

Impact of China Pakistan Economic Corridor (CPEC) on The Poor Infrastructure- A Case Study of Pakistan

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Abstract

This research paper first and foremost focuses on the viability of the China Pakistan Economic Corridor (CPEC) in solving the problems of infrastructure in Pakistan. It explains that whether CPEC can economically solve the problem of poor infrastructure in Pakistan or not. The impact of infrastructure will be seen on the GDP and Economic development of Pakistan. The qualitative research methodology is used in this paper. This follows a descriptive approach. Moreover, the technique of comparative analysis has been used to show the effects of alternations in the infrastructure on the economic development of a country. GDP has been used as the dependent variable. The change of percentage in road length has been used as the independent variable. The study shows how the most important problem of Pakistan i.e. poor infrastructure has affected the Gross Domestic Product of the country as well as the economy of Pakistan. Therefore, results show that CPEC will solve the major economic problems of Pakistan and will not only increase its GDP but will also make it stronger both socially and economically.

Keywords: China Pakistan Economic Corridor, Infrastructure, Gross Domestic Product, Comparative Analysis

Introduction

The region in which Pakistan locates it has great importance at the social, political, economic and strategic level. For the last twenty years, this has remained a hub for the world's power to perform different activities through that route. It witnesses the interpolation of the United Kingdom of Great Britain, the Union of Soviet Socialist Republics, and the United States of America i.e. these thrice are the great powers of the world. Apart from that, there is an emerging power in neighbor like China and on another side Russia another power is present. It has China has always supported Pakistan's economy through different projects.

China Pakistan Economic Corridor or CPEC as it is commonly known is another long term project that will not only strengthen the bond between China and Pakistan but will also help Pakistan to solve its major problem of poor infrastructure. CPEC promises to be an economically viable solution to the problems of Pakistan. The motive of this research paper is to find out whether CPEC is going to help Pakistan solve its major problem of poor infrastructure.

Infrastructure is the underlying structure that provides the basic material for economic prosperity. It includes means of transportation and communication i.e. roads, railway lines, seaports, etc. The better are the means of transportation and communication, the better is the infrastructure of the country. The better the infrastructure, the lesser the problems of Pakistan would be. The fundamental motive of the thesis is to explore the influence of the China Pakistan Economic Corridor on poor infrastructure as well as in turn on the economic development of the country.

Aim of Research

The objective of this investigation is to explore the impact of the poor infrastructure of the country on its Gross Domestic Product and also on its overall economic development. The purpose of this research is to demonstrate that whether CPEC will help Pakistan to prosper economically by solving its

problem of poor infrastructure or not.

This research paper represents the correlation between infrastructure and development at the level of an economy, and then, in turn, the impact of CPEC on the infrastructure of Pakistan.

Research Question

The research questions that will be answered in this study are:

- Is there any relationship between infrastructure and development at the level of the economy in the country?
- Does CPEC a solution to the problem of poor infrastructure of Pakistan?

Research Design

Both primary and secondary data have been used. Material regarding primary data has been obtained by conducting an electronic questionnaire. Various sources have been served as a secondary source like the articles, the Internet, newspapers, and books. Statistics regarding GDP and road length have been taken from the World Bank and the Ministry of Communications.

There have been employed two types of approaches in this investigation to give the answers to the proposed research questions.

- i) First is the Qualitative Approach
- ii) Second is the Descriptive Approach

Moreover, the technique of comparative analysis has been used to show the impact of various growth rates of infrastructure on the economic development of the country. GDP has been used as the dependent variable. Growth of electricity production and percentage change in road length has been used as the independent variables.

The relationship between the percentage changes in road length with the growth rate in the GDP has been studied. The data from the years 2000 to 2016 has been used. If in years when the growth rate in GDP is high, the percentage change in road length is also high then it means there is a direct

relationship between the variables chosen.

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Limitation of the Study

This study deals with CPEC which is a recent project that is currently under construction. It was, therefore, difficult and somewhat impossible to obtain the exact information and statistics regarding CPEC. The research has been done with whatever data updates were recently available at the time of the research.

