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Table of Contents

Roadmap for Development of CPEC SEZs

By

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INTRODUCTION:

Special Economic Zones (SEZs) are developed around the globe mainly in less developed countries as a strategy to industrialize and to accelerate the economic growth. They are demarcated territory with its own fiscal regime different from the one prevailing in the country and managed by single administration[5]. Moreover, they are better connected with markets and are equipped with world class infrastructure such as roads, uninterrupted power, and water supply and facilitation services to run the wheel of industry within SEZ effectively and efficiently.

The growing number of zones is the evidence of the "second best" strategy after the one to open the whole economy to investors[6]. Also, SEZs are considered as the cornerstone strategy for economic growth and a tool of national competitiveness[7] and economic reforms which have significantly catalyzed the economic growth of the

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[5] Baissac, Claude. 2011. "Brief History of SEZs and Overview of Policy Debates."
[6] Moberg, Lotta. 2015. "The Political Economy of Special Economic Zones." Journal of Institutional Economics 11 (1): 167–190.
[7] Madani, Dorsati. 1999. A Review of the Role and Impact of Export Processing Zones. The World Bank.

countries especially in South East Asian nations and also to some extent in African nations.

SEZs play pivotal role in boosting the economy and hence has gained popularity in the last four decades. The number of SEZs, therefore, has multiplied from 79 in 1975 to more than 5,000 by now in more than 130 countries and is growing. However, not all SEZs are being developed with the same set of objectives. In the 70's and the 80's, SEZs were established to facilitate the industrial development in East Asia particularly in China to strengthen its economy. In Vietnam SEZs were developed to attract FDI, so played key role to transform its economy. Whereas Malaysia, Philippine and Indonesia used SEZs as a growth strategy. India positioned SEZs as the core element of developmental strategy. As for Latin America, SEZs were setup to facilitate the large manufacturing sectors whereas, North Africa and Middle East leverage their export-oriented diversification through SEZs.

In short, SEZs are developed to achieve different policy objectives which are broadly classified into the following categories;

a) to attract FDI
b) to support the economic reforms
c) to generate employment
d) to use SEZs as laboratory to test new economic policy

To achieve one or group of these objectives, multitude of strategies are required. Approaching SEZs development in different regions having different regional characteristics with same strategy is not recommended. Strategies should be devised considering the existing economic outlook of the region under consideration.

ECONOMIC DEVELOPMENT STAGES AND CHINESE EXPERIENCE: APPLICATION TO SEZS UNDER CPEC:

The challenges of economic development evolve with the growth of a country and so is the case of SEZ development. Development model, therefore, should look at the regional characteristics and investment climate when devising plan for economic uplift of a region. Porter proposed four stage economic development model for this purpose. The four stages are as follows[8]:

a) **Factor driven**: This stage is based on supply of the factor of production like natural resource, human resource or the favorable conditions (like climate etc.).
b) **Investment Driven**: At this stage economies are strong enough to compete in international markets and able to acquire new technologies, knowledge and skills. Therefore, required further investment can be encouraged by the government.
c) **Innovation Driven**: At this stage economies are not only able to absorb technologies and advancement from foreign investment but also create their own. This is the stage where firms and economies are encouraged to create advanced factors of production.
d) **Wealth Driven**: This is the last stage where economies are losing competitive advantage and this stage is being related with drop of demand condition, de-clustering, drop in wage rate and employment and monopoly of big firms to influence government policies.

Based on Porter Model, SEZ can be developed keeping in view the stages of development in a particular region. Because different regions within an economy may be at different stages of development; some will be factor driven having sufficient

[8] Porter, Michael E. 1998. Competitive Advantage of Nations. Free Press.

natural resources to feed an industry, other in development stages already contributing to national economy, while others in more advanced stages ready to become an innovation hub. As for the last stage that is, wealth driven, it is not relevant to our economy, so it is dropped from further consideration.

China has developed 5 state owned SEZs on its costal area since late 70s which have helped establishing of more than 1750 new SEZs as of now. SEZs are developed more or less with the same pattern as presented in the Porter Model. In the first stage SEZ, the focus is on attracting FDI/domestic investment to exploit the regional endowments and generate employment (factor driven). Similarly, second stage SEZ helps diversify the production base by attracting investment of the world class manufacturing companies and promote spillover and knowledge transfer through linkages with domestic firms (investment driven). As for the third stage SEZ, the requirements for its development are presence of the competitive advanced industries in addition to R&D facilities and specialization in one or more sectors (innovation driven).

By applying the same concept to prioritized SEZs under CPEC, it comes out that the SEZs should be classified as First, Second and Third stage SEZs based on the regional characteristics described in the model mentioned above.

TABLE 1: PROPOSED DEVELOPMENT MODEL FOR CPEC SEZS

S.#	SEZ, Province/Region	Regional categorization	Investment Climate	Proposed Type of SEZs	Key Objectives of SEZs
01.	Mirpur SEZ, AJK	Under Developed regions	• Limited industrial base. • Weak infrastructure/ Connectivity. • Lack of skilled labour. • Unemployment • Abundant natural resources.	First Stage SEZ	• Attract Investment. • Create employment.
02.	Mohmand Marble City, KPK				
03.	Bostan SEZ, Baluchistan				
04.	Maqpoondas SEZ, GB				
05.	Allama Iqbal Industrial City, Faisalabad	Developed regions	• Developed industrial base. • Better Infrastructure/ Connectivity. • Availability of skilled labours.	Second Stage SEZ	• Attractive FDI • Product diversification • Export promotion • Strengthen domestic industry through backward linkages
06.	Bin Qasim Industrial Park Sindh				
07.	China Special Economic Zone Dhabeji, Sindh				
08.	Rashakai SEZ, KPK				
09.	ICT Model Industrial Zone, Islamabad	Leading region	• Advanced environment* • R&D facilities • Well-developed infrastructure	Third Stage SEZ	• Improve skills • Promote productivity, quality and innovation

*The capital region has factors including R&D facilities, research institutes in top universities of the country, well developed infrastructure and pool of skilled manpower to initiate innovation valley at small scale in the capital.

POLICY RECOMMENDATIONS:

- **Highly Professional SEZ Authority:** Development, management, maintenance and promotion of each SEZ is a unique and extensive engineering management undertaking which should be carried out by highly professional on-site SEZ authority.

- **Setting up of realistic targets:** Realistic goals and targets should be set up for each SEZ regarding; FDI, exports, value addition, employment generation, net revenue, clusters development, expansion.

- **Precise Timelines for Zone Development:** Project approach should be adopted for the construction of each zone. Different construction work packages (roads, electrification, others) of the project, their planned completion time and cost should be explicitly defined for clear visibility of investors who desire to invest in any of the work package or develop the zone completely. It also gives clear idea to the prospective industrialists about the availability schedule and cost of the industrial plots and is helpful in result oriented marketing.

- **On-Site Full-Time functional one window facilitation:** An on-site full-time functional one window facilitation is must for end to end facilitation of the potential and existing investors and industrialists.

- **Area specific development model:** Some of the SEZs are notified in less privileged areas like Bostan SEZ in Balochistan, Marble city in Mohmand Agency, Maqpoondas in Gilgit, while other are notified in rather developed regions such as Allama Iqbal Industrial City in Faisalabad and Bin Qasim Industrial Park Sindh. The former SEZs are required to be developed as per "First

Stage" of SEZ development strategy (discussed above in the document) whereas the latter needs to be developed according to the "Second Stage" of SEZ development strategy to avoid failure.

- **Incentives:** The First Stage SEZs (factor driven) require financial and fiscal incentives for the investors and developers to invest there. Mostly foreign companies shy away from remote and under privileged areas until and unless suitable financial and fiscal incentives are provided to balance investment risks. Regarding the Second Stage SEZs (investment driven) and third stage SEZ (innovation driven), a comprehensive and long term legal and institutional framework is obligatory to allure investors and build trust.

- **Cost of Land:** Cost of land is the basic prerequisite contributes towards cost of doing business. Hence, the industrial plots should be provided as cheap as possible for all the three-stage types of SEZs. To safe guard making the SEZ as a real estate business, the investors should be bound to develop their site within an agreed duration and should only execute the sale and purchase of land from the on-site SEZ Authority on a basic fixed rate.

- **Industry specific incentives:** Special incentives should be given to promote specific type of industries within SEZs, like high tech industries, manufacturing, auto, software and hardware technology industries, mineral processing, exportable branded garments, food, and marble which require high financial capital and human capital and have great potential to grow in Pakistan.

- **Forward and backward linkages:** Establishing strong forward and backward linkages are must to make the CPEC SEZs a world-class success stories. The forward link of SEZ is about linking it to the suitable buyers specially the global markets which is possible if the SEZs can attract global brands and their respective

enterprise specially the Chinese manufacturing and export enterprises to build here and export to their existing global customers. Backward linkages connect the SEZs with the local businesses to strengthen the economy and protect the existing industrial base (mostly cottage/small and medium enterprises) by acquisition of inputs from these and making vendors and local strategic partners.

- **Branding and Targeted Promotion of SEZs:** To promote investment in the SEZs as per the best-fit objective needs, it is very important to brand the SEZs to leverage the value proposition and promote these to well defined key prospective investors and industrialists including; Pakistani (both local and overseas), Chinese, and international.

- **Innovative financing of SEZs:** The above given recommendations need big chunk of finance for which globally used innovative financing modes should explored and devised to support the long term sustainable development of the CPEC SEZs.

Innovative Financing for Special Economic Zones under CPEC

By

Dr. Noreen Adnan[1], Jamshed Ahmed[2]

INTRODUCTION:

Innovative financing is anything different from standard investing or financing practice that has the potential to deliver significant socio-economic or environmental impact"[3].This enlighten that innovative financing develops the activities for the wellbeing of the countries, through new approaches of pooling public and private revenues. The new income streams such as innovative taxes, issuance of bonds, fees, sales or any other scheme for voluntary contribution are reserved for the development purposes. In a few cases, the new financial mechanism has a dual agenda. Firstly, to raise new sources of financing by generating the development funds and secondly, to enhance the efficiency and effectiveness of the financial flows by making them more result oriented. There are different categories of innovative financing that are briefly discussed below:

CATEGORIES OF INNOVATIVE FINANCING

- **Taxes, obligatory charges or other dues on globalized activities:** create public revenues from private sector e.g. airline ticket tax, carbon tax etc.
- **Voluntary solidarity contributions:** In this form, customers can donate a small amount for a special cause e.g. product RED etc.

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[2] Research Assistant, Financing & Financial Sector Integration under CPEC Division, CoE-CPEC
[3] United Nations, "Innovative Financing for Development in Asia and the Pacific". Economic and Social Commission for Asia and the Pacific (ESCAP), 2017.

- **Frontloading and debt-based instruments:** Act as the public funds like issuance of bonds even in international markets e.g. diaspora bonds, green bonds, the International Finance Facility for Immunization and debt conversions.
- **Public-private incentives and state guarantees:** This includes the initiatives that leverage public funds to create investment incentives for the private sector. For instance, through state subsidies or commitments to purchase a product at a set price.

