

CAPITAL UNIVERSITY OF SCIENCE AND  
TECHNOLOGY, ISLAMABAD



# A Logistics Perspective on China Pakistan Economic Corridor

by

Syed Tanvir Hassan

A research project submitted in partial fulfillment for the  
degree of Master of Science in Engineering Management

in the

Faculty of Engineering

Department of Mechanical Engineering

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*I have attained this achievement with the blessings of Allah Almighty. His countless blessings have bestowed me with this great achievement. Due to the prayers of my parents I am successful today. I want to dedicate my work to my Grand Parents.*



CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY  
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**CERTIFICATE OF APPROVAL**

**A Logistics Perspective on China Pakistan Economic  
Corridor**

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## *Acknowledgements*

All praise to Allah Almighty, the most beneficent and the most merciful. Almighty Allah has blessed man with intelligence, strength and courage. Believe on him allows us to achieve every goal of life. He is best guider and teacher. He knows the secrets in best manner. I would not be able to fulfill the great task of thesis without his blessings and guidance.

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## *Abstract*

Pakistan and China being the neighboring states are inclined to develop and strengthen their relations with each other. These two states can be called as the good neighbors who can assist each other during the time of crisis. Both countries had always a welcoming attitude towards each other in different situations due to which right from their independence till today in the 21<sup>st</sup> century, both are cooperative, supportive, encouraging, and friendly states among the other states of the world. Pakistan and China are making great attempts and efforts for building viable economic relations with each other. Through this macro-level economic project both Pakistan and China would lead up to reach their destinations along with the attainment of their national interests.

China will encourage the Economic Corridor projects with the assistance of its transportation/infrastructure projects and will make arrangements for the complete implementation of the “One Belt and One Road” initiative. There are an estimated 3000Km of resource roads in CPEC roadway network. CPEC roadway network (Eastern Alignment and Western Alignment) will be used for cargo transport, forest, mineral, and energy development, commercial and in some cases public recreation. There are of course, the numerous benefits of CPEC roadway network in Pakistan, although most benefits are social and economic rather than environmental. It is expected that CPEC roadway effects on terrestrial and aquatic wildlife, plant communities, and physical elements found across landscapes in Pakistani portion. China played a leading role in Asia and beyond for economic and political cooperation. CPEC project has two constituents first, the land-based ‘New Silk Road’ and second, a 21<sup>st</sup> Century Maritime Silk Road. A joint project of China-Pakistan Economic Corridor is very vibrant for Pakistan and China to connect Kashgar in China’s Xinjiang. Approximately 15 to 30 years China will invest \$46 billion Under CPEC, in Pakistan for the progress of Pakistan in various fields. The foremost and main pillar of CPEC is the road and rail network. Pakistan will serve as a crucial bridge between China, Middle East, South Asia and Asia and Central Asia.



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# Abbreviations

OBOR	One Belt One Road
FTA	Free Trade Agreement
SEZ	Special Economic Zone
MDC	MAPUTO Dev Corridor
IWTA	Inland Water Transport Authority
TRAC	Trance African Concession
GDP	Gross Development Project
UAE	United Arab Emirates
LOC	Line of Control
CPEC	China Pakistan Economic Corridor
IWT	Inland Water Transport
FDI	Foreign Direct Investment
UPS	Uninterrupted Power Supply
FATA	Federally Administrated Tribal Areas

# Chapter 1

## Introduction

China's One Belt One Road (OBOR) initiative seeks better connectivity among 60 countries in Asia, Europe and Africa [1]. China Pakistan Economic Corridor (CPEC) is a part of OBOR initiative. The total investment for the CPEC is US \$46 billion which includes roads, railways tracks, oil and gas pipe lines, fiber optic cable for communication, air ports and dams. Amount worth US \$16 billion will be utilized in infrastructure (roads and railways) development. Envisaged by the Chinese President Xi Jinping, the CPEC project will result in uplift of Pakistan's economy [2]. At present China is the largest trading partner of Pakistan. China and Pakistan enjoy strong mutual trade and commercial links, starting in January 1963 when first bilateral trade agreement was signed between the two countries [3]. Moreover, two countries have frequently exchanged high-level visits and a lot of agreements and investments have been made at government level as well as private level [4]. Pakistan and China signed a bilateral Free Trade Agreement (FTA) in 2006 which came into effect in 2007. Total trade of Pakistan and China under FTA rapidly enhanced from US \$4 billion in 2006 to US \$13.77 billion in 2016 [5]. Pakistan's exports to China in Financial year 2016 were US \$1.6 billion while imports from China were US \$12.1 billion.

## 1.1 OBOR Initiative

There are two parts of OBOR initiative. First one is silk road and other is passing through ocean which is maritime silk route.

