*. Study sponsored by World Bank and Inter-American Development Bank.
- Gawadar Master Plan (2006) [Online] Available from: <http://www.gda.gov.pk/pages/masterplan.html>
- Haider, S. F. (2007) *Pakistan Port Opens New Possibilities* [online Available from: [http://www.atimes.com/atimes/South\\_Asia/IC22Df02.html](http://www.atimes.com/atimes/South_Asia/IC22Df02.html)
- Hoi, C. T. (1999) *How will feeder operators view the creation of secondary hubs: Will it give rise to co-operation of competition?* In Proceedings of the 21<sup>st</sup> World Port Conference, 15-21 May 1999. The International Association of Ports and Harbors, Tokyo
- Kiani, K. (2007) \$60bn Income likely from Mega Projects. [Online] Available from: <http://www.dawn.com/news/273091/60bn-income-likely-from-mega-projects>
- Lima, N., & Venables, A. J. (2001) Infrastructure, geographical disadvantage, transport costs, and trade. *The World Bank Economic Review*. 15(3). pp. 451-479.
- Little A. D. (2006) *Analysis for preparation of Gwadar Port Master Plan*.
- Musharraf's Address at SCO Summit held at Shanghai, China (2006). [Online] Available from: <https://presidentmusharraf.wordpress.com/2006/07/07/sco-states-summit-2006/>
- Qazi, A. (2007) Pakistan in Starr, S. F. *The New Silk Roads: Transport and Trade in Greater Central Asia*. Johns Hopkins University Press.
- Radelet, S. and Sachs, J. (1998) *Shipping Costs, Manufactured Exports and Economic Growth*. Paper presented at the American Economic Association Meeting, Harvard University.
- Swibe, M. (2004) Trading with the Enemy. *Forbes*, 173(07). pp. 1-86.
- U.S. Department of Energy (2002) *Persian Gulf Oil and Gas Exports Fact Sheet*.