This study aims to discuss the importance of innovative modes of financing for the development of Special Economic Zones in Pakistan under China Pakistan Economic Corridor (CPEC).

SPECIAL ECONOMIC ZONES AND INNOVATIVE FINANCING

The main objective for the development of Special Economic Zones is to attract and strengthen the foreign direct investment. Therefore, to lure foreign investments in SEZs, incentives may be offered like tax holidays, lower corporate taxes than domestic firms, exemption from local income taxes, residential visas and the work permits for foreigners.

The Special Economic Zones play a dynamic role in the growth of an economy. SEZs promote technology transfer and improve the business environment[1]. Innovation in financial services is as vital as advancement in productivity because it offers new, better and cost-efficient products for the economic growth. Financial innovation is an act of creation and promotion of innovative financial instruments, technologies, institutions, and markets. Therefore, SEZs can stimulate the growth rates of a country by offering higher employment rate, expansion in the infrastructure, more currency exchange, technological development and so on[4] .

[4] Zeng, Douglas Zhihua. *Global experiences with special economic zones: focus on China and Africa*. The World Bank, 2015.

The efficiency of these zones is dependent upon the better business environment inside the zone, well-organized services like one-stop shop, good infrastructure, reforms for the improvement of business environment and a good balance between industrial and social/urban development.

Launch of the Special Economic Zones (SEZs) under CPEC has become essential for fast-tracked industrial development[2]. In this context, Pakistan aims at establishing resilient and potentially productive industries to initiate a new era of industrialization. While embarking on this phase of development, Pakistan will get many opportunities to capitalize on and hence, there would be a requirement to manage the challenges efficiently for the success of SEZs. Adopting the innovative financing options will help in the successful establishment of SEZs and to avoid the challenges.

International financial institutions (IFI) can perform an active role to make the innovative financing mechanism useful and overcome the challenges that Pakistan may face while establishing its industrial sector and Special Economic Zones[5]. The next section briefly discusses these roles for raising the funds efficiently and establishing effective SEZs.

ROLE OF INTERNATIONAL FINANCE INSTITUTIONS IN INNOVATIVE FINANCING

1. To help in attaining the autonomous ratings from the major credit rating agencies, IFIs can support countries.
2. IFIs can underwrite the expected high cost to be incurred by the first issue of debt instruments.
3. To produce legal templates for facilitation of debt issuance, IFIs can arrange seed money.

[5] Mahmood, Zafar. "Opportunities and Challenges of Special Economic Zones under CPEC for Pakistan." *The International Academic Seminar on Industrial Cooperation and Construction of Industrial Zones, CPEC", Beijing China, 5-7 January 2018.*

4. IFIs can provide awareness to the public and private sector about the potential of innovative options of financing and its techniques.
5. To eradicate the problems of liquidity, IFIs can issue GDP indexed bonds with coordination of several countries.
6. IFI's can assist in provision of reliable data for innovative financing deals.

Innovative Financing for Special Economic Zones in Pakistan

The key to the economic revival of Pakistan is a well-developed industrial sector. This can be achieved if there is rapid industrialization and a boost in production and exports through Special Economic Zones.

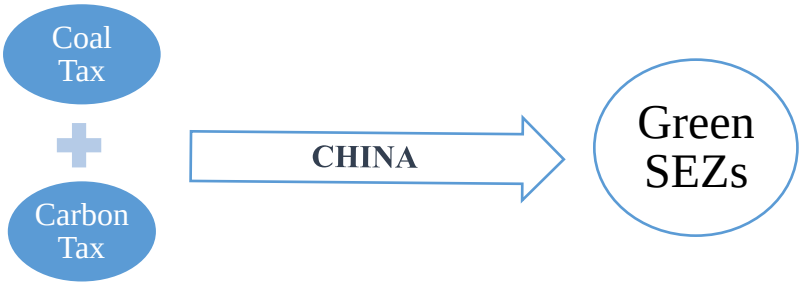
Pakistan needs to improve its ranking on various indices in the international market by offering conducive environment for the new businesses and with high standard manufactured exports. To overcome all the existing economic issues, developed industrial sector can play a vital role. SEZs are the best option to quickly achieve a higher path of industrialization. According to SEZs act of Pakistan, the government would either set up SEZs on its own or in cooperation with private entities under numerous modes of collaboration. The next section discusses the possible innovative financing options that have been exercised in other countries for the successful formation of their Special Economic Zones.

a. **Diaspora Financing:** Diaspora investment can be one of the major sources of funding for the development of Special Economic Zones. Developing countries are continuously formulating strategies to attract their diaspora through economic zones. Pakistani diaspora can also be attracted towards the development of SEZs through their management skills, technology and capital investment to establish the capacity at local level. Taiwan, Ireland, Turkey,

China India, and Israel have engaged their diaspora for the financing of the Special Economic Zones and captured the benefits[6].

b. **Public Private Partnership:** Public private partnership is also an effective tool to finance the Special Economic Zones. In this form of financing, support and coordination from different private and public entities are required for mutual benefits. India and China have generated funds through this mode for the development of their Special Economic Zones. There are various success stories attached with this mode of financing for SEZ in different countries including Nepal, Lebanon, Senegal, Liberia, Jamaica, India, China, and Russia.

c. **Carbon Taxes:** The carbon finance mechanism has the potential to channel the new funds and develop green SEZs[7]. Carbon taxes offer an incentive to governments, businesses and people to efficiently reduce the carbon emissions. China has introduced the coal tax to finance its Special Economic Zones[8]. This mode has been adopted by UK, Canada, India, China, EU, and USA.

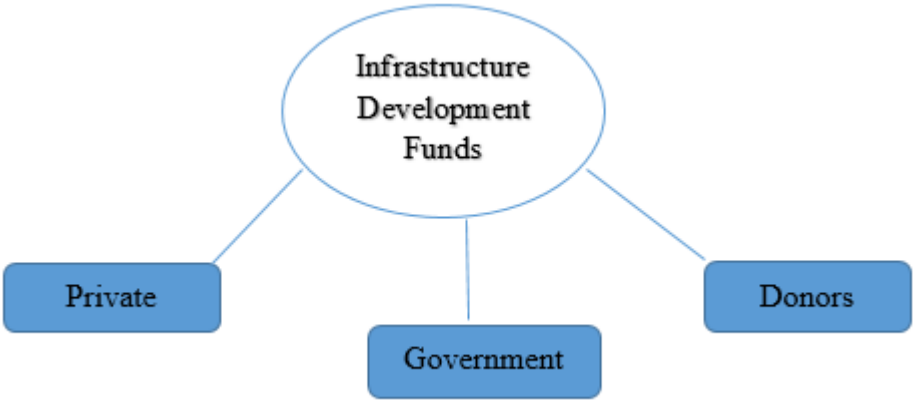


[6] Makolli, Zekiri. "Diaspora Invetment on Economic Zones". United Nations Development Programme, Kosovo, 2013.
[7] António, Nelson &, ShaZhuang & Ma, Shaozhuang. China's Special Economic Zone in Africa: context, motivation, and progress. Euro-Asia Journal of Management. 79-103, (2015).

d. **Special Economic Zone Fund: Special** Economic Zone Fund involves the operators of Industrial Development Zones and local/foreign third-party investors. A SEZ fund intends to provide multiyear funding for the infrastructure of Special Economic Zones and to enhance the growth of manufacturing sector through improvement initiatives. The SEZ fund is run by professional management and its main responsibility is to find new companies, entrepreneurs, or new subsidiaries of existing companies to invest. South Africa has used special economic zone fund for development of their Special Economic Zones.

e. **Consortium of Firms:** Consortium of firms is association of different institutions including international banks, development banks and firms. Member banks of consortium invest for the sustainable development in client countries in the form of loans and grants. The funds related to environment may support development of eco-industrial parks. The consortium of companies has financed the Special Economic Zones like Lekki Free Trade Zone of Nigeria established by Chinese consortium and Nigerian interest.

f. **Infrastructure Development Funds:** The Infrastructure Development Funds can be one more option to raise funds for the development of SEZs. A special fund created through contributions of Government, donors, and private sources for infrastructure development. Such funds are managed by an intermediary such as a development bank, which grants funds to the Government to develop or on-lend to developers at a margin. This mechanism is used by Indonesia and Nigeria.



g. **An Investment Fund:** This type of investment mode is usually adopted for the development of Eco Industrial Parks (EIP). The funds can be channeled through small investors in the form of investment fund and it can be designed on the model of an enterprise fund to facilitate companies in EIP or serving its tenants. Establishment of these funds not only enable the resident of the country but also attract the overseas social venture participants. The fund's management has to serve as the interface between the management of the project and the individual investors for the decision making. United Kingdom, Greece, Ukraine, France and Switzerland have used this structure to finance SEZs in their countries.

h. **An Action Foundation:** The framework presented by Indigo Development depicts strategies for Eco-Industrial Park development which incorporates the concept of An Action Foundation with the objectives of enhancing the sustainability of local environment, society, economy, and improvement in the self-reliance. In this form, the funds are generated from public, developers, and EIP tenants. Usually, this type of foundation provides funds for the projects and programs related to the sustainable development, policy development, graduate fellowship, and research on specific technology. South

America, Australia, South Africa, Namibia, Asia, and Europe used action foundation for development and management of industrial parks.

Sr. No.	Modes of Financing	Countries/Regions
a)	Diaspora Investment	China, India, and Israel
b)	Public Private Partnership	Nepal, Lebanon, Senegal, Liberia, Jamaica, India, and China.
c)	Carbon Taxes	UK, Canada, India, China, and European Union.
d)	Special Economic Zone Funds	South Africa
e)	Consortium of Firms	Nigeria
f)	Infrastructure Development Funds	Indonesia and Nigeria
g)	Investment Funds	UK, Greece, Ukraine, France, Switzerland
h)	An Action foundation	South America, Australia, South Africa, Namibia, Asia, and Europe

TABLE: 1 MODES OF FINANCING FOR SEZS IN THE WORLD

Source: Author's contribution

CONLCUSION:

The importance of developed Special Economic Zones cannot be overlooked if a country is aiming at increased Foreign Direct Investments, rapid industrialization and more employment opportunities. Developed Special Economic Zones offer more economic benefits, such as increased local production, higher exports, foreign exchange, revenues and decrease in the balance of payment deficits. Pakistan needs to improve its business environment and attract foreign investment in the Special Economic Zones by adopting various modes of innovative financing. To improve growth rates through fast industrialization and development of Special Economic Zones, Pakistan would have to overcome the challenges like:

- Adopting efficient modes of innovative financing for the development of Special Economic Zones.
- Providing a conducive business environment for new and existing businesses with strategies that focus on ease of doing business in the country and attract more FDI.
- Offer reduced costs and establish best trade facilitation system.
- Awareness of the new International Financial Architecture and its impact on Pakistan and specifically on Special Economic Zones.