### 1.1.1 Silk Road

Silk Route was established more than 2,000 years ago with the support of China's envoy Zhang Qian which was major trade routes that connected China with central Asia and rest of the world [6]. According the Chinese President Xi Jinping, in the 21st Century the abandoned Silk Road should be reused to connect more than sixty-four countries in three continents. At present the combined GDP of countries linked by OBOR initiative is US \$21 trillion [7]. CPEC, which is part of OBOR project (as show in figure 1.1) will connect Xinjiang province in China to the deep-sea port Gwadar in south of Pakistan. It is expected that CPEC will further improve the bilateral relationships between two countries at economic and public level [8].

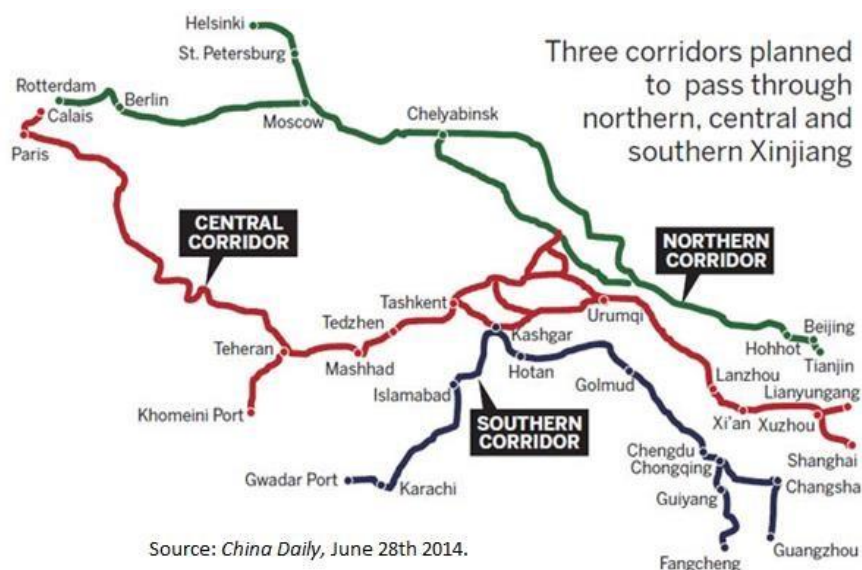


FIGURE 1.1: Layout of Northern, Central & Southern Road Routes [9].

### 1.1.2 Maritime Silk Route

Second important part of OBOR is to establish maritime silk route, which will connect China to its markets in Asia, Africa and Europe (as shown in figure 2). At the moment eighty percent of the China Oil is being transported through along routes from Strait of Malacca. After successful completion of the CPEC the link between Gwadar and Xinjian will provide an alternative to use of strait of Malacca to do trade with Europe and Africa for China. It will reduce the travel distance from sixteen thousand kilometers to five thousand kilometers [10]. After the establishment of CPEC economic growth of Pakistan will increase by 2.5 percent and the project will result in 2 million direct and indirect jobs opportunities in Pakistan between 2015-30 [11].

Several routes are proposed for the 'new Silk Road.'



FIGURE 1.2: The layout of Maritime silk route [12].

The One Belt One Road is very important for China due to its rise as super power in the entire world. The amount of investment on OBOR is expected to be in region of US \$4 trillion to 8 trillion. Although CPEC includes the development of various aspects including geopolitical issues, this my research is only focused on the logistic aspect of CPEC. The amount is being invested by a specialized investment bank which will provide lone for the successful completion of the project [13].

## Chapter 2

# CPEC As Economic Corridor

Bilateral trade and economic cooperation between China and Pakistan has increased with passage of time. At the moment China is one of the major trading partner of Pakistan regarding imports and exports. CPEC is such a corridor which has been planned after a lot of deliberation and it comprises of various projects regarding the development of transportation infrastructure network with in Pakistan [14]. Under one belt one road policy China is investing a huge amount of funds which includes the silk roads economic belt and Maritime Silk Road of 21<sup>st</sup> century [15].

Major part of CPEC is the investment in the field of transportation (road and rail) network which is 11 billion USD. This amount is approximately twenty four percent of the entire project that is 16 billion USD. Under this project 1100 kilometers highway will be constructed from coastal city of Karachi to Lahore. This project will facilitate to uplift the economic growth and eternal connectivity [16].

It is expected that China-Pakistan Economic Corridor (CPEC) will further strengthen trade and economic cooperation between the two countries. Chinese Premier Li Keqiang stressed the construction of the CPEC during his visit in May 2013 to Pakistan [17]. The sole aim of CPEC is to connect Kashgar located in province (Xinjiang Uygur) of China which is Autonomous Region of southwestern Pakistani port of Gwadar [18].



It is clearly evident from the economic survey which was conducted in 2015-2016 that volume of trade between China and Pakistan has increased from US \$4.1 billion in year 2006 to US \$13.77 billion in the year 2016.