Theoretical Framework

Infrastructure is the independent variable used in our study. Infrastructure plays a key role in economic progress and is a major contributor to the growth of a country. The term “infrastructure” first came into use in 1927. Infrastructure is to be called the underneath structure of the economy of a country as it is clear vividly from the term ‘infra’ means below. It is the fixed installation that is needed to perform a certain function. This consists of government constructed but publically owned buildings, roads, bridges, dams, waters, sewerage systems, railways, airports and harbors (Merriam- Webster, 1930).

Infrastructure is the basic need for an economy to perform fundamental functions competitively on a broad scale. A country needs to maintain the proper infrastructure to let its economy function properly in a long run. Asiedu (2002) proved that the infrastructure is very vital for regional development. It not only affects the socio-economic actions of a country directly but also indirectly¹. An efficient infrastructure of the public offers the economic resources concentration geographically the broader and more profound commercial area for employment and output. It influences the finished product’s market and resources. This assists to establish the spatial patterns of development and to provide a low price to a large number of individuals. Infrastructure is the foundation on which the economy build (Macdonald, 2008)². The figure

below shows the most well-known exertion based on the topic of infrastructure in the previous twenty years.

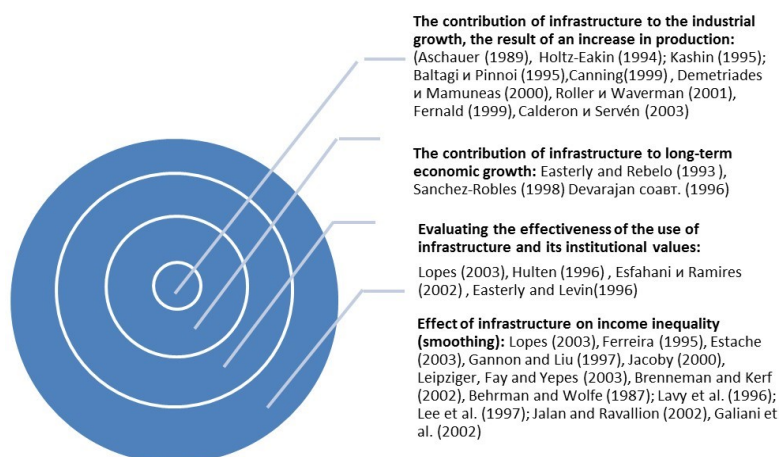


Figure 1: Summary of work done on Infrastructure

Bougheas, Demetriades, and Mamuneas, (2000) found out that practically at the same time the production fell due to the reduction in the area of public investment severely everywhere. Economic growth is supported by the well-organized infrastructure. This improves the living standards and in national security, it plays an important role.³

Infrastructure includes roads, railways, telecommunication, seaports, electrical grids, etc. A country cannot develop if its infrastructure is weak. A sound infrastructure helps in kicking up the GDP, industrial and agricultural development, a favorable balance of trade, lessens poverty, and creates employment opportunities.

Review of the Literature

Table 1 summary the reviews of the work that has already been done by various researchers to show the impact of infrastructure on the economic development and growth of any country.

Table 1: Summary of review of the literature on infrastructure

Year of	Author/ Researcher	Independent Variable	Dependent Variable(s)	Conclusion
2000	Newbery et al.	Infrastructure	FDI, Productivity	There existed a positive relationship
2000	Wei (China)	Good infrastructure	GDP	The better the
2000	Bristow & Nell	Infrastructure	Labor productivity, economic growth	There existed a positive relationship
2008	Martinkus & Lukas	Capital infrastructure	Earnings, means of production	GDP, of There has been a positive impact on
2002	Asiedu	Infrastructure	Investment	The better the
2003	Ben-Goa & Sanjiv	Human capital, infrastructure	Economic growth, capital inflows	The better the human capital and the
2004	Sekkat et al.	Infrastructure	Foreign investment	To attract foreign investment
2004	Canning &	Infrastructure	Per capita income	The better the
2006	Ageonor & Mor	Infrastructure	Human Capital	The better the infrastructure
2006	Kulratne (South)	Investment on infrastructure	Economic growth	There is a positive relationship between