Prospects for Urban-centric Industrial Development of Pakistan under CPEC

By

Dr. Saleem Janjua[1], Numra Asif[2], Adnan Khan[3]

INTRODUCTION:

Industrial sector plays a vital role in the long run economic growth of an economy. From early-nineteen century, many economies have taken up the export-led economic development policies. For the purpose they constituted the hard and soft infrastructure development policies, with an objective to strengthen industrialization in the economy, modernize export base, enhance innovations and value addition via attracting foreign direct investment (FDI) and technological transformation. These hard and soft infrastructural provisions were provided globally for industrial development, but in the late 1980s with the inception and success of China's Special Economic Zones (SEZs) policy, the concept of SEZs become popular.

Special Economic Zones are a global phenomenon and share some common characteristics. Generally, SEZ is a geographically delimited area, usually physically secured, it has a single management or administration, offers benefits for investors physically within the zone, has a separate customs area (duty-free benefits) and streamlined procedures[4]. In addition, an SEZ normally functions under more liberal economic regimes than those typically prevailing in the economy. SEZs contribute to

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[4] Farole, T. (2011). Special economic zones in Africa: comparing performance and learning from global experiences. World Bank Publications.

two main kinds of paybacks and advantages to the economy. These benefits are the core objective of setting up of SEZs and their use as a key policy tool for industrialization around the world. The benefits can be broadly divided into two main categories. First kind is known as "static" economic benefits. These include employment generation, export boost-up, government tax incomes, and foreign exchange earnings; and the second is the "dynamic" economic benefits such as skill up gradation, technology flow, knowledge spill overs, innovation, value addition, economic diversification, enhancement in total factor productivity of local firms, and so on.

Special Economic Zones (SEZs) have also been used as a prominent policy tool for sustainability and long run economic growth all over the world. Various countries have developed, modernized their existing SEZs, and established new SEZs to rapidly attract the FDI, promote trade through liberalization, and boost up their economies. The number of SEZs have increased from 79 across 29 countries in 1975 to 3,500 across 130 countries in 2006 and 5000 SEZs in 135 countries till date. During this time the employment in SEZs also almost tripled, from 22.5 million to 66 million[5].To date, China has built around 1750 SEZs at state and provincial levels[6]. By the outset of these SEZs more than 30 million jobs have been added into the labour market of China. National statistics from China portray a positive picture of SEZs to the Chinese economic growth, as they contribute 60% to exports, 46% to FDI, and 22% to that characterize them as SEZ[7].

[5]Aggarwal, A. (2005). Performance of export processing zones: a comparative analysis of India, Sri Lanka and Bangladesh. *Indian Council for Research on International Economic Relations*, *155*, 10-13.
[6]Khan, K., & Anwar, S. (2016). Special Economic Zones (SEZs) and CPEC: Background, Challenges and Strategies.
[7]World Bank (2008). Special Economic Zones: Performance, Lessons Learned, and Implications for Zone Development.

Why does Pakistan need SEZs? The basic reason remains that Pakistan aims to use SEZ development as a tool to fulfil infrastructure requirements, which once improved, will further attract foreign direct investment (FDI). The need for SEZ development has been strongly realized in the China-Pakistan Economic Corridor (CPEC). CPEC portfolio includes projects for regional connectivity, power generation for economic activities and industrial cooperation for infrastructure development and re-building of Pakistani manufacturing sector via the development of nine prioritized Special Economic Zones (SEZs). These SEZs are located in different regions all over the country, including Punjab, Sindh, Balochistan, Khyber Pakhtunkhwa (KPK), Azad Jammu and Kashmir (AJK), Federal Administrative Tribal Area (FATA) and Gilgit Baltistan (GB). SEZ development in Pakistan is under the domain of Board of Investment (BOI).To attract the investor and particularly the private sector and FDI, the BOI offers a package of financial incentive to the investors from across the world. Besides the financial modalities and industrial benefits of SEZ development, the implications of SEZ development on the urban development also need to be considered. The experience in the last 70 years with the industrial clusters in Pakistan have shown that large slums are generally formed in the neighborhood of these industrial clusters/zones. Moreover, the assisting population creates pressure on the municipal service delivery system as well. The SEZ model in Pakistan should recognize concerns associated to the urbanization and focus on developing the self-sustaining industrial settlements, so that the augmented economic activity does not create burden on the existing setting, and the municipal service delivery remains efficient and effective as well. This policy paper briefly reviews the international best practices for urban development in the existing SEZs all over the world, with a special focus on the Shenzhen Special Economic Zone (SSEZ) of China and provides brief policy recommendations for the proposed SEZs under CPEC framework in Pakistan.

The review of literature regarding worldwide successful SEZs suggests that one of the important components of a SEZ success and fruitfulness is its “location”. Indeed,

a SEZ located next to an urban center and population dense area (well developed hard and soft infrastructure) will constitute a competitive labour market, have easier access to firms, capital, and skilled labor and thus can better integrate itself with local firms[8]. One of the key factors in Shenzhen as a successful SEZ was its "location". Shenzhen a coastal city located nearby Hong Kong-became a well-established industrial state with the passage of time. Hence, Shenzhen being a coastal city and nearby to a well-established urban place developed itself as a successful SEZ with-in a short span of time. Another element that exists in almost all successful SEZs of the world is the "planned conversion of a particular area from rural community to the urban community". Such up-graded area (as evident in the history of Shenzhen SEZ) did not just consist of geographic expansion rather it included widened scope, increased urban facilities, environmental protection, and densification of the area to attract people as employees as well as investors[9].

Secondly, for successful operation of a SEZ, it is also vital that management of the SEZ and the industries maintain bondage of trust and mutual understanding with each other. The participation of local community in the SEZ development process at the planning stage is also important to avoid clashes, create consensus and share responsibilities for ongoing development and building trust and attaining support from community. Past experience of Indian SEZs also depicts a sound regional planning as an essential element for the success of SEZs[10]. Regional planning by state-level and local level authorities includes how to improve public services and delivery of services. In the above-mentioned countries (China & India) SEZs development also focused on the establishment of modern transportation networks to facilitate the local population around SEZs.

[8] White, J. (2011). Fostering innovation in developing economies through SEZs. *Special Economic Zones*, 183.
[9] Wong, K. Y. (1987). China's special economic zone experiment: an appraisal. *Geografiska Annaler. Series B. Human Geography*, 27-40.
[10] Shah, S. (2008). Special economic zones in South Asia: A comparative analysis of Bangladesh, Sri Lanka, and India. John F. Kennedy School of Government.

Thirdly, as Aggarwal (2005) states, that better plans for urbanization, electricity supply, commercialization and recreational opportunities also help expedite the urbanization in the existing surroundings through the channel of SEZs development. Moreover, the role of government (federal, state, and local) is important in the field of environmental licensing, disseminating the SEZs concept and principles, and providing the necessary legal support. Government incentives can help industries to continuously improve their environmental and social performances. Lastly, the most common and significant success factor found in the existing SEZs of China and India is "urban governance". This particular aspect included how plans were executed and government policies are implemented within and around the SEZs. Moreover, management capacity of the government was also found as one of the important aspects to connect SEZs, with other regions.

POLICY RECOMMENDATIONS:

Based on review of literature and best urban-specific practices for development of SEZs, some of the policy recommendations for CPEC SEZs are as follows:

- One of the key elements of successful SEZs development is the selection of the "location" of the SEZs. A SEZ should be located within the reach of a large market where the necessary infrastructure such as highways/roads have already been developed or are easier to be developed. Moreover, foreign investors generally invest in SEZs that have the "abundant" and "low-cost work force" available. Hence, future SEZs under CPEC framework should be located where they have maximum "latent competitive advantage (LCA)" and "labour at low cost". These factors must be considered in future before the selection of location of any SEZ.

- The SEZs linked with the economic corridors will lead to agglomeration economies. One of the learning example for development of SEZ's under CPEC is the Delhi-Mumbai industrial corridor - the corridor links together industrial towns, logistics hubs, and urban nodes. Each hub carries the world class infrastructure, business centers, transport facilities, and good urban connectivity. SEZs are thus a part of the agglomeration. They are expected to be benefited from these industrial nodes and are expected to reinforce themselves further and thus contribute to economic growth. Therefore, it is imperative for Pakistan to choose the location of SEZs that are cost saving. Development of a detailed master plan for each SEZ including its adjacent areas is also needed. On the basis of location and LCA of each SEZ, value proposition for each SEZ may also be suggested in the detailed master plan.

- Urban connectivity holds pristine role in the success of any SEZ. Countries like China and India made significant changes in their infrastructure for regional connectivity and local integration of the SEZs regions with other territories. In both countries, networks for the metropolitan transport systems were designed and implemented for linking the regions with each other. SEZs in Pakistan cannot survive in isolation. They should be planned and well connected to the nearest merchant cities. SEZs in Pakistan will be strengthened if they are integrated with the networks of logistic hubs as well as established both by the public and private sectors.

- Traditional SEZs in china have been found as the "port SEZs"; however, due to the updated infrastructure, urbanization strategies and improved regional connectivity, the modern SEZs can be located anywhere. Nevertheless, geographical clustering of firms in any SEZs should be encouraged as it results in technological spill overs, knowledge sharing, and agglomeration economies. For successful running of SEZs and clustering of firms, Pakistan

may explore the possibilities of availability of land at discounted rates or provision of concessional long term land financing may also be an option for investors.

- A comprehensive rural to urban transformation plan should be formed for the SEZ development with a definite timelines that should be visible to the investors as well. This will lead to investor's long term investment compositions and risk-factor adjustment for the investment. Similarly, policies for densification and inner city redevelopment should be formulated. Moreover, SEZs that are situated near the existing urban centre such as "M-3 SEZ" of Punjab, should be developed under a carefully articulated modern urban development strategies that include development of public transport, advance waste management systems and provision of other allied services.

- The concerned authorities of SEZs also hold a vital role. They should implement policies related to the development of linkage of SEZ with the nearest locality, provision of the basic services (housing, water, health, sanitation), and creation of entertainment and commercial enclaves They should not only limit themselves to the maintenance of the urban facilities, but also play a dynamic role promoting the services among local entrepreneurs, suppliers, and companies in order to create backward linkages that can potentially yield urban innovations.

- In case of Pakistan, as per SEZs Act 2012, a federal SEZ's regulatory authority is required, which would not only act as an approval body but also oversee and manage all SEZs and industrial zones consistently at all levels. The said act also states that at provincial/state levels SEZs authorities may also be established, A development and management board for each SEZ, having representations from federal and provincial SEZ authorities, investors, both

local and Chinese and successful entrepreneurs need also to be constituted. The establishment of authorities at federal and provincial levels, coupled with establishment of special courts arbitration bodies for legal assistance and engagement of accounting firms may promote more peaceful, globally competitive and conducive environment for development, management and operation of SEZs under CPEC in Pakistan.

In conclusion, SEZs under CPEC can serve as an effective tool for inserting domestic economy into the global economy, if planned, developed, and managed carefully by recognising concerns associated with the urbanization. They can be homes to urban knowledge spill-overs if elements of the urbanization are carefully identified and managed accordingly. The successful operation of SEZs under CPEC can boost the economic growth in Pakistan, solve the issue of low competitiveness, and create innovation. However, the benefits can only be reaped when Pakistan couples the operation of CPEC SEZs with industrial transformation and also examines the potential for urban services, logistics, information technology, and other business services. In a nutshell, SEZs under CPEC can act as a key tool for growth and development provided they are developed on the basis of best urban practices and lessons learnt from national and international experiences.

