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## **ANALYSIS OF CPEC PROJECTS AND EFFECT ON CONSTRUCTION SECTOR OF PAKISTAN**

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### ***ABSTRACT***

*China Pakistan Economic Corridor a One Belt One Road initiative is considered as a game changer especially for the continent of Asia. The trade from one country to the other parts of the world will go through the control of Pakistan. China is investing US\$ 62 Billion for fully operational of this corridor through short & long term planning projects envisaged to complete by 2030. The development of infrastructure in Baluchistan province can provide access to the reserves exploration worth trillion of dollars, development of infrastructure in Pakistan will create hundreds of thousand jobs, new business opportunities, overcome energy crisis, fast communication; resulting in socio – economic benefits to the country. Pakistan Cement and Steel industry are the major beneficiaries through the CPEC projects. In this paper we have made analysis on different infrastructure projects under the umbrella of CPEC and its impact specifically on the construction sector of Pakistan. The research methodology is qualitative based on analysis of projects combined with the interview of professionals on the infrastructure projects of CPEC. The contractors of Pakistan are less benefitted while special reliefs given to Chinese companies by the Government agencies of Pakistan. The utilization of funds with transparency by Government agency on projects will be the key to success of China Pakistan Economic Corridor. We identify in our research and foresee of short term benefits of jobs creation & business growth in construction sector of Pakistan. China can benefit in long term with the development of this corridor by getting interest on its investment & reaching to the world in days instead of months. The development of infrastructure projects on GCL (Government Concessional Loans) & BOT (Built – Operate – Transfer) philosophy will keep the existence of Chinese companies in Pakistan for the next 25-30 years.*

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## **KEYWORDS**

*Construction CPEC, Infrastructure. Pakistan, China*

## **1. INTRODUCTION**

The China –Pakistan Economic Corridor (CPEC) is a transportation corridor comprising highways, motorways, bridges, railways lines, seaport and airport as well as energy projects for generation of electricity and its evacuation through new construction of transmission lines. Establishing special economic zones, construction of logistic facilities including railways network, warehouses and other allied facilities. It is a framework of regional connectivity. CPEC is a vital link in the One Belt One Road (OBOR) initiative of China which will connect more than 60 countries including Pakistan neighbours Afghanistan, Iran, Central Asia states, East Asia and Europe.

The cost of CPEC is US \$ 62 Billion that includes US \$ 34.74 Billion for energy project for generation of power, development of Gwadar port and allied facilities to move goods for import and export. The road-rail infrastructure will connect western province of China Xinjiang to Gwadar in Pakistan. In 2017 Gwadar port has become operational. Design work on New Gwadar Airport and major work on highways completed. Long term plan up to 2030 is being negotiated which is very ambitious. CPEC projects are journey towards economic regionalization in the globalized World. It will provide higher volume of flow of trade and businesses, producing and moving energy to have more optimal business end enhancement of cooperation by win-win model will result in well connected, integrated region of shared destiny, harmony and development.

In the first phase under CPEC initiative in Pakistan since MOUs was signed in July 2013, motorways and highway network infrastructure and energy projects worth \$ 18 Billion are already under full and active implementation phase. Most of these projects would be completed in the year 2018.

In the second phase 2018-2023 all those projects that had remained inconclusive will be completed on priority and new projects will see light including hydel projects which have long completion period. Such as development of special economic zones, Karachi-Peshawar Motorway, Karachi Circular Railway, Upgradation of Main Line from Karachi to Peshawar, complete reconstruction of Karakoram Highway, Construction of Gwadar International Airport and completion of Eastbay expressway. . Some of the major initiative expected to gain momentum include:

- Karachi Circular Railway project feasibility completed in May 2017.
- Gwadar Eastbay expressway at a cost of US\$ 140 Million to link Gwadar port.
- Havelian Dry port to be constructed including cargo handling facilities at a cost of US \$ 65 Million.
- 2 x 330 MW coal fired power plant at US \$ 2000 Million using irrigation coal by Engro Powergen Thar limited / China Machinery Engineering Corporation.
- Construction of 870 Megawatt Kinari hydropower station at Khyber Pukhtunkhwa at a cost of US & 1,802.
- Upgradation of D.I Khan –Zhob Motorway of 210 Kilometre at a cost of US \$ 195 Million.
- Cross border fibre optic project (Khunjerab-Rawalpindi) at US \$ 44 Million.
- Construction of 1,320 Megawatt Sahiwal coal power plants at a cost of US \$ 1,600 Million