After the successful culmination of the corridor it will work as a basic trade route between China Middle East and beyond. This corridor will connect Kashgar with Gawadar Port in Balochistan. At present oil supplies of China are being transported through a long route that involves extra time and cost. In this way 12000 kilometer long route will be curtailed. CPEC is well thought out development plan under which Gawadar Port will be linked with China through highway and railways. In this connection major physical construction is required that include 2700 kilometer highway starting from Kashgar to Gawadar. Cargo train will link Gawadar with China and by this activity regional connectivity with Afghanistan, Iran and other countries will increase. Under this project further extension of Karakorum highway will connect Xinjian province of China with various region of Gilgit and Khybar Pakhtunkhwa [19].

At the moment the prime focus of China is to achieve its energy needs and increase its exports and in this way economic connectivity with different countries of the world will eventually increase. In near future after the successful completion of CPEC Pakistan will emerge as hub of trade and commerce in this region [20]. Moreover, several economic and industrial zones will be established, road and railway links will be constructed.



FIGURE 2.1: Layout of Three Road Routes of CPEC [9].

## 2.1 What Is Economic Corridor?

Economic corridor is basically combination of networks of infrastructure with in designed geographical area in order to increase economic development. The corridors can be developed with in one country or between different countries. There are corridor which exit in Asia, Africa and other areas of the world [21]. Mostly Economic corridors are based on feature infrastructure such as road, rail and ports that links cities are countries. In other word economic corridor is a feature that links manufacturing hubs with areas of high supply/demand locations. At present the CPEC is integral part of China grand strategy to rise as great power in the world by investing US \$46 billion [22].

## 2.2 Logistic Aspects of CPEC

To enhance the benefits of common border of China and Pakistan. In 1982 China and Pakistan successfully completed Karakorum highway project through Khunjerab Pass. With a passage of time highway was upgraded to make it functioning

for all kinds of traffic round the year. An internal available road network inside Pakistan connects with Karakorum highway which further link up with Gawadar port in Karachi [23]. Under China Pakistan Economic Corridor (CPEC) China agreed to invest US \$46 billion in the development project which approximately 20 percent of Pakistan annual GDP [24]. Huge amount of money will be utilized on transport infrastructure that include the upgrading of railway line between Karachi and Peshawar [25].

Under this project CPEC three roads Eastern Alignment, Central Alignment and Western Alignment will be constructed for cargo transport. The total road length of China Pakistan economic corridor is 3000 kilometer. Eastern Alignment will connect to big cities of Pakistan that is Karachi and Lahore [26]. Whereas Western corridor will link up less populated areas of Khyber Pakhtunkhwa with Balochistan province. The Central Alignment will link up various areas of Punjab, Balochistan and Khyber Pakhtunkhwa.

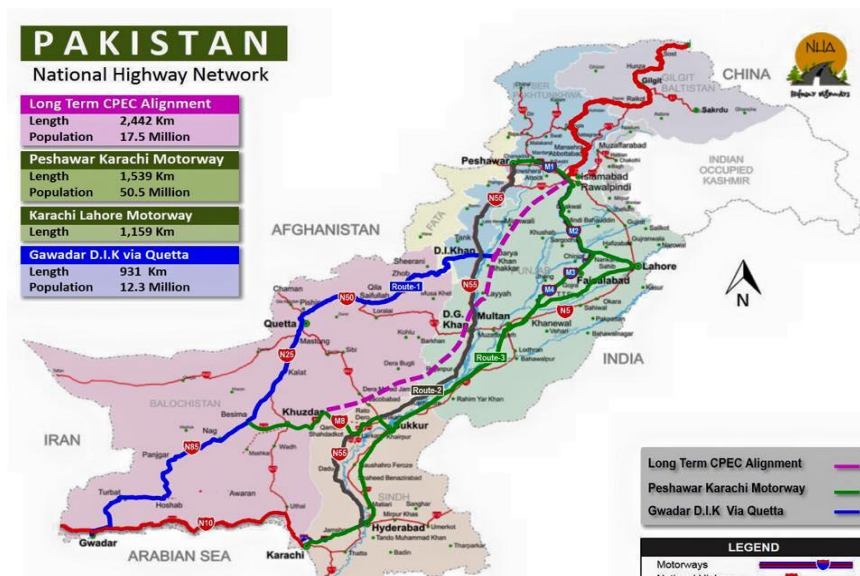


FIGURE 2.2: Layout of Western, Central and Eastern road routes [27].

## **2.3 Road Alignments**

### **2.3.1 Eastern Alignment**

Eastern alignment of CPEC road way passes through Sindh and Punjab province. Total length of eastern alignment is 1152 km and it has been further divided into four sub sections. First part is between Karachi and Hyderabad which is 136 km. Second part is between Hyderabad and Sukkar that is 296 km and section between Sukkar and Multan is 387 km. Length of last segment is between Multan and Lahore which is 333 km.

### **2.3.2 Central Alignment**

Central Alignment of the project has total length of 1633 km and it begins from Burhan, passes through Pindigheb, Kot Addu, DG Khan, Layyah, Muzaffargarh, Rajanpur, Sukkur, Basima and Khuzdar and finally terminate at Gwadar.