2007	Conrad	Infrast ructure	Monetary gains		The greater
2007	Sci szka	Infrast ructure	Effectiveness of the economy		A good infrast ructure
2008	Martin & Tukae	Infrast ructure	Investment climate		A better infrast ructure makes
2008	Macdo nald	Infrast ructure	Economy		The growth of
2008	Wahid & Mumta	Public infrast ructure	Productivity		The better the infrast ructure
2008	Bald win &	Infrast ructure	National security, economic		Better infrast ructure
2008	Esteba n	Private infrast ructure	Private manufacturing sector		The better the infrast ructure
2008	Ban yte	Infrast ructure	Innovation		A sound infrast ructure
2013	B o	Infrast ructure	Economic productivity		A good infrast ructure
2013	Burins & kiene	Infrast ructure	Long economic development	run	A good infrast ructure
2014	Šniesk a &	Infrast ructure	GDP		A pro
2015	Stew art	Infrast ructure	Economic growth		A good infrast ructure

Report the Findings and Discussion

This part of the research paper establishes a relationship between the infrastructure's growth rate and the GDP of the country. It will also explain how CPEC will solve this problem of Pakistan.

The growth rate of Infrastructure

The length of the roads has been used as an indicator to show the improvement that has taken place in infrastructure from years 2000 to 2016. To look at the impact of the infrastructure on the GDP of Pakistan it is significant to find out the rate of growth of the length of roads. Data from the year 2000 to 2016 has been used and has been obtained from the World Bank.

$$\text{Percentage Change} = \frac{\text{Current year's Total} - \text{Last year's Total}}{\text{Last year's Total}} \times 100$$

Last year's Total Road Length

Table 2 has been formulated using the above formula to show the percentage change in the length of roads from the year 2000 to 2016.

Table-2: The growth rate of Length of Roads (2000 – 2016)

YEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008
LENGTH OF ROADS	248,340	249,972	251,661	252,168	256,070	258,214	259,021	261,821	257,853
CHANGE IN LENGTH	0.3	0.7	0.7	0.2	1.5	0.8	0.3	0.1	-1.5
YEAR	2009	2010	2011	2012	2013	2014	2015	2016	
LENGTH OF ROADS (KM)	262,760	259,463	261,595	263,415	263,755	264,256	265,356	267,845	
CHANGE IN LENGTH	0.9	0.5	0.4	0.6	0.1	0.4	0.6	0.9	

Source: Ministry of Communication, Pakistan

It can be seen that in the years 2000 to 2002 the change in the road's length was high and positive. It means that a lot of investment was being made in infrastructure. The greatest change in the road's length can be seen in the year 2004. Afterward, in the years 2005 to 2007, the investment in infrastructure must have decreased which led to the decrease in the change in the length of roads. The percentage change in the length of roads became negative in the year 2008 but afterward,

it increased sharply in 2009. After 2010 onwards the change in the road's length kept on showing an increasing trend. This has been shown in figure 2.

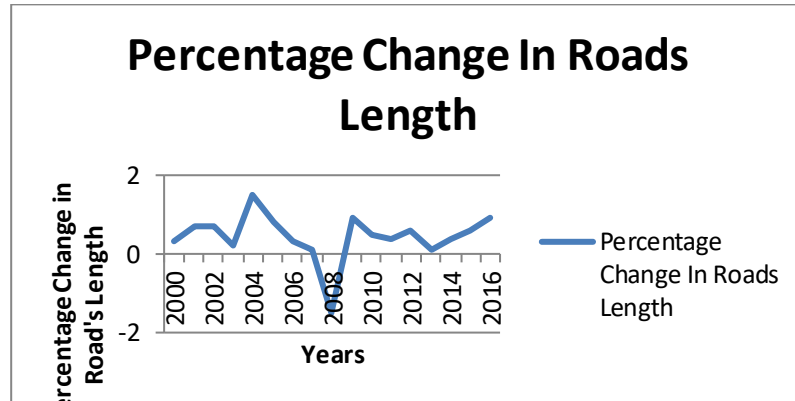


Figure 2: Change in Road's Length

The growth rate of GDP

The growth rate of GDP has been calculated to show the impact, the independent variable i.e. percentage change in road's length has on the economic development of the country.

It has been calculated using the following formula:

$$\text{Growth Rate of GDP} = \frac{\text{Current year's GDP} - \text{Last year's GDP}}{\text{Last year's GDP}} \times 100$$

Table 3 has been formulated using the above formula to calculate the growth rate of GDP from the year 2000 to 2016. Data has been obtained from the World Bank and for authenticity purposes, it has also been counter checked with the Ministry of Finance of Pakistan as well as the State Bank of Pakistan.