- Construction of 660 Megawatt Port Qasim Power Plant at a cost of US \$ 1980 Million.
- Construction of 660 Megawatt Hubco Coal based coastal independent at a cost of US \$ 970 Million.
- Quaid-e-Azam Solar Park of 1000 Megawatt at a cost of US \$ 1,302 Million.
- Khuzdar-Basima Road of 110 Kilometer at a cost of US \$ 80 Million.
- The construction of 720 Megawatt Hydro power section at a cost of US\$ 1,420 on River Jhelum on Azad Jammu Kashmir with expected completion date in 2021.
- The construction of 1100 Megawatt Kohala Hydropower Project at a cost of US \$ 2.397 Million located in Azad Jammu Kashmir. Expected commercial operational date is 2023.
- Matiari – Lahore 660 Kilowatt HVDC transmission line project at a cost of US \$ 1,500 Million. Expected commercial operation date in 2021

The long term plan under CPEC for 10-15 years is being worked out. After the early harvest projects including the priority energy projects are completed; road and rail connectivity gets priority along with the special economic zones to produce industrial goods in the nine Special Economic Zones when established.

## 2. PROBLEM STATEMENT

Rizvi, J. (2017). “The government has allocated only four projects to the local constructors under the China-Pakistan Economic Corridor (CPEC), and those too under strict conditions. Huge quantity of iron products are being used in all types of construction and development projects of the CPEC, which is enough for the revival of the PSM as all its production can be consumed. Currently, it being imported from China by the Chinese companies”

Malik, A, (2017) “China is Pakistan’s largest trading partner. Mutual trade has crossed the \$20 billion mark this year. There are such huge opportunities for Pakistan under the CPEC whether it is industry, agriculture, or the services sector. The recent imports from China consist of primary goods such as construction machinery and power generation equipment to build the essential infrastructure of the CPEC”.

## 3. LITERATURE REVIEW

Iram, Usman, Hafiz & Shahzad. (2017). “Province of Baluchistan in Pakistan is full of natural resources those required exploration. It is assumed that it has large reserves of natural gas, potential reserves of oil and precious minerals that are attracting the international world. It has large quantities of coal, gold, copper, silver platinum, aluminum and uranium worth trillions of dollars. The exploration of these resources has not been possible in the past due to lack of infrastructure. The development of Gwadar port and necessary infrastructure linking with the rest of the province can provide access to these reserves exploration. Chinese personnel as part of China Pakistan Economic Corridor are supporting in development of roads, dams and additional infrastructure ventures in Pakistan. The declaration by Chinese government with mutual consent of Pakistan government to connect Gwadar port with Karakoram highway is part of the infrastructure development initiative. The upgradation of Pakistan railway is another main component of CPEC, the structure of new track and upgradation of old tracks are part of this venture. The mega projects are worth \$ 7.89 for the development of Railway has been allocated. The upgradation of Karachi to Peshawar track has been allocated US\$ 3.65 Billion; whereas a new track would be constructed

between Gwadar & Jacobabad will cost US\$ 4.2 Billion as part of CPEC infrastructure development. The Government of Pakistan has further accepted US\$ 12 Billion as part of CPEC infrastructure comprising the construction Raikot-Islamabad motorway worth US\$ 3.5 Billion, construction of Peshawar-Karachi motorway worth US\$ 6 Billion & US\$ 1.6 Billion has been allocated for the orange line project in Lahore”.