National Job Portal for CPEC - Connecting Skills with Opportunities

By

Dr. Shahid Rashid[1], Muhammad Muzammil Zia[2], Amina Munir[3] and Fatima Liaquat[4]

The mega CPEC project aims to connect western China with Gwadar through the network of infrastructure including highways, railways, and pipelines. This corridor is an extension of "Belt and Road initiative (BRI) an idea emerged from East Asia viably changing the notion of "Globalizaion" into a more reliable practice to connect the world. With an investment of $62 billion, CPEC is a 'flagship project' which is heading towards closure of its 'early harvest' projects including infrastructure, energy projects, Gawadar port and industrial cooperation. In this regard, the establishment of CPEC Special Economic Zones (SEZs) is a growth strategy for promoting employment, trade and uplift economic growth of a country[5]. According to ILO, CPEC is estimated to create 400,000 jobs to the country while Applied Economic Research Centre (AERC) has estimated that the mega initiative would provide around 700,000 direct jobs. The Ministry of Planning, Development & Reform shows even more promising results, with CPEC generating around 800,000 jobs in the next 15

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[4] Research Assistant, Job Growth and HRD Division, CoE-CPEC
[5] Khan, K., & Anwar, S. (2016). Special Economic Zones (SEZs) and CPEC: Background, Challenges and Strategies. *The Pakistan Institute of Development Economics*, Retrieved Sept 3, 2018 12:40pm http://www.pide.org.pk/psde/pdf/AGM32/papers/Special%20Economic%20Zones.pdf

years. Pakistan is about to gain a lot from these opportunities as there would also be a noteworthy increase in the annual economic growth of the country[6].

In 2018, the unemployment rate in Pakistan has been reported as 5.9%, out of which 10.4% youth is estimated to be unemployed, resulting in poverty, economic crisis, corruption, and declining socioeconomic status. CPEC is not only providing job opportunities but also transmiting a trickle down effect to the lower strata of the economy, hence, improving its living standard sustainably. However, it is documented that policymakers have been finding it challenging to integrate low-skilled workforce into the labor market because of high risks in unemployment, economic, and social exclusion. Furthermore, the economic crisis makes it difficult for the low-skilled workforce to find employment especially in advanced economies[7]. Skilled human capital is arguably the most valued asset for the development strategy of any country[8]. The exemplary economies like Japan and other Asian economies shows the significance of human capital in the process of economic growth[9]. Given the enormous economic and developmental changes being experienced by nations in the Asia-Pacific region, South-East Asian, Pacific Rim countries and the related migration of people between and across countries, it is critical to understand the role of human capital in the economic development of the nation and related challenges. As the global economy becomes increasingly knowledge-based, the acquisition and

[6] Shahid, S., Zia, M. M., Waqar, S. (2018). Employment Outlook of CPEC: A Meta Analysis. Centre of Excellence-CPEC (CoE-CPEC).

[7] CEDEFOP. (2012). Rising unemployment hits low-skilled adults the hardest. European Centre for the Development of Vocational Training. Retrieved Sept 5, 2018 from http://www.cedefop.europa.eu/en/publications-and-resources/statistics-and-indicators/statistics-and-graphs/rising-unemployment-hits

[8] Sinha, V., & Thaly, P. (2013). A review on changing trend of recruitment practice to enhance the quality of hiring in global organizations. *Management: Journal of Contemporary Management Issues*, *18*(2), 141-156.

[9] Varma, A., & Budhwar, P. S. (2013). *Managing Human Resources in Asia-Pacific*. Routledge.

development of superior human capital with related skills appears essential to the country's viability and success[10].

To fulfill emerging demands of human resource, employers venturing in other countries are benefiting from various sources of recruitment like online job portals, social media (LinkedIn, Glassdoor, Twitter, Facebook, etc.) besides traditional methods (e.g., job advertisements, employee referrals programs, headhunting agencies, etc). Research shows that 45% of job seekers search for jobs daily on their mobile devices, furthermore 63% use the company website, 20% are using outbound campaigns like email, and only 9% use Search Engine Optimization (SEO), followed by online job boards at 37%, and 92% of recruiters use social media to find high-quality candidates and 80% executives believe that artificial intelligence can improve productivity and performance[11]. Over the last few decades, the recruitment process has changed significantly with various changing trends including the use of technology in the recruitment process for fast, timely, and effective hiring, talent sourcing, and its impact on the leading global organizations is interesting to observe. It is concluded that a shift is being made towards the modern and innovative talent sourcing channels due to various factors like quality, cost, availability, and time.

The idea to have a platform of job portal in Pakistan for vocational jobs evolved when HR Manager of Sahiwal Coal Power Plant observed inability to find 3,770 approx 58% workers during the constructional phase and 38% in the operational phase of Sahiwal coal power plant under CPEC project. Right from the beginning, it was found critically important to have a database of vocational jobs as it was felt much needed in first phase venture of China Gezhouba Group Co. Ltd. (CGGC). The unbalance of

[10] Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen Jr, D. J. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of Applied Psychology*, *96*(3), 443.

[11] Talent Works International (2017). 8 Social media statistics you need to know if you're in recruitment – Infographic. Retrieved Sept 1, 2018 11:45am https://www.talent-works.com/2017/09/27/social-media-recruitment/

workers was found in non-availability of skilled labor and resulted in high operational cost (e.g., wages, insurance, work hazard, pay, travel and accommodation).

Employers belonging to the informal and formal sectors have always felt a huge gap to connect with vocational job seekers. At present, most of the manpower-consultants use existing job-portals, which have very little focus on vocational staffing space. The traditional use of Middlemen or Placement Agencies are costly, complex and proven to be ineffective as reason is not only these middlemen or agencies but lack of creation of right sourcing channels, skill match, and education.

Typically employers coming from parent countries search to choose right job portal as the most popular and widely used tool to gracefully keep the flow of recruitment method within the competitive world[12]. In this fast-paced business world where many transactions are internet based, Chinese managers have also shifted to online recruitment tools after guanxi (personal connections) for fast, low-cost, and effective recruitment[13]. E-recruitment, is also termed as cyber recruiting, or internet recruiting, and used as fast-growing source of recruitment in developed economies to quickly reach young and qualified applicants[14].

In this regard, e-recruitment may transform CPEC projects' recruitment process as literature supports it expediting in time efficient manner, giving space, and independence to many public and private sector organizations to use job portals to post jobs, accept and shortlist resumes and other facilities[15]. With growing demands

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[12] Holm, A. B. (2012). E-recruitment: Towards an Ubiquitous Recruitment Process and Candidate Relationship Management. *German Journal of Human Resource Management*: Zeitschrift für Personalforschung,

Mansourvar, M., & Yasin, N. B. M. (2014). Development of a Job Web Portal to Improve Education Quality. *International Journal of Computer Theory and Engineering*, 6(1), 43-46. DOI: 10.7763/IJCTE.2014.V6.834

[13] Mulholland1, X. Y. G., Turner, J., & Simpson, E. (2018). The Role of Guanxi on Chinese Leadership Innovation —The Pilot Study on the Electric Motor Sector. Scientific Research Publishing, *Open Journal of Social Sciences*, 6, 309-319.

[14] Ramkumar, A. (2018). E-Recruitment through Job Portals and Social Media Network: Challenges & Opportunities. *Indian Journal of Public Health Research & Development*, 9(6), 143-148.

[15] Kapse, A. S., Patil, V. S., & Patil, N. V. (2012). E-Recruitment. International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, 1(4), 82-86.

of the business world, there is a need to focus on the design of e-recruitment websites, perception of applicants about career website, and system design[16].

This policy brief highlights how an integrated and efficient network is not only a pre-requisite to benefit employment opportunities but also for the social and economic development of the country. In Pakistan, for the hiring of vocational jobs, provincial vocational institutes have a direct link with their graduating students and hence may provide direct local and international employment opportunities and all important employment services through a national job portal to decrease the unemployment rate. In this way, it may serve sufficient employment opportunities to a labor class of the country, who otherwise cannot access employment opportunities because of lack of education and resources[17]. The significance of this policy brief also relates to the idea about replacing traditional manual recruitment process comprising publishing job advertisement in newspapers with technologically supported, time-saving, fast and more convenient recruitment process[18]. A collaborative job portal comprising the data base of skilled/unskilled labours can be designed so that the demand from the Chinese firms can be forwarded to the suppliers of the labour market including, NAVTTC, TVETA, HEC etc. In this manner this job portal can bridge the Chinese companies with their relavant demand of labours.

POLICY RECOMMENDATION:

To practically implement the idea of CPEC job portal, following are some of the policy recommendations which can be considered;

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[16] Selden, S., & Orenstein, J. (2011). Government E-Recruiting Web Sites: The influence of e-recruitment content and usability on recruiting and hiring outcomes in US state governments. International Journal of Selection and Assessment, 19(1), 31-40. DOI https://doi.org/10.1111/j.1468-2389.2011.00532.x

[17] Khan, M. (2015). Analysis: Trade through Land Routes. *Dawn*. https://www.dawn.com/news/1202356

[18] Kapse, A. S., Patil, V. S., & Patil, N. V. (2012). E-Recruitment. *International Journal of Engineering* and Advanced Technology (IJEAT), 1,(4), 2249 – 8958.

- Job growth under CPEC projects across Pakistan may mitigate the unemployment rate by providing employment opportunities to domestic labor while fulfilling labor demands of international employers venturing in CPEC SEZ (Special Economic Zones). For this purpose, a well planned online job portal facility needs to be developed and implemented at a federal and provincial level to accomplish related goals. Keeping in view the current developments under CPEC portfolio, the federal and provincial policymakers ought to consider professional interventions to connect Chinese employers with the domestic labour through related vocational and training institutes in the country via CoE-CPEC. This can be practiced by implementation of reliable and efficient national job placements through various recruitment sources like online national job portal, social media (LinkedIn, Glassdoor, Twitter, Facebook, etc.) and traditional methods (e.g., job advertisements, employee referrals programs, headhunting agencies, etc).
- China has established energy power plants that are based on ultra-supercritical technology in their country, likewise, NAVTTC may also commission such technologies for skill transfer to its domestic labor. This can further reduce unemployment of surplus talent in our labor market and hence can benefit at large under CPEC.
- As the labor agents exist in developed countries to overcome the job placement issues, Pakistan may portray the demand of developing national job portal which may offer centralized unique data set of vacancies and parallel availability of the skilled human resource to build a very strong labor market position with a sophisticated data of job advertisement.
- A nuance-free online analysis of vacancies with actual placements is crucial for timely statistical analysis. Also, use of other languages besides English, and Urdu, with regional languages should be supported by language translation facility.

- As per context, CPEC-CoE may harmonize job placements through online National Job Portal while coordinating with Chinese employers by providing compiled job information sought from NAVTTC and TEVTA from federal to provisional level to ensure timely job postings, talent hunting, and talent placements services in fast and time efficient manner.
- At the same time, there's need to stay abreast of market change through quality training, updated curriculum and skill standards especially for the low and semi-skilled workforce to balance oversupply of the workforce in the country as its prime dilemma faced by employers on the other side of this opportunity venture.

