

## China's Debt Diplomacy and China-Pakistan Economic Corridor (CPEC): Implications for Pakistan

Waseem Ishaque\* Aman Ullah† Safia‡

- p- ISSN: 2520-0348
- e-ISSN: 2707-4587
- ISSN-L: 2520-0348

### Headings

- Key Words
- Introduction
- Perspectives of Global Players on Chinese Economic Expansion
- Opportunities for Common Development Promised by CPEC
- Recommendations for optimizing CPEC
- Conclusion
- References

### Abstract

*China has been investing in several countries under the ambit of BRI and regional economic corridors. The basic spirit behind such an initiative is to benefit the world from China's peaceful rise. However, the potential implications of the Debt Trap have been voiced, especially when the issue of Hambantota came to the limelight. This research article discusses the "potential debt trap", widely being propagated in popular international media, particularly in the United States and India that China has other secret plans to fulfill under the cover of economic support and infrastructure development. They try hard to establish that the Gwadar port and the China Pakistan Economic Corridor (CPEC) will follow suit with the Hambantota port as experienced by Sri Lanka. This article presents a neutral analysis of the Hambantota Port Agreement and will compare it with Gwadar port and other mega projects of China Pakistan Economic Corridor.*

**Key words:** CPEC, Infrastructure development, Debt Trap

### Introduction

On 24 October 2017, during the 19<sup>th</sup> National Party Congress of the Communist Party of the People's Republic of China, a grand economic initiative termed as Belt and Road Initiative (BRI), also called One-Belt-One-Road (OBOR), was formally adopted under the constitution, as part of a resolution to achieve "shared growth through discussion and collaboration" (John Hurley, Scott Morris, and Gailyn Portelance, 2018). Chinese president Xi Jinping has made the program a centerpiece of both his foreign policy as well as the domestic economic strategy (Scott and David, 2015). BRI constitutes stimulating ancient trade ways connecting China, Central Asia, and Europe by developing three main corridors via southern, northern and central Xinjiang, which link China with Pakistan, Russia, and Europe respectively. Likewise, the Bangladesh-China-India-Myanmar corridor would provide China's landlocked Yunnan province entrée to the Bay of Bengal (Chowdhury, 2013).

It appears that Pakistan might perform as a hub of commerce and trade in the constituency with the creation of the CPEC that would necessarily establish numerous economic and industrial zones, physical roads, railways linking Pakistan and China. Furthermore, it could also boost economic and trade collaboration that would, in turn, contribute to regional peace and stability (Irshad, Xin, & Arshad, 2015). The most precious diamond in the Chinese crown would be the Gawadar port with its unique strategic location and unequivocal features. The China Pakistan Economic Corridor will work as a channel for the novel Maritime Silk Route that imagines connecting three billion people in Asia, Africa, and Europe. As a leading project of the one Belt and One Road initiative, the CPEC aims at reviving the earliest Silk Road with an emphasis on infrastructure construction of Gawadar port, together with energy cooperation and

\*Assistant Professor, Department of IR, National Defence University, Islamabad, Pakistan. Email: [waseemishaque@ndu.edu.pk](mailto:waseemishaque@ndu.edu.pk)

† Ministry of Interior, Government of Pakistan, Islamabad, Pakistan.

‡ Lecturer, Department of Political Science, Abdul Wali Khan University, KP, Pakistan.

investment programs (Irshad, Xin, & Arshad, 2015). CPEC will significantly reduce the length and risk of transporting oil and other energy supplies, tens of thousands of nautical miles in the Arabian Sea, the Indian Ocean, the Strait of Malacca and the conflict zones of the South China Sea to an average of one-third of the distance coupled with a relatively safe passage via Khunjarab Pass into the Xinjiang province leading towards Inner China. Furthermore, it will provide China with a significantly huge market in its route of goods transportation to the outside world. China will enjoy political influence followed by economic growth and development wherever it implements its plans of OBOR, the BRI and the Maritime Silk Route. Ultimately, it will help China grow its economic might in contrast to that of United States, disturbing to a great extent, the prevalent status quo of the contemporary world. The situation is alarming for the world powers who enjoy hegemonic leverages over the rest of the states.