### **2.3.3 Western Alignment**

In year 2018 most of portion of Western Alignment will be completed along with acquisition of land. In Western Alignment 870 kilometer of road will be constructed in Balochistan province [28]. Out of 870 kilometers of road more than 600 kilometers have already been constructed in January 2017. The Western Alignment will go through Gawadar, Turbat, Panjgur, Besima, Quetta, QillaSaifullah, Zhob, Dera Ismail Khan, Mianwali, Attock, Hasanabdal and onwards.

## 2.4 Railway Alignment

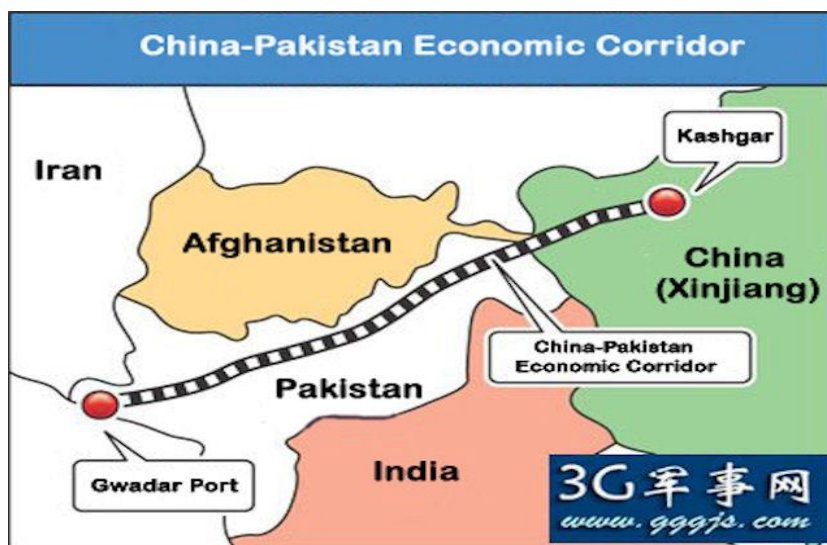


FIGURE 2.3: Layout of Railway Route [29].

### 2.4.1 Railway Infrastructure Projects

Under CPEC project old railway system will be upgraded and major renovation of main line one will be carried out between Karachi and Peshawar. At present single railway system is handling 70 percent of Pakistan railway traffic. In addition to this the railway link of more than 4693 meters high Khunjerab Pass will also be constructed. After the completion of railway track Chinese goods will have direct access to East Asian market through Gawadar port.

Main line one railway (ML-1) which is between Karachi and Peshawar will be completely overhauled. The length of this track is 1687 kilometer and approximately US \$3.65 billion will be spent in completion of this project [30].

Besides uplifting main line 1 the CPEC project also include another main uplift of 1254 kilometer long main line 2 which is between Kotri and Attock through the various areas of Punjab and Sind Province.

## 2.5 Inland Water Transport

It is the way by which people and luggage can be moved by barge, boat, ship over a sea, ocean, lake, canal, river from one place to another [31]. This is an alternative option to road and rail transport. Perhaps this option is better from environmental aspects and it is also very cheap mode of inland transport mechanism. To increase the proficiency of inland water transport some key aspects of inland navigation are various essential. There are three categories of transportation. The first category is aqueducts, which include pipelines, canals, and tunnels. The second category is Container shipment, which includes carriage by tank truck, tank car. The last category is Tank ship. Inland shipping which is a reliable, safe, efficient way of transporting cargo between the different locations within country. By using this type of transport, large volume of goods can be shifted from one location to another place at low costs. Inland waterway transport is basically movements of goods by using inland waterway vessels [32].

After long considerations the government of Pakistan is making all out efforts to establish Inland Water Transport Authority (IWTA) to use the waterways to cut down on the petroleum import expenditures as well as cargo charges.

# Chapter 3

## MAPUTO and Mongolia/Russia Economic Corridor

### 3.1 MAPUTO Corridor Transport Logistics System

#### 3.1.1 History

Maputo corridor was initially started in year 1994. The Maputo Corridor is very vital in nature that links various provinces of South Africa which includes Gauteng, Limpopo, and Mpumalanga provinces with Maputo. Maputo is very important port and the capital of Mozambique [33]. The corridor consist of highways railways Ports and other border facilities at Komatipoort. Basically Maputo corridor connect major manufacturing areas around Limpop, the cultivated district of East with ports of Mozambique coastline. Maputo and Matola are both deep water harbors in the area.

### 3.1.2 Maputo as a Major Trade Corridor

The Maputo Corridor is the most important and very famous trade route which is used for imports and exports. This corridor links up the vital parts of Mozambique with industrial zone of north east provinces of South Africa, which are famously known as Limpopo, Mpumalanga, and Gauteng. This corridor also link up with Swaziland and South West Mozambique [34]. This corridor has been planned in such a way that it passes through more important and production areas of South Africa. Cultivated areas and commercial areas are also situated along this corridor.