Contextualizing Housing Cooperation under CPEC

By

Amir Khan[1], Muhammad Asad Chudhary[2], Saira Ali[3]

Housing is considered as a most serious policy concern across the world. It has been deepening since last few decades due to high population growth, migrations, changing demographic patterns, and urban sprawl[4]. Economic rationales, social dividends and political responses are further compounding the urban sprawl and housing problems globally and the very case of Pakistan is no exception. In Pakistan there are more than 5 million backlogs of dwelling units as per the latest evidence provided by the Pakistan Bureau of Statistics (PBS) in the recent population census of 2017[5] (see table 1 & 2). However, historically Pakistan has valuable experiences to deal with the formidable housing problems since independence due to huge influx of more than 8 million refugees. Since then Government of Pakistan involvement in responding to housing sector issues have received high policy priority. Land reforms projects during the Ayub Khan and Z.A Bhutto regime also tried to address the housing problem in the country. During the 1980s Prime Minister Muhammad Khan Junejo gave revolutionary PM's Five Point Socio-Economic Program with the particular focus on housing for the poor[6]. Afterword, in the first National Housing Policy of 2001 followed by 2007 also mention affordable housing as a policy target but unfortunately, these policy documents were not implemented in true letter and spirit. There are

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[2] Research Assistant, Socio-Economic Impacts of CPEC Division, CoE-CPEC
[3] Research Associate, Socio-Economic Impacts of CPEC Division, CoE-CPEC
[4] Kingsley. G (2017). Trends in Housing Problems and federal housing assistance. *Metropolitan housing and communities policy centre*
[5] Pakistan Bureau of statistics (2017 census)
[6] GOP, E. (1987). Shelter for Homeless. Pakistan Canvas. Karachi Development Author.". Iuly.

following policy measures adopted in Pakistan as well as in other developing countries to address the housing problems.

- "Housing program", adopted in 1950s in which government constructed and provided people with housing unit but soon it was realized that this program is not doable because of the resource constraints.
- "Site and service schemes" in which developed land and essentials services like roads, water supply, drainage, sewage, and electricity etc. are being provided and then allocated plots to the people of diversified income groups. Soon it was realized the program is not serving the poor. However, the program continued as it is the only model which facilitate the planned urban growth and filtering up.
- Provision of only land for housing this model provides the land and asked the poor or homeless people to build houses themselves incrementally as was in the case of *"Khuda ki basti*" in Hyderabad Sindh province of Pakistan.
- Finally, upgrading model in which improvement of human settlement/habitat according to which government helps marginalized segments of society to improve their living conditions through LGRD system, MNA/Senator/MPs programmes. The rationale is if we cannot provide the poor with a standard house/land at least upgrade their human settlement by providing them with essential social services and some physical infrastructure, such as, water supply, drainage, sewage and street pavement etc.

China Pakistan Economic Corridor (CPEC) is the endeavor to provide the pre-requisites to initiate the economic development activities. According to the research studies the key fundamentals to initiate the socio-economic activities are the provision of soft and physical infrastructure including road, rail, ports and fiber optics to ensure connectivity and energy infrastructure. These essentials infrastructure would expedite the process of economic development. Despite of these projects, 11 node cities including Gilgit, Peshawar, Islamabad, Lahore, Multan, D.I Khan, Sukkhar,

Hyderabad, Karachi, Quetta and Gwadar are also considered under CPEC long term plan (CPEC-LTP) to turn them into the key economic hubs. These cities are centered around CPEC projects. According to CPEC-LTP these node cities would be developed as per China's model of urbanization which would attract and ultimately encourage the flow of population and FDI. This would not only happen in the node cities and their respective catchment areas but also in the areas particularly along the three main alignments under CPEC as shown in Map1.

MAP 1. CPEC ROUTES

Therefore, CPEC is associated to major human settlement which are the engine of economic growth. This has raised a serious concern amongst social scientist, geographers, economists, town planners etc. as if appropriate measures such as land use planning and zoning, provision of decent housing, jobs, income generating activities and allied services are not provided it might result into urban sprawl/unplanned expansion. This upsurge and unplanned expansion would affect adversely socio-economic activities and the quality of life of the common people. Therefore, special attention on front of urban planning and housing are mandatory at

this point of time. Pakistan so far has not defined any housing and urban planning policy with reference to CPEC. This area demand huge investment therefore, the key aspect of CPEC-LTP "Cooperation" can be capitalized to improve this sector. Hence to address the rapid growth of cities and living conditions of the citizen following policy recommendations are being proposed;

POLICY RECOMMENDATIONS:

Based on the CPEC-LTP published in December 2017, livelihood cooperation is key consideration for the improved future of the people especially the deprived segments. In this regard cooperation between the China and Pakistan for improving livelihood is must and housing is perceived as an integral component of livelihood. Following are the major policy recommendations regarding cooperation in housing sector;

1. Establish cooperation amongst the line ministries of federal governments of Pakistan and China in order to develop housing sector specific policy guidelines and framework to address relevant policy issues. In this regard line ministry of Government of Pakistan is recommended to build capacity in following areas;
    - Formulating a country specific regulatory frameworks for housing sector particularly the design, tenancy, access to the basic essential services and housing taxation laws;
    - Managing national housing issues and making strategies to deals with shortage of affordable housing in different areas of the country;
    - Formulate parameters like Housing Price Index (HPI) and Housing Access Index (HAI) for strengthening evidence/data availability to frame policies in housing sector of Pakistan;
    - Incentivizing non-governmental affordable housing industry and engaging private sectors entities to invest in housing;

- Technological advancement and skills enhancement of labor force in housing industry;
- Implementing the concept of floor-space ratio in densely populated or inner urban areas of the country

2. Establish cooperation amongst the provincial governments with concerned Chinese authorities in housing sector particularly regarding their capacity building are direly required because housing is the provincial subject as per the constitution of Pakistan. The major areas of capacity building of provincial governments regarding housing sector includes;
    - Acquisitions and development of suitable sites for housing;
    - Coordination in civil works for the development of housing infrastructure;
3. Establish cooperation among the Municipal/local government institutions with prime focus on the capacity uplift of Pakistani local government institutions in their assigned subject. The capacity building of local government institutions regarding housing sector in the following areas are recommended;
    - Control land development, land use planning and land zoning for the agricultural, commercial, residential, civic use, industrial purposes in their respective jurisdiction;
    - Providing public amenities in ;
    - Construction and maintenance of the water and sanitation services, small bridge and public buildings;
    - Solid waste management particularly focusing on recycling;
    - Improving other municipal services related to housing sector development and maintenance.
4. Establish cooperation in financial sector particularly regarding developing the effective financial products for housing in Pakistan. In this regard deliberative consultation among Pakistani and Chinese financial institutions are

recommended in order to learn from Chinese financial sector experience in the housing financing.

5. Establish cooperation among the civil society organizations of both countries which will work as catalyst in adopting the changes in human settlement /habitat due to change in urban patterns and city designs.
6. Establish cooperation among corporate organizations especially real estate builders to enhance the capacity of local real estate industry effectively address housing sector matters.
7. Establish cooperation on institutions working on the urban planning and city design (provincial authorities and educational institutions) of both countries in order to address housing sector issues.
8. Government should act as facilitator rather than developer in the housing sector. As facilitator government should manage to implement site and service schemes e.g. Some pending schemes in housing deficit areas should be given special attention, such as, Regi Model Town Peshawar, I-15 Islamabad, and Fatima Jinnah Town in Multan. Along the CPEC specific routes covering almost one third of the country's districts (almost 60 in number) urban sprawl and unplanned housing/ settlement growth should be avoided. In this regard following are the policy recommendations;
    - Land which is not the prime agricultural land should be acquired in the relevant districts along the CPEC route;
    - Government should be more concerned about suitable land acquisition and development of infrastructure to facilitate housing services on the incremental basis;
    - Identify major human settlement and urban centers along the CPEC route which have potential to become growth engine and socio-economic hubs and develop locality specific housing strategy.

9. Effective reforms on internal front in housing sector are direly required. Therefore, it is recommended to establish working relationships with Chinese counterparts experiences to timely address issues are following;
    - Reforms in the revenue and municipal departments to address issues of red-tapism;
    - Efficient system of taxation in housing sector;
    - Rationalizing the costs of land for housing by managing speculations through effective policy interventions.
    - Encouraging vertical high rise growth of cities and other human settlement to avoid sprawls;
    - Conducting land use planning and zoning by creating land availability and improving the role of local governments.

Province/Area	Population			% average Annual Growth (1998-2017)			Household Size		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
KHYBER PAKHTUNKHWA including FATA	29,626,670 (83)	5,875,294 (17)	35,501,964 (100)	2.6	3.05	2.65	8.25	7.85	8.2
PUNJAB	69,442,450 (63)	40,547,205 (37)	109,989,655 (100)	1.7	3.0	2.1	6.5	6.2	6.4
SINDH	23,006,242 (48)	24,848,268 (52)	47,854,510 (100)	2.1	2.7	2.4	5.5	5.6	5.5
BALOCHISTAN	8,928,428 (72)	3,406,701 (28)	12,335,129 (100)	3.1	4.2	3.4	6.8	7.0	6.9
FEDERAL CAPITAL TERRITORY	994,365 (50)	1,009,003 (50)	2,003,368 (100)	7.0	3.4	4.9	5.9	5.8	5.9
Total	131,998,155 (63)	75,686,471 (37)	207,684,626 (100)	2.07	3.01	2.40	6.55	6.12	6.39

(Figure in parenthesis is percentage)

(Source: PBS, GoP, Islamabad provisional findings)

Table2: Housing Units by Housing size, Tenure and Rural Urban categorization

Housing Size (number of rooms)	Rural				Urban				Overall Total			
	owner occupied	Rented	Rent free	Total	owner occupied	Rented	Rent free	Total	owner occupied	Rented	Rent free	Total
Small houses (1-2 rooms)	11,130,086 (87)	480,650 (4)	1,173,748 (9)	12,784,484	4,488,828 (65)	1,951,899 (28)	434,328 (6)	6,875,055	15,618,914 (80)	2,432,549 (12)	1,608,076 (8)	19,659,539
Medium (3-5 rooms)	5,555,055 (92)	246,915 (4)	228,191 (4)	6,030,161	3,391,263 (76)	911,373 (21)	133,513 (3)	4,436,149	8,946,318 (85)	1,158,288 (11)	361,704 (4)	10,466,316
Large (6-9 rooms)	969,323 (95)	21,981 (2)	28,250 (3)	1,019,554	680,863 (88)	68,189 (9)	21,429 (3)	770,481	1,650,186 (92)	90,170 (5)	49,679 (3)	1,790,035
Total	17,654,464 (89)	749,546 (4)	1,430,189 (7)	19,834,199	8,560,954 (71)	2,931,461 (24)	589,270 (5)	12,081,685	26,215,418 (82)	3,681,007 (12)	2,019,459 (6)	31,915,884

(Source: PBS, GoP, Islamabad provisional findings)

How to Boost Pakistani Exports through CPEC?