A Washington based think tank, namely, Center for Global Development has recently published a research report titled "Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective". The paper categorizes out of the 68 BRI countries 23 as under risk of debt distress and identifies eight more countries as "vulnerable" to a Chinese debt trap. (Hurley, J., Morris, S., & Portelance, G., 2018). The paper deliberately identifies Pakistan as lying among the vulnerable countries group, although it acknowledges that the financial matters of CPEC are more transparent and well-publicized as opposed to the majority of Chinese investment plans. It accuses China of not participating in the Paris Club or any other framework which would channelize its investment details towards publication and make it accessible to the public. The secrecy that China observes in its monetary expenditure raises concerns but the report acknowledges that CPEC is a general exception to that rule, where the details of the expenditure and financial matters have been made public.

The concerns regarding some covert Chinese ambition develop after the Hambantota Port construction, where according to media reports, there is little economic activity. As evident in an article in the Daily Stars and Stripes that topics "Inside China's \$1 billion port where ships don't want to stop" (Marlow, I, 2018). The speculations serve the US ambitions at denouncing the Chinese development plans. They try to confuse people when they find themselves in a condition where they are unable to convince them otherwise.

We will discuss here that, why some scholars oppose CPEC and like to call it a "Debt Trap". Most of these scholars are Indian or American. They have regional and global level rivalries with China respectively, because of its emergence as an emerging power. They have tried to equate the Gwadar project with the Hambantota project and they also claim that there are hidden political and strategic interests of China rather than mere economic cooperation behind this project.

### **Perspectives of Global Players on Chinese Economic Expansion (Potential Debt Trap for Pakistan)**

Although Chinese researchers and academicians are well equipped with perspective games that are posed by western media. (Zahid Latif, 2016). Despite the engaging world with win-win Corporation, there are several geostrategic centers that have their own skeptic ideas regarding CPEC.

#### **American Approach**

This Anti-CPEC approach was taken mainly by American scholars and a few Pakistani scholars, who are more tilted towards the west. America is foreseeing a rapid change in the world order, the shifting of power from West to East and loss of its position as a hegemon in the emergence of China, as a new power challenging their position. Their Perception gets strength when its historical allies start tilting towards China like Pakistan, in case of CPEC. So, in order to secure their hegemonic position and influence in their allies, they are making strategies to counter every project, sponsored by China. To regain their influence in Pakistan, they are strongly pressurizing the Pakistani governments through different means. Recently, the

article "How China Got Sri Lanka to Cough Up a Port" was published in THE NEWYORK TIMES, in which they have tried to make CPEC the same model as Hambantota case. (New York Times, 2018).

According to these scholars, like Hambantota, CPEC also initiated with loans and eventually it will be converted into equity, as we could foresee that Pakistan's economic condition will not get the position to repay this loan. Hence, this will provide an opportunity for China to own the whole CPEC. Also, the agreement related to Gwadar shows that 91 % share of the revenue will be given to China, for 40 years.

In CPEC, about \$56 billion is to be invested, out of which \$35 billion has been reserved for the Energy sector. So, they argue that China will charge a 17-20 % guaranteed return and also charge Rs. 8.50 per kilowatt an hour, while the moderate rate is only 5 rupees. This will destabilize the daily life of the public in Pakistan due to the increase in the price of electricity and it will also affect local Industries (Nadia, 2017)

Moreover, tenders for these all projects, related to CPEC, are not presented before global industries. Most of the projects are directly given to Chinese companies, due to which there is a chance that they may charge more and also use low- standard materials in infrastructure buildings.

They claim that Pakistan will fail in returning the loans given by China, regarding CPEC, because Pakistan has a huge gap between its import and export. The trade deficit Pakistan, recorded in 2018 is \$37.7 billion, according to Trading Economics, which is very high than its export rated. By adding it, they say that the international debt, Pakistan has received from other states and institutions are \$72 billion in 2017, without the inclusion of CPEC loans. So along with such issues and low economic growth of 3.1%, they thought that Pakistan's government will not able to return these loans.

According to them, this huge loan from China could spell doom for Pakistan's economy, which is already declining and finally, it will create the same situation for Pakistan as they have created in Sri Lanka. In the end, Pakistan will have to give the ownership of its important lands to China.

The United States feels threatened because they see OBOR as a challenge to its global order, they willingly participate in US hegemony to ensure their security but with the rise of economic china insecurity increases and the USA feels pressure to maintain its economic hegemony. USA sees CPEC as a counter of its Pivot to Asia strategy and creates massive diplomatic hurdles for Pakistani diplomacy to create and formulate a balanced view.