Saif. & Zhao. (2017). “The one belt one road initiative will connect China province of Xinjiang with Gwadar Port through network of communication and infrastructure development covering a distance of around 3000 Kilometer. The strategy of China is to connect Europe, South East Asia, South Asia and Africa through roads, railways lines, energy infrastructure and maritime routes. In the current scenario the oil supplies from Middle East to China takes around 12,000 Kilometer by sea route, whereas the development of CPEC infrastructure of overland road would shortened the distance to 3,000 kilometer and simultaneously the time to reach the destination has appreciable impact. The CPEC projects are envisaged to be completed in 2030 with construction of economic zones, energy, and fiber optics for communication, railway tracks, roads networks and Gwadar port with surrounding areas. The investment of US\$ 4 Billion is committed for the development of railway and road sector to connect Gwadar with China through Khunjerab Pass in northern Pakistan. The construction of highways, railways, economic zones and energy projects will generate economic indicators for China. The 2016 statistics of Pakistan showed that it had production capacity of 4 Million ton steel against 7 Million demands of steel”.

Mariam. (2015). “CPEC is a golden opportunity for Pakistan to resolve all its problems by getting US\$ 46 billion through investment in different sectors of the country. Although CPEC is being built on BOT Build-Operate-Transfer mode which is one of Public-Private partnership whereas Pakistan has not seen very pleasant experience of this kind of partnership. CPEC will connect Gwadar port with North west province of China through infrastructural development in terms of roads and railways that will increase economic activity as it covers all the Pakistan”.

#### **4. RESEARCH METHODOLOGY**

This paper research methodology is exploratory qualitative based on case study of various infrastructure projects, literature review and interviews with the key individuals on CPEC projects. The purpose of research was to explore the benefitted trades, human resource development through job creation opportunities and growth in business opportunities for Pakistan origin companies through CPEC Projects The data available from case study projects had enabled us to analyze & identify the impact on the socio economic impact on the country. The literature review helped in the exploration of various aspects of our research especially the construction material shortfall in the local market, creation of job & business opportunities were analyzed in contrast with the case study of projects and its overall impact on the construction sector of Pakistan. Progressing further we conducted interviews with key stakeholders involved in our case study projects from contractors, consultants & implementation agency. It provided us in-depth knowledge and information enabling us to a conclusion & area for future research.

#### **5. CASE STUDY: ORANGE LINE METRO TRAIN PROJECT**

In Lahore, capital of Punjab province a Mass Transit System is being developed. Orange Line Metro Rapid Transit (OLMRT) is the most prestigious component of MRT with total length of 27.1

Kilometers. The orange line project has total 26 stations planned along the route. A total of 27 train sets will carry an estimated 245,000 passengers per day. The total cost of the Orange Line MRT is estimated at US \$ 1478 Million. The project has been delayed because of the petition in Lahore High Court by the members of the civil society against construction of OLMRT within the 200 foot radius of 11 heritage sites under the Punjab Special Premises Preservation Ordinance 1985 and Antiquity Act, 1975. The construction work on package II from Chauburji to Ali town went on hold after Lahore Development Authority sacked a reputable contractor M/s Maqbool-Calson as the authority states that the contractor was delaying the project and a new contractor M/s ZKB-Reliable has been given task to complete the project. The sacked contractor has filed a lawsuit in the Lahore High Court for termination of contract illegally which the court dismissed and allowed Lahore Development Authority for hiring a new contractor. The new contractor M/s ZKB-Reliable was awarded the new contract at PKR 11.39 Billion which is addition of 2.6 Billion from the initial contract. From the launch of the Orange Line project approximately 25 workers has been killed in separate accidents due to unsafe safety practices. In January 2017 seven workers belonging to Habib Construction Company were burnt to death after fire erupted in the labor camp residence. A similar accident took place in May 2016 which took another seven workers lives. In January 2016 two labors died when they suffered electric shocks while working on the project in Chuhng area. In November 2015 a safety worker slipped and was run over by a fast moving vehicle. Another Labor of sub-contractor died when he was hit by motorcycle to lost control and came under the heavy duty excavator. (Imran. G. 2017)