All the efforts are being made by the Government of South Africa, Mozambique and Swaziland to encourage the development of corridor. Each country of this corridor is ready to contribute maximum funds for this development process in the whole region.

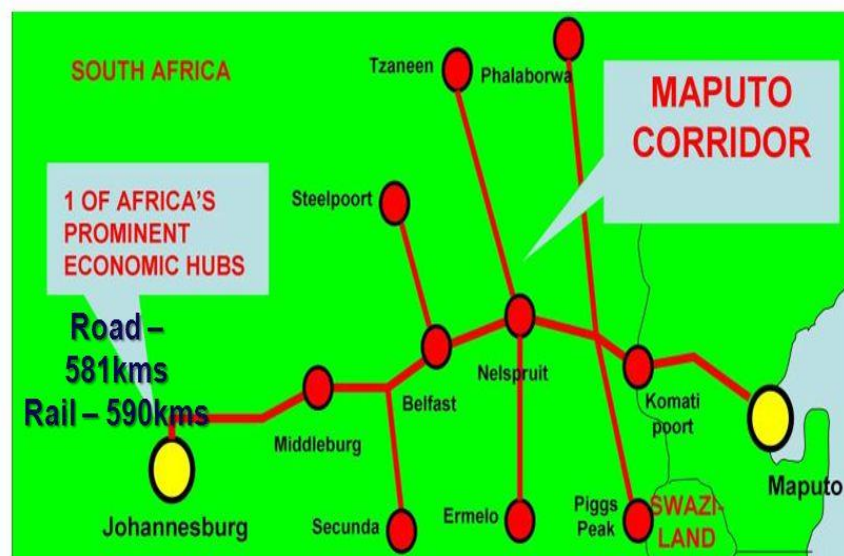


FIGURE 3.1: Layout of Maputo Corridor [34].

### 3.1.3 Existing Transport Facilities in the Corridor

All transport facilities are available in the corridor which are rail, road and ports. The brief details are as under.



### **3.1.3.1 Road Alignment**

N4 is the basic and primary road in South Africa. This road comprises of two to four lane main road. N4 is also passing through the border of Mozambique and once it crosses Mozambique this road is called as EN4 road. The same road leads to Maputo. The responsibility of operation and maintenance has been given to trans African Concessions. A special road is being constructed which will link up Maputo with EN4 highway.

### **3.1.3.2 Rail Network**

National Railway of South Africa is responsible for operation and maintenance of rail lines in South Africa. Dedicated department of Mozambique Government is responsible to maintain the railway track in working condition. This dedicated department (Caminho de Ferro de Mozambique) started the process of maintenance on most neglected parts of railways lines and strengthened three major bridges to reduce the transit time. A special project commenced in July 2007 with a aim to increase the level of railway line to make it compatible with rest of South African standards so that nonstop train can easily move all along the corridor without any hindrance. To fulfill this project huge investment has been made by all the stake holders.

### **3.1.3.3 South Africa Development Corridor Region**

The sole aim is to increase the standard of corridor in the whole region of SADC. At the moment all the movements are in one direction only along the Corridor from South Africa to Mozambique. In this context it is highlighted that presently efforts of being made by all the stake holders regarding General growth of the corridor to make it bi-directional so that cargo trains can easily move in both the directions. Presently this track is being utilized as a key route throughout the SADC region.

## 3.2 Mongolia-China-Russia Economic Corridor

### 3.2.1 Purpose of the Corridor

The primary aim of the corridor is to become a Eurasian transport-logistic hub and provide a continental bridge as well as a crucial transit corridor which will connect Asia, Europe, China and Russia through the nearest and safest route. The main basis of “Mongolia-China-Russia economic corridor” is to uplift the economy and infrastructure. At present Mongolia is paying special consideration to develop these areas of cooperation [35]. Mongolia has started to establish the following agreements and is continuously working to reach an agreement with relevant organizations of other two countries:

- Agreement to Create a Joint Transportation-Logistic Company of Three Countries
- Road Transit Transportation on Trilateral Agreement
- Proper Agreement on Transit Transportation



FIGURE 3.2: Layout of Mongolia China and Russia Corridor [36].

### 3.2.2 Paybacks of Economic Corridor

- Mongolia, China, Russian economic corridor provides the shortest route from Asia to Europe for moving passengers and goods by using the territory of Mongolia.
- Both the countries Mongolia and Russia are working together on this project and the rates in this route have not been increased since 2006.
- This corridor is very cost-effective and less time consuming, moreover it saves custom charges and very resourceful.
- Primarily Mongolia-China-Russia economic corridor is a new agreement of trilateral cooperation among all the three countries which is providing a favorable atmosphere for not only trilateral cooperation, but also regional economic cooperation.

### 3.2.3 Road and Rail Alignments

Mongolia started the project "Millennium Road" in year 2001 with the purpose of constructing road and rail network [37]. After one decade in 2013 the Mongolian government started a new initiative called "The Land Road" for constructing 997 km of highway between China and Russia, which was 1100 km of electrified railway lines. Although Mongolia is landlocked, it provides the shortest route that links China with Russia.