By

Adnan Khan[1], Numra Asif[2], Dr. Saleem Janjua[3]

INTRODUCTION:

Pakistan's economy lags behind on the export front for decades, which contributes to trade and current account deficit. Although the government has announced several industrialization policies in the past, but no significant change has been observed. Under the China Pakistan Economic Corridor (CPEC) framework, projects related to infrastructure, energy, Gwadar and industrial development are launched with the pristine objective to regain economic growth. Major structural shifts are expected that will overcome the basic bottlenecks of the economy. The manufacturing sector will also experience a change because of industrial cooperation with China through the development of nine special economic zones (SEZs) under the CPEC framework[4]. These SEZs are located in different regions all over the country, including Punjab, Sindh, Balochistan, Khyber Pakhtunkhwa (KPK), Azad Jammu and Kashmir (AJK), Tribal Area of KPK, (former FATA) and Gilgit Baltistan (GB).

The targets chosen for these SEZs are to upgrade the industrial sector, promote export and substitute import of Pakistan. The targets may be achieved through relocation of Chinese industries, up-gradation of technology and up-scaling the prevailing manufacturing units of Pakistan. These SEZs can be the possible export machineries for Pakistan in integration to the global value chain. However, special emphasis may

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be given while relocating certain industry from China to Pakistan. Industries where we have Latent Comparative Advantage (LCA) may be chosen[5]. This policy research has applied a well-known technique of Growth Identification and Facilitation Framework (GIFF) for Pakistan to identify those industries in which Pakistan has LCA and advantages of backwardness.

Prof. Justin Yifu Lin introduced the New Structural Economics (NSE) and the GIFF to identify the reasons of failing developmental theories in the low income and middle income developing countries. He held responsible, the policy which is based on targeting high growth technological sectors without having the knowledge of skills and endowments of the targeted economy. Prof. Lin argued that it is the comparative advantages (in one or many sectors) that can give you a competitive position in the market otherwise the convergence and development theories are of no use.

Developing countries can earn dividend of its backwardness to grow and converge to the higher income levels through an effective industrial policy. They should identify the industry where they have LCA through cheap labour and abundant natural endowments. This will give them highly competitive position in the international market and global value chain (GVC) because of their cost-effective production. Capturing market in the products where cost is low and margins are higher will lead to sustained dynamic growth which is the only path for a developing country to move to higher circles of income.

The GIFF technique involves six steps process[6]: **Step One: Choosing the Right Target.** At first, identification of those goods and services are made on basis of which economies of similar endowments have achieved higher growths and boost its

[5] LCA refers to comparative advantage in factor of production but lack proper infrastructure and business environment which increases the transaction cost with in a particular economy. (Justin Yifu Lin and Volker Treichel)

[6] Lin, Justin Yifu,2016. Applying the Growth Identification and Facilitation Framework to the Least Developed Countries: The Case of Uganda. CDP Background Paper No. 32 ST/ESA/2016/CDP/32 Washington DC, World Bank.

exports. This is done in following way. (a) Identify countries that were in same income level 20 years ago and have grown dynamically so that their per capita income has increased by more than 100 percent. (b) Identify products, exports and top performers in each country. (c) Study their patterns and identify those low capital-intensive products where these countries are losing market share because of losing comparative advantage in the international market. This will provide the list of potential industries where markets are open and apply effective industrial policy exports to those markets can be made. **Step Two: Removing Binding Constraints.** After identifying the potential industries, first focus should be made on the existing domestic industry producing similar products for either domestic demand or exports. Existing private firms should be facilitated and in addition policies and incentives to attract new entrants should be introduced. **Step Three: Attracting Global Investors.** Attracting FDI is always a key challenge for developing economies. Global investors are needed to bring into the industrial sectors identified in step one. **Step Four: Scaling-up Self-discoveries.** Focus on innovation is the need of the hour to remain in the market for long time. Industrial economies grow because of high spending in R&D and bringing new and innovative products into the market. Based on unique endowments of every developing country focus on the innovations is needed. Private firms as well should be supported to self-discover their strengths through innovative products and new technologies. Special economic zones need to be constructed with improved infrastructure to attract global investors and promote industrial agglomerations. **Step Six: Proper incentive structure should be devised for the right industry.** Incentive structure should be structured properly to compensate early entrants into the sectors identified. These incentives can be of different nature depending upon the condition of economy and industry.

Applying the GIFF for Pakistan, selecting benchmark countries was a big challenge. So, by applying the criteria of countries that have grown at a rate of 100-300 percent than us from the same stage we were 20 years earlier. These countries have shown greater economic performance for last two decades, especially China. We further

filtered out those countries which were having similar endowments and were not manufacturing sector led, or export led economies by large. In last, we were left with Uzbekistan and China. These two countries have greater similarity with Pakistan both in the labor abundance and larger natural resource endowments. (See table; 01).

S.No	Country Name	GDP per Capita	Ratio to Pakistan	Growth Rate of Real GDP (2015)	Manufacturing, value added (% of GDP)
1	Pakistan	1434.69	1.0	2.6	13.42
2	Bhutan	2655.99	1.85	5.1	8.35
3	China	8069.21	5.62	6.4	30.79
4	Dominican Republic	6468.47	4.50	5.8	15.25
5	Lao PDR	1818.44	1.26	5.6	9.37
6	Uzbekistan	2132.11	1.48	6.1	12.12
7	Vietnam	2110.91	1.47	5.5	15.22
8	Kosovo	3552.38	2.47	5.1	12.29

TABLE 01: SELECTED INDICATORS OF COUNTRIES WITH GDP PER CAPITA (CURRENT US$) 100-300% HIGHER THAN PAKISTAN IN 2015[7]

Selecting the two benchmark countries (Uzbekistan and China) for growth, we apply the second step of GIFF to identify and compare the top ten tradable goods and services on back of which these economies outperformed the rest of the competitors and where Pakistan has potential comparative advantage today. This reveals the sectors where china and Uzbekistan are losing their market share. China in some labour-intensive sub-sectors because of losing its comparative advantages are losing its share in exports as well. Table 02 shows the details of the top exports in early growth period of China and their position today because of the loss of the backwardness dividend that it was extracting when it was at lower level of income. Further, we applied the pre-screening criteria on the sub-sectors where Pakistan has latent comparative advantages in one way or other. Primary purpose of the study was

[7] Data Sources: World Development Indicator-CD ROOM 2016. World Bank Group

to select those subsectors where there is potential for growth as well as feasibility for production.

S. No	Standard Insertional Trade Classification (SITC)	% of total Exports Value (1995)	% of total Exports Value (2016)
1	Leather Footwear	2.8	0.43
2	Trunks and Cases	2.5	1.19
3	Knit Sweaters	2.5	0.84
4	Rubber Footwear	2.4	1.02
5	Non-Knit Women's Suits	2.3	1.18
6	Radio Receivers	2	0.23
7	Office Machine Parts	1.8	1.23
8	Non-Knit Men's Suits	1.7	0.59
Total		18.0	6.7

TABLE 02: KEY EXPORTS OF CHINA

CPEC portfolio is expected to enhance the economy of Pakistan. The infrastructure and energy projects will capture the interest of the investors and will give increase to FDI as well as domestic investment. Secondly, the special economic zones will bring industrial agglomeration which will result in the innovations and high value-added products with reduced cost. This will make our products cost competitive in the global market and we will be able to increase our exports and will make us able to enjoy the benefits of reduced trade deficit.

POLICY RECOMMENDATIONS:

To optimally capitalize the industrial cooperation under CPEC and the industrial relocation from China to Pakistan the following recommendations are made based on GIFF analysis;

- SEZs that are expected to bring investments and relocation of industry from China should be devised with great care. We are having latent comparative

advantage in certain labour abundant products which can enhance our exports. ***Footwear, Garments, video and radio equipment, trunks and cases, cotton yarn, iron, agro-processing business and steel paper production, dyeing/colouring materials, printing industry, glass and glass wear*** are some of the subsectors which can help boost our exports in future.

- These sectors may prove as competitive edge of Pakistan. This can be done by investing in these sectors and enhancing value addition with cost lower than competitors and capture the losing share of china in the global export market. For this a detailed supply and demand analysis is the needed which will answer many questions about why our Free Trade Agreements (FTAs) and other policies have not proven to be of high benefits.
- A close look at Pakistan employment structure reveals two salient features: one is that its employment is largely agro-based and other is informal sector attract more workers than formal sectors. The investment in capital shows that the situation is worse in 2000 as well as in 2015. The investment to GDP ratio is well below the average of developing as well as the low-income countries. The labor abundance nature of Pakistan has not benefitted the industrial sector because of ***capital scarcity*** and ***skills deficiencies***. This needs to be addressed under the industrial cooperation in CPEC.
- Pakistan is a natural resource-rich country. Its geographic location coupled with abundant resource and forests, are providing grounds for Pakistan to be strategically and economically important country. Rents have accounted for a substantial share of the contribution of natural resources to GDP. Pakistan is rich in natural resources which are not used up to the potential of these resources. In past 20 years rents from these resources has contributed less than of 0.6% of GDP in the year 1998 and highest of 2.1% in the year 2006. The ***alignment of manufacturing sector with the natural resources*** can result in ***export competitiveness***.

Bilateral Currency Swap Agreement between China and Pakistan: Expected Impact through CPEC

By

Dr. Noreen Adnan[1], Madiha Fayyaz[2]

INTRODUCTION:

A bilateral Currency Swap agreement can be defined as an agreement between the two central banks for the exchange of a cash flow in one currency against the cash flow in another currency according to predetermined terms and conditions. The maturity period of the Currency swap agreements is negotiable for a short period (Up to one year) to the long term that can be between 3-10 years by making it a very elastic mode of foreign exchange. The interest rates attached to these agreements can be fixed or floating and are generally expressed as inter-bank lending rate such as "benchmark rate" plus or minus a certain number of points[3].

[1]Head of Policy, Financing & Financial Sector Integration under CPEC Division, CoE-CPEC
[2] Research Assistant, Financing & Financial Sector Integration under CPEC Division, CoE-CPEC
[3] Páles, Judit, Zsolt Kuti, and Csaba Csávás. The role of currency swaps in the domestic banking system and the functioning of the swap market during the crisis. No. 90. MNB Occasional Papers, 2011.