Table 3: The growth rate of GDP (2000 – 2016)

YEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP GROWTH RATE (%)	1.98	4.26	3.22	4.84	7.36	7.66	6.17	4.83	1.70

YEAR	2009	2010	2011	2012	2013	2014	2015	2016
GDP GROWTH RATE (%)	2.83	1.69	1.84	3.50	3.84	4.67	5.21	5.90

Source: World Bank

The GDP growth rate has also been showing a fluctuating trend throughout the period. The fluctuating trends of GDP show the changes in the atmosphere of the economy of Pakistan. The higher the GDP, the better the investment climate, and the lower the GDP, the more unfavorable is the investment climate.

Figure 2 clearly shows the fluctuations and ups and downs in the GDP of Pakistan from the year 2000 to 2016. From the year 2000 to 2004 the GDP first increased and then declined a bit but afterward, it increased at a rapid speed. The GDP reached its highest in 2005. This means that in 2005 the economy of Pakistan had the most favorable investment climate, that offered high returns. After 2005 the Gross Domestic Product of Pakistan or GDP showed a sharp decline and reached its lowest in 2008. After 2009 onwards the condition of the GDP kept on improving and so the growth rate of GDP also kept on rising.

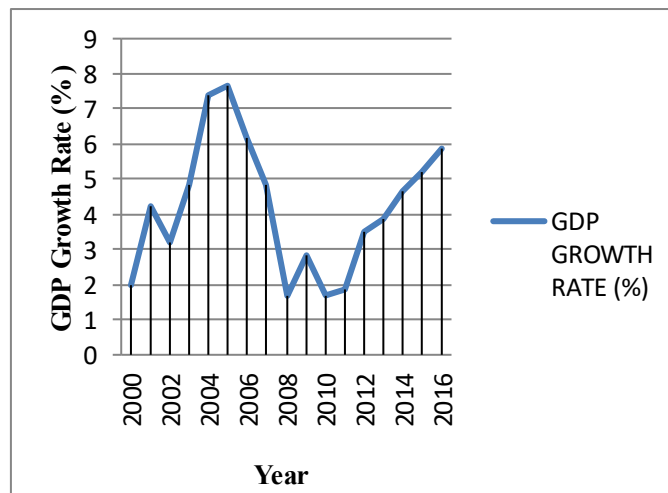


Figure 3: The growth rate of GDP

Impact of Infrastructure on GDP

To analyze the impact of Infrastructure (length of roads) on GDP and the economic development of the country both the graphs of the growth rate of GDP and percentage change in road's length have been drawn simultaneously on the same axis. Figure 4 clearly shows that in years when the percentage change in length of roads was high, the growth rate of GDP was also high, and in years when the percentage change in length of roads was low, the growth rate of GDP was also low. The percentage change in length of roads was positive and showed an increasing trend in the years 2000 and 2001 and so did the growth rate of GDP.

In 2003 when the percentage change in road's length showed a downward trend the growth rate of GDP followed it and also moved downwards. From 2003 and onwards the percentage change in road's length increased rapidly and so did the growth rate of GDP. After 2005, the percentage change in road's length showed a downward trend and to no surprise, the growth rate of GDP also followed it. The same behavior can be observed for years later on. Both factors have continuously been moving up and down simultaneously. The white arrows on the figure indicate that the direction of the movement of the graphs of both the percentage change in road's length and growth rate of GDP has been the same. This proves that:

“Infrastructure (length of roads) has a direct impact on the GDP and the economic growth of the country.”