## **6. CASE STUDY: UPGRADATION OF RAILWAY MAIN LINE PROJECT**

It is an early harvest project of CPEC for which National Railway Administration of China and Ministry of Railways Pakistan have jointly conducted a feasibility study. The total share of Pakistan railways under CPEC is USS 8.2 Billion for rehabilitation and upgradation of Karachi-Lahore-Peshawar (ML-1) Railway track with a length of 1,872 Kilometers. Pakistan has delayed approval of the Mainline-I project – the only strategic scheme of the China-Pakistan Economic Corridor (CPEC) – after Beijing tagged the phase-I of the scheme at \$4 billion, which is \$627 million higher than Pakistan’s estimates. The feasibility study carry out to firm up the cost and scope a consortium had been set up. The three parties of the consortium were China Railway Eryuan Engineering Group Co Limited (CREEC), National Engineering Services Pakistan (NESPAK) and Pakistan Railways Advisory and Consultancy Services (PRACS). According to NESPAK, the cost of the phase-I is \$3.4 billion. But according to Chinese consultant -CREEC -the phase-I cost is \$4.02 billion, which is \$627 million higher than the NESPAK estimate. The PRACS put the phase-I cost at \$3.3 billion. The scope of the work in phase-I under the new PC-I has been reduced by 56% as compared to phase-I approved by the CDWP in June 2016. Despite 56% reduction in scope, the cost has been increased by 6% at the lowest cost determined by NESPAK, according to planning ministry. Under old phase-I, the Multan Lahore section had 334km length, which has now been increased by 5 kilometer. The 182km Karachi-Hyderabad section has now been completely excluded under new PC-I of the phase-I. The Karachi-Kotri section of 163km has also been excluded. The Multan-Hyderabad section has now been reduced to only 183km. From this it infers that the cost of entire project including the phase-II is likely to increase manifold from \$8.2 billion.

## **7. CASE STUDY: PESHAWAR - KARACHI MOTORWAY PROJECT**

Peshawar – Karachi Motorway (Multan-Sukkur Section) length of 392 Kilometer will be constructed at a cost of US \$ 2,980 Million. Peshawar-Karachi Motorway envisages construction of 6 lane access controlled Motorway having total length of 110 Kilometer. The proposed motorway shall be a tolled facility. It shall originate from Karachi through M-9 motorway 136 Kilometer up to Hyderabad. From Hyderabad onwards proposed alignment shall follow a virgin alignment for 345 kilometer up to Sukkur. The Sukkur- Multan section of 392 Kilometer essentially follows the left bank of River Indus. The Government of Pakistan under SRO 47(I) 2018 exempted China State Construction Engineering Corporation Limited (CSCEC) working on the Karachi – Peshawar Motorway Project to import duty free machinery and material into Pakistan. The Pakistan Steel Melters Association (PSMA) has claimed that the relive of taxes to Chinese company will cost the Pakistan exchequer about Rupees 11Billion loss (The News, 2018).

## **8. CASE STUDY: KARAKORAM HIGHWAY (KKH) PROJECT**

Karakoram highway Phase II Thalkot-Havelian section is constructed at US \$ 1,366 Million. China has decided to temporarily stop funding at least three major road projects in Pakistan, being built as part of the \$50 billion China-Pakistan Economic Corridor. The road projects that are likely to be affected include 210-km-long Dera Ismail Khan-Zhob Road, being built at an estimated cost of Rs 81 billion. Of this, Rs 66 billion would be spent on construction of road while Rs 15 billion on land acquisition. The other project which is going to be hit is 110-km-long Khuzdar-Basima Road, having an estimated cost of Rs 19.76 billion. The third project is Rs 8.5 billion worth, the remaining 136-km of Karakorum Highway (KKH) from Raikot to Thalkot. “There are reports about Chinese authorities being concerned on allegations of financial corruption and embezzlement in CPEC projects”. (Daily Times, 2017)

## **9. CONCLUSION**

CPEC is mutually benefitted to both countries however we suggest China will be the major beneficiary. The transparency in utilization of funds by both countries is key factor in the success of CPEC objective. Our research on case study projects had revealed that there are many opportunities on the road for Pakistan in short term. So far 20,000 jobs created for Pakistani nationals, continuous growth in production of steel and cement industry of Pakistan and opportunities for new entrepreneurs to establish businesses. In 2015-16 total consumption of cement was 27 Million Tonnes, in 2016-17 it went up to 29.1Million Tonnes.. However the contractors from Pakistan side are less privileged with CPEC contracts mostly awarded to Chinese firms. We found that Pakistan implementation agencies has been restricted by Government of China to only invite Chinese contractors in bidding process ensuring Chinese firms are rewarded. The Government of Pakistan has given special exemption to the Chinese contractors on federal excise duty and sales tax on imported construction material and goods. The Chinese contractors are importing all machinery and equipment from China. There are shortages of technical skills manpower in Pakistan that include Technicians, Fitters, HSE, and signalling, equipment & machine operators. The Government of Punjab has recently established Technical Education and Vocational Training Authority (TEVTA) to fulfil the needs of skilled labours required for China Pakistan Economic Corridor is an initiative to overcome the shortfall. The demand of cement and steel has