## **Indian Approach**

This approach has been taken by almost all Indian scholars. They are considered as the regional rival of China. History of Sino-Indian relations has also possessed many disputes with hot wars on a different front. Now, America is modeling India as a regional competitor of China, by assisting them militarily, financially and supporting them on international forums. Due to this rivalry, coupled with arch rivalry with Pakistan, they are also opposing CPEC directly as well as indirectly, by producing discourse against CPEC. Directly, they are creating hurdles, especially in the case of Gilgit Baltistan, which is the gateway for CPEC to enter in Pakistan.

According to them, China is misusing Pakistan's rivalry with India, to secure their hegemonic interests, by encircling India through assisting Pakistan, financially and militarily. They argue that China would snatch important assets of Pakistan through CPEC because China has excess Industrial capacity and unemployed skilled personnel, which they want to utilize in CPEC. This is evident from the failure of Pakistan in getting those expectations, which they made related to CPEC. For an instance, it was expected by Pakistan that 50,000 jobs would be created in the first phase of CPEC, but very few were achieved and most workers have come from China because only a few Pakistani laborers can compete with their laborers. Rather than this, Pakistan has deployed around 15000 security forces, in order to ensure the security of Chinese and the maintenance of CPEC.

In addition to this, all Chinese companies have gained relaxations regarding tax payments. This step would destroy the local Industries, because of the high electricity rate and excessive taxation on these local industries. Moreover, they support their stance by saying that only China has got a market through this

route, because there is no reverse traffic from Pakistan to Xinjiang, to approach the Chinese market. So, in terms of foreign exchange, Pakistan remains lagging behind China.

China has the largest population of 1.386 billion and it is one of the largest agricultural economies in the world. But it lacks sufficient arable lands and due to this reason, Indian scholars argue that China wants to capture Pakistani land through the project of CPEC, in order to fulfill their agricultural needs. In this regard, they have proposed many projects of road and railway line, which will connect their landlocked province of Xinjiang with the Arabian Sea from Gwadar Port.

Other than intellectual opposition, Indian international relations are practically aimed at hindering the development and functioning of CPEC. Empirically we can see India's involvement in Chabahar port to minimize the efficiency of Gwadar port. The also see Gwadar a pearl of an old string of pearl theories where India seems to think that China will encircle India to culminate its regional fatherhood.

## **Russia**

Resurgent Russia, with its ambition to enhance its economic influence towards the east, will use the China Pakistan economic corridor. Yet there is no clear stance to be taken by Putin in the context of CPEC but we can generalize its view on OBOR which is to create economic supplements for each other.

## **European Union**

EU will maintain its economic developmental centric foreign policy where economic integration is the ultimate cause for the EU. And promisingly it is very hard to resist the eco-sino developmental incentives given by china to the EU.

However, 'it is hard to believe Pakistan as a debt trap because of two vital reasons, one is that CPEC is its flagship project, it is china national interest to make CPEC a success story to provide a world empirical evidence of the success of grand idea(OBOR)'.

## **Opportunities for Common Development Promised by CPEC**

### **Special economic zones a golden opportunity (to mitigate debt trap)**

Almost in all liberal societies, there are some strategies for rapid economic growth by giving incentives to investors. FDI is essential for developing countries like Pakistan, and to attract FDI Pakistan followed a model of making special economic zones (BOI, 2016) around Pakistan where investors enjoy government given incentives for making tertiary goods and provide services around the globe. Investors will enjoy the leverage of 10 years on income tax which will enhance the import because goods cost will be reduced and the buying power of the country will increase which has a direct influence on the stature of the rupee. Rupee will sustain itself and in this way debt will be degreed, and also the revenue which is generated from this will help in the developmental sector and also pay the foreign loans. The more you are dependent the more will be a threat to sovereignty.

- Khairpur Economic Zone
- Bin Qasim Industrial Park
- M-3 Industrial City/ Faisalabad
- Hattar Economic Zone

### **Boost in Real Estate (the Sector which will Provide High Revenue)**

There has been a 118% increase in real estate business in the last 5 years and with the better security situation of Pakistan and policies of the government we can enhance this part to the next level and can multiply its economic profits for the sake of higher GDP growth. If the situation continues in the direction of progression analysts are seeing the heavy investment in Pakistan and by other countries like Qatar in real

estate business. And with the advancement of CPEC, a well-established and progressive real estate industry can be drawn which will help in the problem of avoiding debt trap. Another important reason that Pakistan is the Western Pearl for China like California is for the US. If china has to expand without Pakistan, it seemed to be impossible so the rhetoric to debt trap falls into the Indus River and eventually sink into the vast waters of the Arabian sea'.