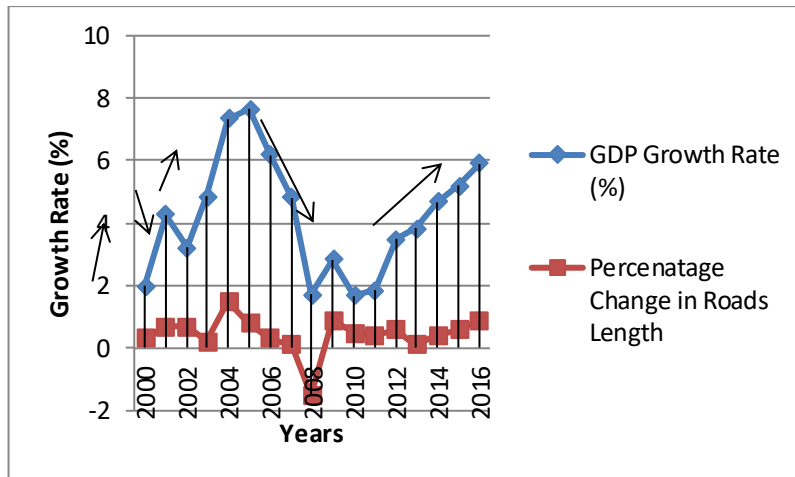


Figure 4: Impact of Infrastructure on GDP
How will CPEC solve the Problem of Poor infrastructure?

Out of the total CPEC’s investment of US \$ 62 billion, a noticeable portion of US \$ 10 billion will be spent on the construction of roads to make the infrastructure of the country better. In this way, CPEC will solve the problem of the poor infrastructure of Pakistan. Infrastructure projects started under CPEC will make transportation within the country much smoother. It will also reduce the transport costs that are currently being incurred by Pakistan in its imports and exports.

The cutting down of transportation costs will increase the profit margins in the trading activities. The increase in profit margins will then boost up the confidence of the local businessmen as well as international investors. This will warm up the investment climate of Pakistan as a whole which will then help it to move speedily on the road of economic development and prosperity.

Various infrastructure projects have been started under CPEC. These projects will make Pakistan an economically stable country. The stability in the economy will then improve the living standards of the society which in turn will open roads for prosperity and success. The table shows the division of the investment being made on infrastructure projects.

Table 4: CPEC Infrastructure Projects

PROJE CTS	Dist ance (K M)	M ill io n
KKH Phase II (Raikot – Islamabad)	440	3, 5 0 0
Peshawar- Karachi Motorway (Multan-Sukkur Expansion and reconstruction of existing Line ML-1	392	2, 6 0 0 3, 6 5 0
Havelian Dry port (450 M. Twenty- Foot Equivalent Truck)	1736	4 0
TOTAL		9, 7

Source: BOI Pakistan 2015

Peshawar-Karachi Motorway (Multan-Sukkur Section)

This motorway's total length will be 392 kilometers. The Karachi – Peshawar Motorway visualize the construction and development of a 6-Lane access-controlled Motorway. This motorway has a total length of 1,100 Km, which is going to be a tolled facility. It will start from Karachi up to Hyderabad through Motorway M-9 (136 Km). The proposed alignment from Hyderabad onwards will follow a virgin alignment for 345 Km up to Sukkur. The Sukkur Multan section having a length of 392 Km will follow the left bank of the River Indus. In December 2015, a commercial agreement for this proposed project was signed. The work was started in early 2016 and it is expected to be completed by 2018.

The proposing agency for this project is the Ministry of Communications. National Highways Authority has been made the implementing authority. Apart from that, the Government of Pakistan has been given the job of being the supervising agency.

The total estimated costs of this project are US \$ 2846 Million. The contractor for this project has been mobilized.

KKH Phase II (Thakot -Havelian Section)

KKH Thakot-Raikot N35 Remaining Portion

The length of this road based project will be 136 km. It will also be an extension to the Karakoram Highway. Its procedural formalities are yet to be completed.

Khuzdar-Basima Road N-30

Located in Khuzdar, the length of this road will be 110 km. The costs allocated to this project haven't been allocated yet. The procedural formalities and financing sources of this project are still to be decided.

Upgradation of D.I.Khan - Zhob, N-50 Phase-I

The motive of this project is to upgrade the already existing highway, N-50. It will focus on connecting Dera Ismail Khan District with the Zhob region. The length of the road will be 210 Km and it will bring about a noticeable change in the infrastructure of the country. The procedural formalities of this project shall be completed shortly.

The Railway Network of CPEC

CPEC also plans to link Gawadar and Kashgar via a rail network. Figure 5 shows The rail network of CPEC.