been growing on the CPEC projects. And currently Pakistan current steel production has not been sufficient to fulfil the shortfall. China has exported 100 Million Ton of Steel to Pakistan in 2015. This was 50% of the total export by China to the world. Literature review finding identified that China is expecting increase in its trade across the world through this corridor with the development of Gwadar port with the existing 12,000 kilometre journey of trade would reduce to 3,000 with the International world.

## **10. RECOMMENDATIONS**

### **Equal Opportunities for Pakistani Contractors**

The Government of Pakistan has given exemption to the Chinese contractors on federal excise duty and sales tax on imported construction material and goods. It is our recommended that similar incentives should be provided to local contractors who may get equal benefits as Chinese contractors are availing. The contractor's selection criteria for CPEC Project are very strict for local contractors & they are selected mostly on the basis of Joint ventures with International consortium. It is recommended that the local contractor should be given opportunity as Main contractor as they could have a larger chunk of Project funds and it will be beneficial for the local manufacturing industry such as steel and cement. As in our case study research we observed that the Main Contractors are from Chinese and them importing material & equipment from China

### **Shortage of Technical Skilled Staff**

It has been identified that there are shortages of technical skills in some areas, these areas include requirement of specialized, Technicians, Fitters, HSE staff etc. on CPEC projects. An excellent initiative has been taken by Government of Punjab to establish Technical Education and Vocational Training Authority (TEVTA) to fulfill the needs of skilled labours required for China Pakistan Economic Corridor. It is recommended that similar technical institutes are established in other provinces of Pakistan to cater the demand and supply of skilled labour requirements

### **Establishment of Large Enterprises**

The demand of cement and steel has been growing on the CPEC projects. And Pakistan current production has not been sufficient to fulfill the shortfall. It is proposed that Government of Pakistan should take special initiative to ensure Steel Mill in Karachi starts its functionality with full resources to meet some part of the demand on CPEC projects. It is further recommended that large enterprise industry is established & existing enterprise should enhance their production capacity of steel and cement.

### **Consistency in Government Policies**

To revive steel industry the Government of Pakistan through National tariff Commission (NTC) took an initiative in June 2017 to impose additional 19.15 % anti-dumping duty on steel import from China, which is addition to 30 % regulatory duty already in place. The imposition of taxes helps Aisha Steel Mill, Mughal Steel, Dost Steel Limited, Amreli & others with an opportunity to expand its production. The impact was felt in a positive manner for growth to meet the demand by expansion and construction of new production facility initiated by the manufacturers. The impact was so high that around 10 new steel manufacturers were listed in stock exchange in 2017. It is recalled that China has exported 100 Million Ton of Steel to Pakistan in 2015. This was 50% of the

total export by China to the world. But the Government of Pakistan could not sustain its policy and in March 2018 through a SRO the Government of Pakistan revoked its decision and gave special concessional duty free to Chinese contractor working on Karachi-Peshawar motorway. It is recommended that the Steel industry in Pakistan can be revived if the import duty is maintained such that the production cost of steel in Pakistan is less than the cost of imported steel

### **Area for Future Research**

Pakistan could benefit from CPEC in short term with development of its infrastructure through Chinese Government Concessional Loans & BOT Build-Operate-Transfer philosophy but considering China to operate these facilities for next 20-25 years with a major chunk of profits received by China can impact the Pakistan economy in long term. As a researcher these are serious concerns and provide future researchers to explore further on our understanding to build infrastructure on concessional loans & BOT. Can the economy of Pakistan sustain in paying off huge debt?

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