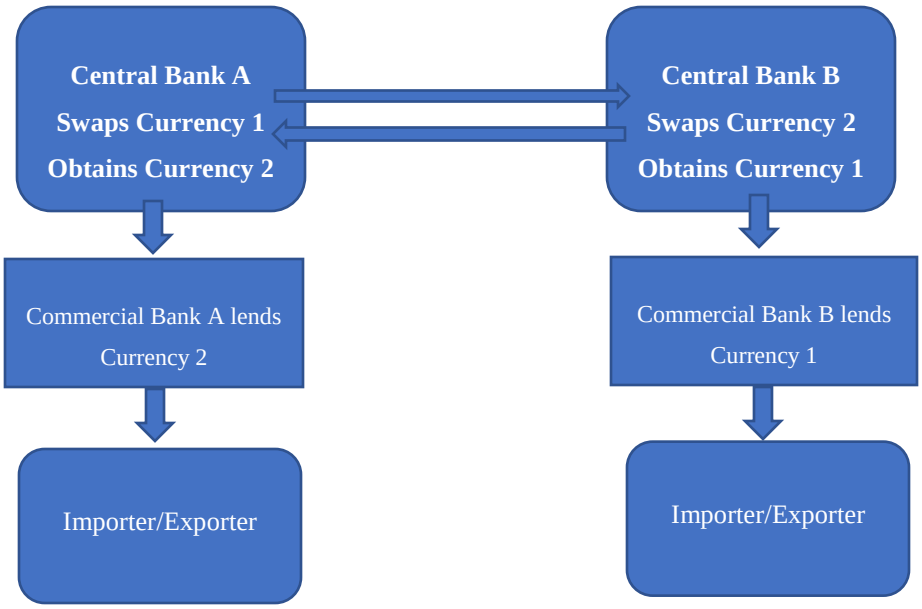


FIGURE: 1 MECHANISM OF BILATERAL CURRENCY SWAP

Source: Author's contribution

Bilateral Currency Swaps provide a feasible mode of hedging against exchange rate fluctuations. It enables the country to remain comparatively secure at the time of financial distress by managing the liquidity shortages.[1] Swap Agreements offer the opportunity to acquire foreign currency loans at a competitive and a better interest rate as compare to the direct borrowing in a foreign market. It allows the use of local currency in settlement of cross border transactions and reduces the dependence on a specific currency like US dollar[4]. Thirty-six countries have signed the bilateral currency swap agreements with China to get supported in international trade and investments. This has helped renminbi to receive the status of international currency[5].

[4] Prasad, Eswar S. *Gaining currency: the rise of the renminbi*. Oxford University Press, 2016.
[5] Anwar, Y. SBP Governor Explains Currency Swap Agreement with Peoples Bank of China. State Bank of Pakistan. (2011). Retrieved from http://www.sbp.org.pk/press/2011/China-Currency-Swap-29-Dec-11.pdf

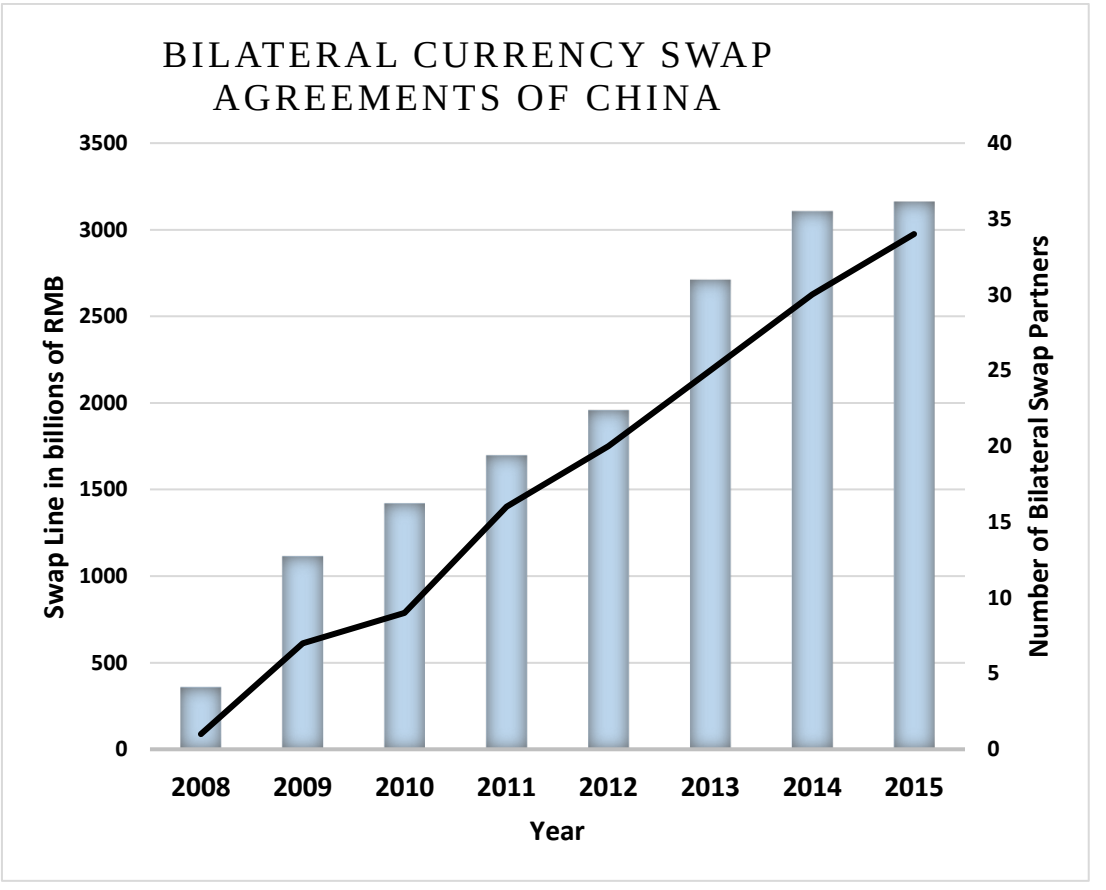
These countries have utilized the swap lines offered by China for various purposes including;

Trade: Foreign trade in China has revealed rapid growth rates and the scale of renminbi in circulation has amplified significantly in this regard. Therefore, the Swap agreements enables the central banks to restraint the dependence on any single currency e.g. US dollars for invoicing and settling the transactions.

Investment Opportunities: A positive signal is transmitted in the market with the availability of the Currency Swap agreements and foreign currency in the onshore market. This increases the investor's confidence and helps the economy to attract more investments.

Foreign Exchange Reserves: To avoid financial instability, market tensions and accumulation of excessive foreign reserves with high costs, the bilateral currency swap have proved to be a substantial, effective and less expensive tool.

Bailouts: Effective use of Swaps can save a country from sanctions in exchange for its bailout plans. For example, Argentina had difficulty in repayment of dollar-based debts, therefore a bilateral currency swap in Yuan with China was signed. Since Yuan is an international currency, therefore the acquired Yuan were converted into US dollars and the bailout through swaps was executed.



BILATERAL CURRENCY SWAP AGREEMENTS: CHINA AND PAKISTAN:

The currency swap agreement (CSA) between Pakistan and China was signed in 2011 and it allowed both countries to make transactions in either Pakistani rupee or Chinese Yuan[2]. The agreement was for three years with an aim to use regional currencies for trade settlements. In 2018, the bilateral swap line has been doubled.

> **Phase 1:** In the first phase of CSA, the execution of Currency Swap Agreement is for a term of three years and in the local currencies of both countries i.e. for 140 Billion Pak Rupees and 10 Billion Yuan.

Phase 2: The swap line has been extended with the consent of both the countries from 10 billion Yuan to 20 billion Yuan and from 165 billion to 351 billion Pak rupees.

BILATERAL CURRENCY SWAP AND CPEC-WAY FORWARD:

Bilateral currency swap agreement is expected to have a positive impact on the economy of Pakistan through the China Pakistan Economic Corridor (CPEC). Following are some prospects in this regard.

- Under the Bilateral Currency Swap Agreement between China and Pakistan, the commercial banks are permissible to arrange swap lines through State Bank of Pakistan and offer loans. This will not only let the active use of bilateral currencies for trade and investment transactions under CPEC but will also steadily decrease the dependence of Pakistan on the US dollar.
- Since the traders under CPEC in Pakistan would be able to have transactions in Yuan, therefore it is expected that it will simplify the operations of CPEC projects.
- Chinese companies investing in the projects of CPEC can have the profit repatriation in terms of Yuan instead of dollars or other foreign currencies. This will create a conducive environment for the investors and expedited implementation of the projects under CPEC is expected.
- Since Pakistan is struggling with its external account imbalance at present, and due to CPEC, investments and imports are growing rapidly. Trade in national currencies will shield both the countries against any influence from externals and will offer support against exchange rates fluctuations.

CPEC & Digital Landscape of Pakistan

By

Talha Mustafa[1], Dr Fahd Amjad[2]

INTRODUCTION:

China Pakistan Economic Corridor (CPEC) is not only a connectivity network of roads, railways, ports, oil and gas pipelines but it also provides cross-border fiber optic cable connectivity between china and Pakistan. The 820-kilometer-long fiber optic cable project at a cost of $46 million stretches from China's western Xinjiang region and enters Pakistan through Khunjerab border and then travels through Gilgit-Baltistan (G-B) to Mansehra, KPK to connect to Muzaffarabad, AJK and onwards to Islamabad and Rawalpindi, where it is connected with existing optical connectivity network of Pakistan[3]. The cable is also connected with the first ever local Internet Exchange Point (IXP) in Islamabad to exchange and control internet traffic. The potential advantage of IXP is that different Internet Service providers (ISPs) can connect at a single point, which will provide secure interconnection point to exchange the local information within country by avoiding international network links. Moreover, it will significantly reduce internet cost with overall improved internet performance. On the other hand, Fiber optics cable will not only digitally connect Pakistan with China but also will link up with several countries of Belt and Road Initiative (BRI), spreading across landlocked Central Asian countries and Europe[4]. This digital connectivity with rest of the world through China will provide more

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2 Head of Policy, Regional Connectivity Division, CoE-CPEC

3 "Cross Border Optical Fiber Cable | China-Pakistan Economic Corridor (CPEC) Official Website," accessed March 28, 2018, http://cpec.gov.pk/project-details/40.

4 Role of CPEC Fiber Optic Connectivity in Security & Reliability of Telecommunication Infrastructure of Pakistan. Khurram Shabbir in CPEC Centre of Excellence Working Paper Series

secure path for internet traffic as in the existing fiber optic network some of the internet traffic routed through India may cause a security risk for Pakistan. An alternative landing station for submarine cable is also planned to be set up at Gwadar Port, as Pakistan has only one landing station located at Karachi to handle all the country's internet traffic, any fault in this landing station will interrupt the internet throughout the country. The proposed landing under CPEC will eradicate this problem which will help to reduce dependence on existing submarine cable routes and provide more secure and reliable international communication network.

The new fiber optics cable will provide secure and fast speed internet to digitally undeveloped regions of Pakistan, where broadband connectivity has ranged from poor to nonexistent. Recently, Special Communication Organization (SCO) has upgraded the existing network and launched the 3G/4G services in Gilgit-Baltistan and Azad Jammu and Kashmir which will further strengthen broadband connectivity of the country[5]. The arrival of 3G/4G services in such remote areas would not only provide easy access to internet but it will generate employment opportunities for local youth, especially women and boost tourism as transportation in the northern areas is very difficult without broadband technology. Currently in Pakistan, subscribers of 3G/4G have reached to 44.4 million which is around 19.2 percent of the total population with an average usage of 1.56 G-B mobile data per subscriber per month[6]. With the inception of CPEC fiber cable will greatly enhance these broadband internet users and will also contribute to improve overall internet penetration of the country.