The volume of export consignment can be enhanced up to 50 million tons per year by building approximately 5,683.5 km of new railway lines in Mongolia. As per the "State Policy on Railway Transportation" which was finally approved in the Mongolian Parliament in 2010. In this context it has been highlighted by The Railway Deputy Chairman that "the shortest route to Asia from Europe to transport passengers and goods is through the territory of Mongolia.

Currently, there are two routes in the Mongolia, China, Russia economic corridor. One is 1,963 km long from Ulaanbaatar to the Port of Tianjin passing through

Erlian Erenhot, the second is 2,264 km long from Choibalsan city to the Port of Dalian through Manzhouli. But the planned route from the eastern part of Mongolia, Choibalsan to Jinzhou, which is 1100 km long, is the shortest way.

It is expected that shipment of Mongolian export through railway will enhance further development of the country's mining sector. After the successful completion of "the new railway" project, the government is planning to build and finance a 1800 km-long rail route in two stages which will link the mineral deposit sites in the Mongolian desert steppe with Russia via Choibalsan and Sainshand.

### 3.3 Comparison of Various Economic Corridors

S. No.	Parameters	CPEC Corridor	MUPOTO Corridor	CHINA, MONGOLIA & RUSSIA Corridor
1.	Road Length	2442 km	2100 km	2264 km
2.	Rail Length	1687 km	590 km	1815 km
3.	Connectivity between	Kashghar to Gawadar	South Africa to Mozambique	China to Russia
4.	Economic activity	<ul style="list-style-type: none"> <li>• Economic activity will increase</li> <li>• Special economic zones will be established</li> </ul>	<ul style="list-style-type: none"> <li>• Economic activity increased due to reduce in transport related cost</li> <li>• 40% shipping and cargo handling capacity enhanced</li> </ul>	<ul style="list-style-type: none"> <li>• Economic activity increased due to following</li> <li>• Transport of tea, silk and salt to other countries</li> </ul>

S. No.	Parameters	CPEC Corridor	MUPOTO Corridor	CHINA, MONGOLIA & RUSSIA Corridor
				<ul style="list-style-type: none"> <li>• Trade with Central and western Asia increased</li> </ul>
5.	Socio economic	<ul style="list-style-type: none"> <li>• Remote areas along the road will be developed</li> <li>• Positive effect on tourism</li> <li>• China 80% oil will be imported with reduction of 1100 km distance</li> <li>• Two million job opportunities will be created for the people of pakistan</li> </ul>	<p>Socio economic growth enhanced due to following</p> <ul style="list-style-type: none"> <li>• Corridor passes through vast industrial and primary production areas</li> <li>• Impact on tourism increased</li> </ul>	<ul style="list-style-type: none"> <li>• Corridor has enhanced social development and employment opportunities</li> <li>• Trans border tourism has enhanced</li> <li>• Corridor provided opportunity to accelerate national industry</li> </ul>

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<b>S. No.</b>	<b>Parameters</b>	<b>CPEC Corridor</b>	<b>MUPOTO Corridor</b>	<b>CHINA, MONGOLIA &amp; RUSSIA Corridor</b>
6.	GDP Ratio	GDP Ratio will increase by 7.5%	9.5% in 2014, 8.3% in 2016	GDP ratio will rise by 12.3%

# Chapter 4

## SWOT Analysis

In this study, SWOT analysis has been used to examine the logistics perspective of CPEC. SWOT is a structured approach that evaluates an organization, project or business venture on the basis of four elements strengths, weaknesses, opportunities and threats [38].

### 4.1 Strengths of CPEC

#### 4.1.1 Development of Xinjiang Province

With the development of CPEC the situation of Gawadar in particular and Balochistan province and whole will improve. On similar lines Xinjiang province which is under developed province of China will also improve its status. Presently, major portion of Xinjiang is backward and by undertaking this project rapid progress will occur which will be in favor of China. Ultimately China will do the trade with rest of the world Xinjiang province.

### 4.1.2 Distance Reduction

Presently, China is using long route for its trade. This is the only route through which China is importing and exporting its products to entire world. The exiting route is passing through straits of Malacca and enter into European markets. By adopting this route China has to pay more cost due to the long distance involved. After the development of CPEC the long distance will reduce by 12000 km which will be beneficial for China in terms of cost saving and distance reduction.



FIGURE 4.1: Reduction in Sea Route Distance [39].



FIGURE 4.2: Low Cost and Quick Time Route [40].



### **4.1.3 Development of Infrastructure**

All investment and trade obstructions will be removed step by step and gradually relations with other countries for doing a sound business. On the successful completion, our country will improve and products will be provided to all markets of entire world. The located near the corridor will be benefited in terms of manufacturing, agricultural and services industries. Finally, employment and economic growth will expand significantly. In first phase Karakorum highway will be developed. Moreover, economic and industrial free zone will be created along the route which will be used for developing of new economic zones.