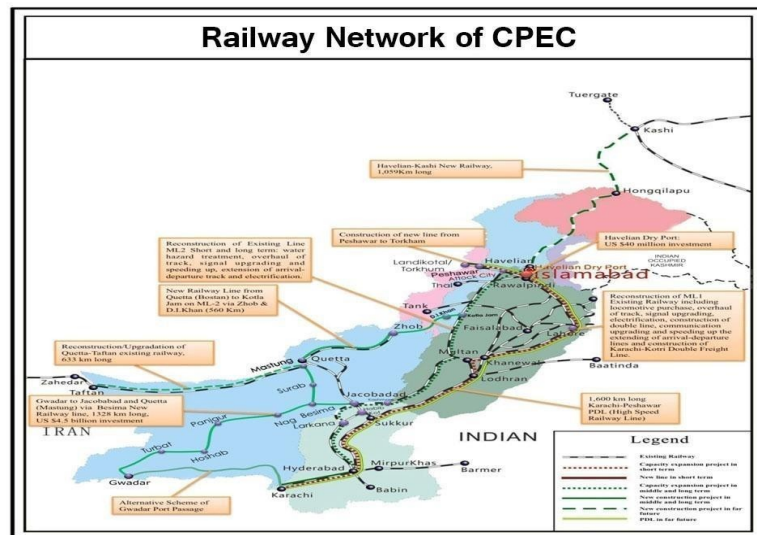


Figure-5: Rail Network of CPEC (Ministry of Communications)

The Road Route of CPEC

CPEC has three routes:

- 1) Western Route
- 2) Central Route
- 3) Eastern Route

The description of these routes is given in figure 6

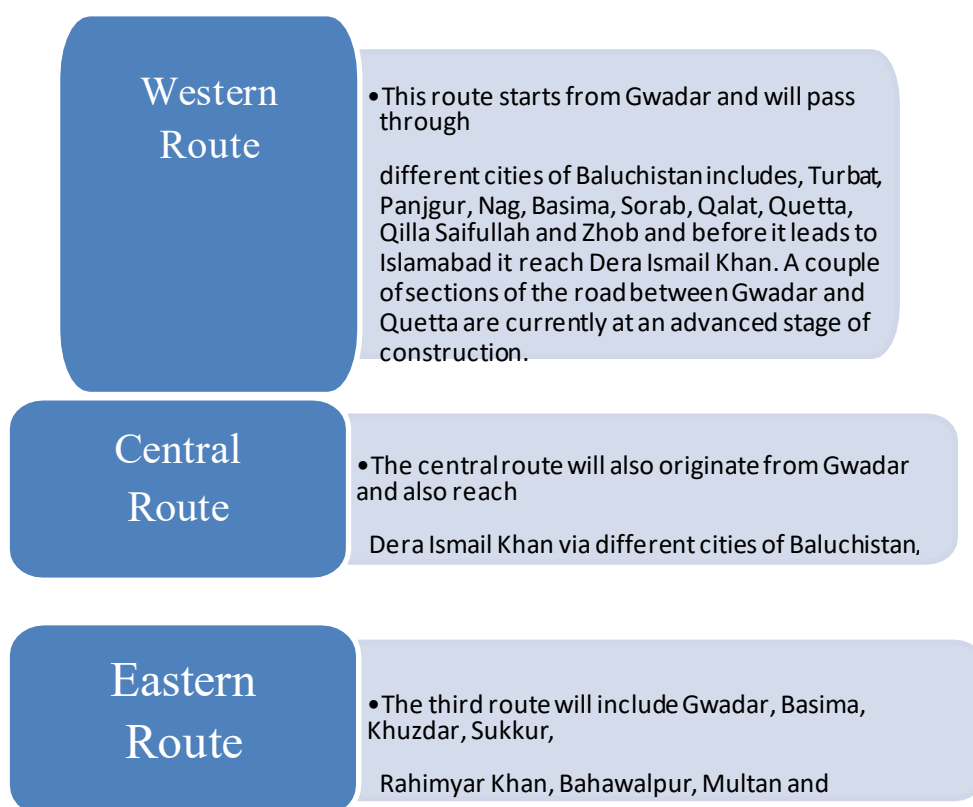


Figure 6: Routes of CPEC



Figure 7: Better infrastructure

Conclusion

The completion of these infrastructure projects will make communication in Pakistan much easier and cheaper. The trading activities will boost up because the transportations costs will go down. The boosting of trading activities will allow Pakistan to increase its international exports. This will, in turn, make the balance of trade of Pakistan favorable. The more favorable the balance of trade will be the greater the national income of the country. The greater is the national income, the greater will be the economic growth.

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