### **CPEC Myths/ Realities**

Some of the aspects are highlighted below;

#### **Pakistan Will Be Too Dependent**

It is a well-organized myth in the popular media, that Pakistan will be too dependent on China that we will lose our sovereignty. The rationale behind the above perception is based on the following.

- China is not following the mercantilist approach which means having a colonized mindset. China is not extracting Pakistani resources and accumulating wealth from it by manufacturing goods and cells again in the Pakistani market. Rather it is a shared vision of Pakistani and china's leadership and to call it a debt trap is it justice?
- Flagship project OBOR is not the imperialistic agenda of president xi jing ping rather then it is the project of hyper globalization and connecting the world more closely. CPEC is the important component of it, therefore, neglecting the importance of CPEC and clouded your opinion without any powerful factorial backing how can one say it is a debt trap?
- The trade deficit doesn't always come upon as the debt trap of the tool of inflating others. If this is reality then India china budget deficit is 46 billion\$ and with America is 171\$, if this myth is accurate then these both alliance countries because of the rivalry against chin will be under huge control but it is not the case, but to fill these gaps Pakistan must seek policies which will help her for its fast pacing growth.
- Rather than skeptic upon that china will coup the sovereignty of Pakistan or impose a debt trap, we have to rely on the primary data given by the primary actors just as the speech was given by president of china in state visit to Pakistan 2015 ' his country firmly supports Pakistan's commitment to upholding its sovereignty, territorial integrity, and national dignity.
- The last myth related to this area is the large population of Chinese in Pakistan. Well, to analyze in the correct manner there is some truth behind it empirical data suggest otherwise. Most Chinese present in Pakistan nowadays labor who work for CPEC projects which are residents of Pakistan for the temporary time they will go to china once respective projects are finished and the people who live around Pakistan for different reasons we may think positive about them because they are contributing towards Pakistani prosperity.

#### **Pakistan is Increasing its Debt under CPEC**

It is very essential to address this myth because lots of criticism exists in Pakistani society who are over cautious with regards to the mobilization of resources and the regulation of external payments. It is very necessary to differentiate between IMF/World Bank loans and foreign direct investment by China in the CPEC. Pakistan has experienced a dreadful disaster in terms of external loans where forced austerity programs were initiated having negative repercussions on the social sector, snatching public independence. Furthermore, IMF loans create the inability of repaying interests and for tax, countries borrow another loan and the vicious cycle continues. There is a belief that CPEC will enhance the burden on Pakistani economy, but with my analyses, it is prudent fact that CPEC enhances the capability of Pakistan to absorb the pressure and from the ashes, it born again like the phoenix. This claim is supported by some empirical evidence, it is projected that public debt to GDP ratio will decline by the year 2020.

## **Debt Repayment Policy**

Repayment of loans starts from 2021 where 300 to 400 million annually will be paid by the government and gradually peak towards 3.5 billion per year from 2024 to 2025 (Mubarak, 2018). Therefore CPEC is not imposing a direct burden now on the economy of Pakistan. This project should overlap with other Chinese foreign investment just like in Hambantota. Finances in CPEC is divided in government to government loans, investments, and grants. Just as the case of Gwadar port which was built on the grant which means Pakistan does not have to pay the cost of the infrastructure of Gwadar port. Energy projects are run under the independent power producers IPPs, are mainly funded by giant banks of china therefore any debt would have no concerns on the government of Pakistan (Khaleeq, 2018). The planning commission of Pakistan stated that 'CPEC is not imposing any immediate burden with respect to loan repayment and energy sector outflow, it said arguing all debt related outflows will be outweighed by the resultant benefits of the investment to the Pakistani economy.