### **4.1.4 Economic Development**

Robust and stable economy in Pakistan will be created due to China Pakistan Economic Corridor, which will further help to build and improve its economy and industry. In this connection, it is highlighted that it will also help in increasing of stranded of living of common masses. It is the basic principle that peace and prosperity can only be achieved with the help of economic development. The benefits of CPEC are not only restricted to regional domain rather it will benefit to common man of Pakistan.

### **4.1.5 Improvement in Socio Economic Status**

By the development of CPEC the socio economic status of masses of the entire region will develop. At the moment USA is the super power of the world and she would not like that CPEC be developed inside Pakistan. They are off the opinion that if road is developed and all allied infrastructure improves than balance will get disturb. Even by under taking CPEC the relation with India, Iran and Afghanistan will improve. Resultantly, the peace and prosperity in the whole region will prevail which will defiantly uplift the socio economic status of a common man.

### **4.1.6 Low Labor Cost**

CPEC route originate from Kashgar city which is located in Xinjiang province. Xinjiang province is one of the less developed province of China. Subsequently road will pass through various cities of Pakistan via Gilgit Baltistan province. After passing various cities of Pakistan finally it will terminate at Gawadar sea port in Pakistan. It has been clearly declared that economic corridor will give strength to the Pakistan. Through this road China will import and export the goods to the entire world at low cost with quick time.

## **4.2 Weaknesses of CPEC**

### **4.2.1 Indigenous Industry**

It is evident from the history of China that total industry is captured, which resultantly wipe out the local industry. Even now China has captured major portion of world industry has captured. Since Pakistan is under develop country and economy of Pakistan is far less than economy of China. Therefore, all the local industry of Pakistan will collapse and Pakistan will not be in position to promote its local industry. This adverse situation is prevailing now and floodgates to Pakistan have been opened.

### **4.2.2 No Inland Water Transport**

Transport of goods and moving of people from one place to another by the means of water is very viable and economical option. This method of shipping is very efficient reliable and safe. This is a such a mechanism through which cargo/goods can be transported between the different locations with in the country. Presently government of Pakistan is working to use the flow of water of river Indus. Research in this regard is being carried out by the technical experts how to use the flow of

water in Indus river. So far unfortunately this type of transport mechanism does not exist in Pakistan.

### **4.2.3 Out Dated/Old Vintage Trucks**

At present most of the cargo vehicles in Pakistan has outlived their life and it will be a source of problem in future. Besides this road congestion will be another major factor which will be a great challenge in the near future. Once the CPEC will mature then number of vehicles will expand manifold and eventually such contingency has to be catered well before the time.

### **4.2.4 Effects of Road Congestion**

Road Congestion has an obvious negative impact on the economy of the particular country. The major disadvantage is that goods will not be delivered in time. Similarly in case of CPEC all items which has to be delivered in time will be delayed. This aspect will be a major problem. Moreover in such kind of situations some alternate routes be developed to mitigate the effects of road congestion. In this context, it is very essential that special attention must be diverted in the development of alternate routes, particularly in the areas of Gilgit and Skardu. In order to avoid road chocking in such kind of difficult areas it is necessary that alternate routes must be part of planning.

## **4.3 Opportunities of CPEC**

### **4.3.1 Means of Communication**

Distance reduction and cost cutting problems will be resolved with the help of CPEC. With the help of CPEC both the countries can share their road routes for import and export of various products. In case of any untoward situation, which

may be any dispute with our enemies than both countries can support each other in the time of need. Since means of communication will be better so trading with the entire world can be done in more befitting manner.



FIGURE 4.3: Road Route alignment showing connectivity through various cities [41].

### 4.3.2 Removal of Poverty

CPEC is very beneficial project for Pakistan and it will help in the removal of poverty from our country. It is basically, such a project which will provide chances of job to common masses and finally poverty and depression will wipe out. CPEC includes the developing networks of roads, railway line construction and construction of series of mega projects which will be beneficial for the economic growth of Pakistan. By doing this all activity a lot off jobs will be generated and people will also take proprietorship of these projects. Remaining facilities which include the installation of new training institution and better equipped hospitals.

### 4.3.3 Special Economic Zones

It is pertinent to mention that all requisite facilities will be provided to Successful SEZs. The special economic zones will be established all along the CPEC routes

which will provide all public facilities and supports services. In total there will be 27 such zones under CPEC. These specialized has been planned in all the provinces and are not just centralized in one province. Eight economic zones will be developed in Khyber Pakhtunkhwa and three will be established in Sindh. On similar lines there will be seven economic zones in Punjab and Balochistan. The first zone zone will be established at Hattar with Rs. 300 billion of investment. Similarly in Baluchistan such special zones has been planned which will be improved in due course of time. There will be three such zone in Sindh at Port Qasim, Chinese Industrial Estate near Karachi and Marble City Karachi.

#### **4.3.4 Increase in Export of Various Fruits**

The area of Gilgit is famous due to fresh and dry fruit. In this particular area a lot of cherries, apples and apricot are produced. Which are exported to the foreign countries by air. The transportation of fruit through air becomes very costly. With the help of CPEC such business openings for the region's traders will be provided. It has been estimated that every year 5,000 tones of apricot, cherries and up to 30,000 tons of lychee, apples are produced, which are transported through air. By this activity more cost is paid by the Pakistan. After successfully completion of CPEC these all fruits will be transported will result to cost saving and wastage of time will also be curtailed. Therefore, the same fruits will send to China which is very lucrative for the people of China.

### **4.4 Threats of CPEC**

#### **4.4.1 Security Challenges**

There are certain internal and external challenges which would be faced by Pakistan during the conduct phase of CPEC from security point of view. The security of the corridor has critical importance for both Pakistan and China. In prevailing

security environment it will be very difficult for both the countries to complete this project in the specified time frame. Under this project two important locations Gwadar and Kashgar will be connected through this project. In this connection it is pertinent to mention that there are a number of security issues which need to be addressed prior to undertaking this project. Now there are several terrorist organizations who do not want the smooth conduct of CPEC. The protection of the Chinese labor force is likewise a matter of concern for Pakistan.

#### **4.4.2 Hazardous Effects of Natural Disaster**

Earthquakes damage roads, other construction, and essential service facilities. It interrupts emergency activities, restoration, and support for victims. To prevent this, it is very essential that earthquake resistance in constructing the roads, bridges has to be ensured. Special surveys have to be conducted in seismic zone areas of Gilgit and Abbottabad surrounding areas in order to save precious lives.

# Chapter 5

## Recommendations and Conclusion

### 5.1 Recommendations

- Road alignment of the CPEC has been designed in such a way that it passes through Gilgit area. In this regard, major area of concern is that currently this route is passing through Khunjrab pass, which is the only available option. This entire area is seismic zone, it is therefore mandatory that alternate route should be considered.
- It is mandatory that all the bottle necks on this alignment be removed prior to undertake the development of project. These bottle necks must be removed because it will have negative impact on the growth of economy.
- CPEC can be source of economic development for entire country. Now advantage of economic development must be shared with all the provinces equally. At present there is a lot of criticism specially in small provinces like KPK and Balochistan. In this connection, government must take initiative to address all the concerns of small provinces, so that all stake holders can get maximum advantage of CPEC project.

- In order to deliver the goods in given time frame in the international market it is mandatory that special surveys and soil tests of seismic zones be conducted prior to undertake the development of road and alignment be adjusted accordingly.
- Road congestion cause a major drag on the economy of country and there are some bottle neck areas in the CPEC road alignments. In this connection it is very essential that such areas be identified and alternate routes be considered.
- CPEC is a national asset and to safe guard its interests is moral obligation of each Pakistani. In this regard, it is highlighted that all political parties should be on board and work together so that issues concerning CPEC project can be resolved amicably so as to harvest mutual benefits. All political parties must work on single agenda which is very essential for the progress of country.
- Federal government is responsible to maintain peace, law and order in all the provinces so that project can be completed in given time frame. Moreover, prior to proceed with this project, it is mandatory that all hidden details of CPEC must be shared with all the provinces. It has been noticed by the provinces that some important details regarding the project are not being shared.
- It is the foremost responsibility of federal government to discuss the benefits and challenges which are associated with this mega project with all the provinces.
- It is the duty of federal government to provide foolproof security to the foreign workers, who are presently performing their duties at various locations of CPEC. It also recommended that work on CPEC must commence without further delay so that project can be completed within given time frame.
- Maintain up-to-date emergency protocols, including evacuation procedures, considering the risk of a significant attack.



- In prevailing security environment it is advised not to travel to outlying areas as well as the disputed areas of Jammu, Kashmir, Balochistan, Siachen, Swat, as well as overland travel, due to the limited government and security presence, ongoing clashes, and the heightened threat of attacks and abductions.

## 5.2 Conclusion

In this study only logistic aspects of CPEC has been discussed in length. After development of CPEC china will get the assess of worm water and Gawadar will become hub of trade and economic progression. China is investing US \$46 billion for this project, which include roads, railway tracks, oil, and gas pipe lines and fiber optics for communication. Presently US \$16 billion are being spent to up lift road and railway tracks. As a result of this project 2 million job opportunities will be created in Pakistan. There will be a network of highways, railway lines, gas pipelines and economic zones as well, which will open new vistas of development and will make Pakistan economically more strong and self-reliant. After the development of CPEC the long distance of trade route will be reduced which will be beneficial for china in terms of cost saving and distance reduction.

Resultantly economic incentives and regional integration will improve manifold. This Joint Venture will prove to be much significant from the futuristic point of view. Finally the CPEC will connect more than 60 countries to this well-established economic hub, turning this region into an economic block.

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