## **Sri Lanka's Hambantota Port as an Example of a Debt Trap**

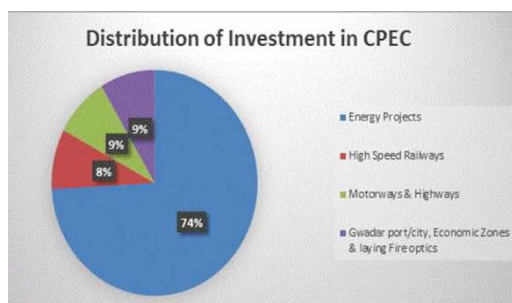
To legitimize their negative statements on CPEC critics argue and give the Sri Lankans example to justify the debt-trap diplomacy of China. In nutshell, the story is, china gives loans to Sri Lanka's government through their Exim bank to build port and airport. Due to Sri Lankans inability to pay back the loans, the port was leased to a Chinese company for next 99 years (Angelina Parker, 2017) now from here concerns start in world arena especially Japan, America, and India because this will enhance the capacity of china in Indian ocean region (Wang, 2018). Western media alleged china that china is using a debt trap for influencing other countries by giving them huge loans and then taking over the main infrastructure just like the Rajapaksa port. China owns 10% of Sri Lanka's total foreign debt while japans owns 12%. Actually, Hambantota port has huge power potential for boosting economy if it is in the hands of China. Major powers feel threatened not because of the breach of Sri Lanka's sovereignty but because of port management in the hands of the Chinese company

## **Financial Mechanism of CPEC**

As CPEC is a bilateral economic deal it has a proper mechanism of finances which are further divided into subdivisions comprising of foreign direct investment, easy loans, and grants. China is investing globally for the sake of its OBOR (one belt one road) initiative because it had already been predicted by several leaders and thinkers that in coming times people would go back to Land routes for trading purposes. This initiative will enable China to attain its goal of Peaceful rise of China. With the invention of nuclear bombs now conventional wars are being almost prohibited and in the present era, the Other than military sector power scale is shifted to soft power. That very much soft power is economic sustainability and this economic rise would directly affect the position of a state in international structure and that is the reason why US hegemony is under threat by the economic rise of China.

## **Foreign Direct Investment**

Foreign direct investments are the financial factors for a state in order to make itself economically stable and these are only possible when a state has a suitable environment and enough resources, markets, and trade routes with addition to this political stability and peace are also required. In the case of CPEC due to geostrategic importance of Pakistan China is investing in it and these investments are for the sake of building of energy sector, road infrastructure and Gawadar port. Initially, CPEC had a program of 46\$ billion which has increased now in the initial package the major portion of finances was to given to build the energy sector and rest was for infrastructure. Division of money by Government is was as follows:



## Recommendations for optimizing CPEC and Avoiding the Debt Trap

### Zero Tolerance on Corruption

A few decades ago China was not as it is in the contemporary situation. Its per capita income was 300 \$ which is now reached to 9000\$ and at the same time Pakistan had per capita income of 400\$ which is now increased to 1600\$. In order to optimize CPEC Pakistan has to make a corruption-free mechanism of all financial matters and accountability should be there for projects.

### Timely Competition of Projects

Time efficiency of projects should be enhanced and all the projects should be completed in a given time frame; any delay in the competition would cost as increases in expenditures and rates would get higher which would directly harm the economy at our side.

### Strict Control on Smuggling

Pakistan has suffered a lot in the case of the Afghan transit route which affected both the peace and economy of the state and resulted in the downfall of local products, so it should be made a totally smuggling free trade route.

### Bettering Local Industry

The local industry of Pakistan should be protected and local products should be safeguarded in order to get the fruits of CPEC. Otherwise the only dependency over Chinese imports would take it towards a debt trap, so in order to avoid it local manufacturers should be prioritized.

### Development of Skilled Labor

In order to enhance the efficiency of the project and develop the state itself, local labor should be developed and skilled according to international standards, and training centers must be there in Special Economic Zones.

### Joint Ventures of Companies

Policies should be made in a way that compels the joint ventures of local and Chinese companies; it would help Pakistan's companies to learn the experience and benefits would be shared.

### Vocational and Technological Institutions

These types of institutions should be made in collaboration with China which would help Pakistan youth to learn in the field of technological advancement and enhancing skills of local labor it will also help to reduce dependency over the imports only.

### **Invite other States to get Involved**

Pakistan should invite other friendly nation-states to invest and get involved and this would help to increase GDP because the more trade would be done through it the more revenue would be generated.

### **Gawadar port**

The main thing in order to avoid a debt trap like Hambantota is that the development of Gawadar port should only be done with grants, not with loans and it should be totally under the full sovereign rights of the Pakistan government; this would help to achieve the very own goals of CPEC without being subordinate to China.

### **Conclusion**

CPEC has an enormous potential to boost Pakistan's economy, helping it to uplift its GDP, HDI, infrastructure development and much more. The only thing we have to do as a nation is to look inside ourselves and find out what behavioral deficiencies we are suffering and once diagnosed, go for a unanimous treatment. With consistency in our approach towards the outside world, and with a foresighted and visionary leadership, we can turn time in our favor. If we develop our economy based on the power projects, transport infrastructure and we bring upon socially sustainable developmental plans, surely we can return and repay the money that is being heavily invested by China. We have to uproot corruption and should continue an uninterrupted democratic political process in order to achieve our developmental goals. This way, Pakistan can escape debt traps if at all anyone ever tries to entrap us.



## References

- Anjelina. P. (2017). *China – Sri Lanka Strategic Hambantota Deal*, National Maritime Foundation Sri Lanka, Analysis paper. Retrieved from <http://www.maritimeindia.org/View%20Profile /636276610966827339.pdf>
- Board of Investment, *Pakistan-China Investment and Business prospects*. Retrieved from [http://CPEC.gov.pk/brain/public/uploads/documents/Final\\_English\\_Version.pdf](http://CPEC.gov.pk/brain/public/uploads/documents/Final_English_Version.pdf)
- Chowdhury, D. Roy. (2013). "Pakistan happy to aid in China's quest for land route to the West; India not so much." South China Morning Post, November, 19.
- Ishrat, H. (2016). *CPEC and Pakistan's Economy; An Appraisal*, Center of Excellence for CPEC, Ministry of Planning development and reforms. Retrieved from [http://CPEC.gov.pk/brain/public/uploads/documents/CPEC-and-Pakistan-Economy\\_An-Appraisal.pdf](http://CPEC.gov.pk/brain/public/uploads/documents/CPEC-and-Pakistan-Economy_An-Appraisal.pdf)
- Irshad, M. S., Xin, Q., & Arshad, H. (2015). *One Belt and One Road: Does China-Pakistan Economic Corridor benefit for Pakistan's Economy?* Journal of Economics and Sustainable Development, 6(24), 200-207.
- John, H, S.M & Gailyn. P. (2018), *Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective*", Center for Global Development (CGD), Washington DC. Retrieved from <https://www.cgdev.org/sites/default/files/examining-debt-implications-belt-and-road-initiative-policy-perspective.pdf>
- Khaleeq .K. (2018). Government Fires Back at Critics of CPEC Debt, Dawn News, October 12
- Maria, A.H. (2018). *How China got Sri Lanka to Cough Up*, New York Time, June 25
- Marlow. I. (2018). *Inside China's \$1 billion port where ships don't want to stop*. Stars and Stripes.
- Mubarak, Z.Khan. (2018), *CPEC Repayment Plan Under Preparation*, Dawn News, August 12
- Nadia, N. (2017). *Pakistan's \$100B deal with China: What does it amount to?*, Devex.Com, August 25
- Research Gate. (2015). *One Belt and One Road: Does China-Pakistan Economic Corridor benefit for Pakistan's Economy?* Tianjian University of Finance and Economics. Retrieved from [https://www.researchgate.net/publication/289127864\\_One\\_Belt\\_and\\_One\\_Road\\_Does\\_China-Pakistan\\_Economic\\_Corridor\\_benefit\\_for\\_Pakistan's\\_Economy](https://www.researchgate.net/publication/289127864_One_Belt_and_One_Road_Does_China-Pakistan_Economic_Corridor_benefit_for_Pakistan's_Economy)
- Scott, K. & David, A.P. (2015). *Building China's "One Belt, One Road"*, Centre for strategic and international studies (CSIS)
- Wang, S. (2018). *Western media Misread Sri Lanka's debt Issue*, Global Times, July 15. Retrieved from <http://www.globaltimes.cn/content/1110850.shtml>
- Zahid, L.M. (2016). *Chinese Vision Of One Belt One Road And Strategic Dimensions Of China Pakistan Economic Corridor*, Marghalla Papers, National Defence University [https://ndu.edu.pk/issra/issra\\_pub/articles/margalla-paper/Margalla-Papers-2016/1\\_Zahid\\_Latif\\_Mirza.pdf](https://ndu.edu.pk/issra/issra_pub/articles/margalla-paper/Margalla-Papers-2016/1_Zahid_Latif_Mirza.pdf)