In order to optimize the existing and future coordination in supply chain within Pakistan and with the China information flows, financial flows, physical flows of goods and services would excel through digital connectivity between China and

5 China-Pakistan OFC inauguration ceremony at: https://tribune.com.pk/story/1756458/2-optic-fibre-cable-connecting-pakistan-china-inaugurated-today/
6 "Pakistan Set to Out-do India in Introducing 5G Internet: PTA," The Express Tribune, December 6, 2017, https://tribune.com.pk/story/1576953/2-pakistan-set-outdo-india-introducing-5g-internet-pta/

Pakistan. It will also promote and facilitate regional economic cooperation and will enable many ICT integration services between both countries. This connectivity spread from many soft to hard infrastructural projects such as paperless trade facilitation, e-commerce, e-government and plays a supporting role in the construction and management of industrial parks, roads, rail, aviation and ports. On the other hand, this cable connectivity will provide many opportunities to enhance people to people connectivity between China and Pakistan. The adaptation of China's Digital Terrestrial Multimedia Broadcasting (DTMB) technology is an indispensable component for socio cultural collaboration. The arrival of DTMB standard in Pakistan enables high definition (HD) broadcasting for digital television (TV) which will provide many opportunities for the Pakistani media industry for revenue generation and promote many cultural exchange programs at a higher resolution between China and Pakistan.

POLICY RECOMMENDATIONS/WAY FORWARD:

The policy recommendations to get maximum advantages of CPEC fiber optics cable are given bellow.

- **Promote Digital Entrepreneurship**. Digital entrepreneurship should be promoted amongst young talent of Pakistan to boost e-commerce. For this there is dire need to have awareness campaigns regarding ICT benefits and setting-up of platforms to train young talent of Pakistan in the field of e-commerce. These initiatives will not only help to create jobs for the local people but would also attract foreign investment in Pakistan.
- **Promote Online Education:** Higher Education Commission (HEC) of Pakistan should formulate consistent and concrete policies to expand the horizon of online education, distance learning degree programs, virtual classrooms, high speed internet access for students in universities, digital libraries to access books from anywhere anytime, e-learning short courses to

fulfill market needs and online job portal for students studying in universities and their collaboration with related companies and industries.

- **Revolutionize the payment method:** The current practice of digital banking for e-transactions should be adopted to step by step transform 95% of the e-business payments by cash on delivery with the online cash. In this regard, it is recommended to construct collaborative technical training institutions and different exchange programs with Chinese universities/companies for local youth and entrepreneurs to introduce the efficient and foolproof digital banking system in Pakistan.
- **Delivery of public services and provision of information through Internet**: It will also enable various e-government facilitates such as construction of national data centers, safe cities, trade facilitation, custom procedures and various single windows operations in government organizations for the ease of public. To get an advantage of all these services it is recommended to have different awareness and training programs for the different government organizations to encourage the efficient use of these e-government services.
- **Capacity Building**: The existing ICT facilities and infrastructure in G-B have shown that there is need to develop more computer training institutes and software houses for the local people of G-B as currently only 20 computer training institutions and only three software houses are available for the area of 72,971 square kilometers with a population of more than 180,000 people of G-B[7]. Moreover, there is a requirement of having awareness campaigns regarding ICT benefits and opportunities among G-B public. So that they will switch their businesses and business models to ICT based systems to make them more efficient and competitive.
- **Connectivity**: The fiber cable connectivity plays an important role to facilitate and boost tourism industry in G-B. It can be used to advertise G-B at

[7] In the context of CPEC, the Current state and future expectations in G-B regarding ICT as enabler of Development. Aftab Ahmed Khan. CPEC Centre of Excellence Working Paper Series

international level and will enable many tourist services e.g. use of social websites, GPS system and with technology tourists would be able to do online bookings of hotels well ahead of time.

- **Efficient trade:** The CPEC fiber optics plays vital role for unimpeded trade through China-Pakistan border. As digital infrastructural deficit in G-B is one of the biggest hurdles for efficient cross-border trade facilitation between China and Pakistan through Khunjerab border. The inception of new fiber cable introduced the online WEBOC (web based one system) custom system at sost dry port in G-B which is the first customs dry port through which all cargo coming from Khunjerab border must get cleared by Pakistan Customs before entering the Country. It is recommended to have proper training for using this new system and address the queries of local trader before introducing new WEBOC at Sost port and further integrate this new system with Chinese custom system. As a result, this will help to reduce leakages in shipped goods and delay due to cumbersome documentation procedures of old system and overall reduce the trade facilitation problems persisted at China-Pakistan border.

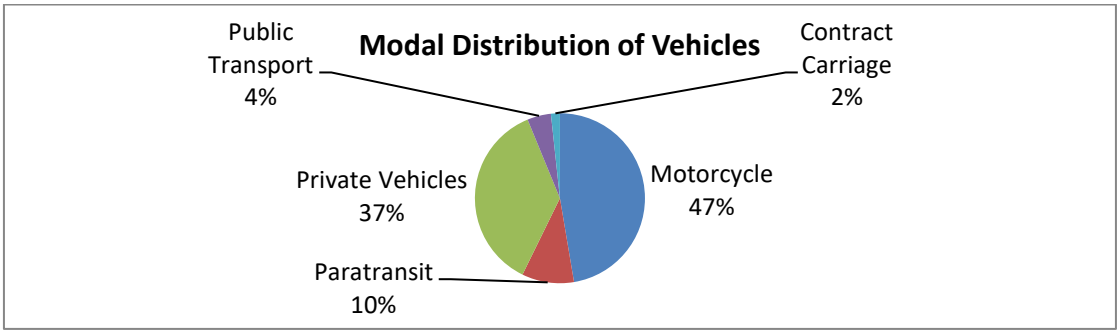
Guidelines for Sustainable Urban Transport under CPEC

By

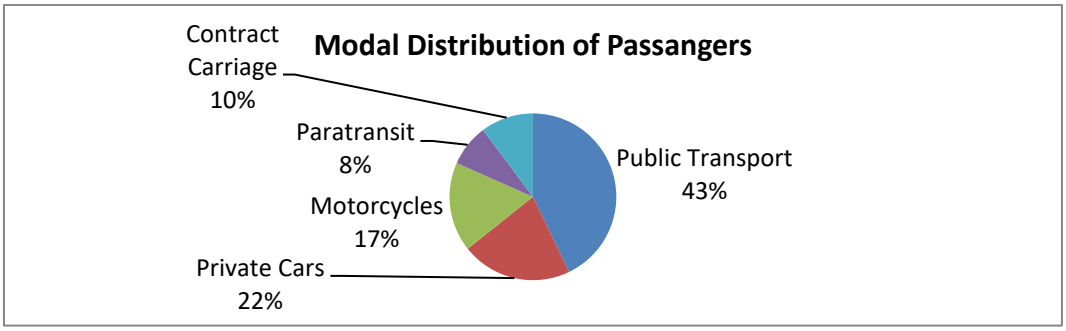
Dr. Saleem Janjua[1] & Numra Asif[2]

INTRODUCTION:

Transport-related problems in mega cities of Pakistan have significantly increased in recent decades. Traffic congestion contributes to increased air and noise pollution, health problems, high accident rates, and environmental degradation. It has also meant declining living standards, as to avoid long commutes, people's livelihood choices have become more limited and this has determined where they live. Long commuting times, congestion, over-loaded and poorly maintained vehicles are the common problems for the urban residents especially in Karachi. The share of public transport in vehicular mode distribution is 4%, however they carry 43% of the total passengers in Karachi and other populated cities of Pakistan. Private cars are 37% of the total vehicular traffic, and carry 22% of the passengers[3].



[1]Head of Policy, Urban Development in Pakistan under CPEC Division, CoE-CPEC
[2]Research Assistant, Urban Development in Pakistan under CPEC Division, CoE-CPEC
[3] Hasan A, Raza M; (2015); Responding to the Transport Crisis in Karachi; IIED-UK Working Paper



Source: Hasan A, Raza M; (2015); Responding to the Transport Crisis in Karachi; IIED-UK Working Paper

Around the world urban transport is a priority and mass transit projects are launched with an aim of facilitation of commuters. Karachi Circular Railway is the most cited transport project for Karachi. Historically, KCR was operational as an inter-regional public transit system in Karachi in 1960's and 1970's. However, it was later abandoned due to the poor infrastructure and inability to provide mobility to the residents of Karachi. The proposed revival of KCR will make it operational from Karachi City Station on I.I. Chundrigar Road and the network will be extended to Gadap in the north, Dhabeji in the east, Kiamari in south, and Hub in the west of Karachi. Karachi, despite being a major metropolitan city of Pakistan, faces severe mobility issues, as no public transit is available. Commuters have to rely on local modes of transport. This results in longer and expensive commutes, resulting in lower public utility.

Under the CPEC, the revival of KCR as a mass transit project is a primary focus of the federal and provincial government of Sindh. The 6th Joint Cooperation Committee (JCC) meeting agreed in principle for inclusion of Karachi Circular Railway as a rail based mass transit system in CPEC portfolio. The Joint Working Group (JWG) on Transport Infrastructure has been to complete the necessary studies and consultation. Feasibility report was completed in May 2017 and ground breaking is expected in 2018.

The project has an estimated cost of $ 1.9 billion. The financing of the project was previously with Japan International Cooperation Agency (JICA) who had proposed 10 years for its completion; however as one of the CPEC projects, KCR is targeted to be completed in 3 years, i.e. by 2020. KCR would be a 43.2 kilometers standard gauge double railway track (14.94 km at surface and 28.18 km elevated) and would be constructed with allied structures on the existing land reserved for KCR.

KCR is expected to improve the mobility situation of the largest metropolitan city of Pakistan and would provide ridership to 550,000 commuters by 2020. The projected demand would increase to 749,541 by the year 2030 passengers per day and 915,876 by 2050. The completion of other BRT corridors will contribute as following.

Sr..No	Line	Financing	Length(km)	Cost (Billion Rs)	Ridership Daily
1.	Yellow	Public Private partnership	26	12-14	150,000
2.	Orange	Bidding in process	4.7	2.364	50,000
3.	Green	Govt of Pak funding	21	27	400,000
4.	Red	Govt of Sindh	21.5	12-15	350,000
5.	Blue	Private Developer	41.7	187	450,000

Source: Hasan A, Raza M; (2015); Responding to the Transport Crisis in Karachi; IIED-UK Working Paper

POLICY GUIDELINES:

The sustainability of mass transit projects such as Karachi Circular Railway (KCR) needs strategic thinking, careful planning, and sound policy guidelines. Some of the policy guidelines for the sustainability of KCR are as follows.

- The biggest issue that the successful implementation of KCR faces is of land encroachments. Almost 70-80% of land under KCR boundary is encroached by illegal settlements. The resettlement of these urban dwellers, fixation of land compensation rates, prevention of slum settlements and development of smart integrated city around KCR track are important research areas to be addressed so that the project could be completed as per the timelines.
- The current KCR tracks are standardized under Pakistan Railways; however they have become obsolete and are at a mismatch with Chinese standards of engineering and transport. The standardization of scale is also an important avenue for exploration.
- Land-use pattern along the KCR needs to be examined with possible policy recommendations in order to build the ridership for this CPEC-supported mega project in Karachi. Building ridership in mass-transit projects can be difficult when trip distances are short and parking is inexpensive like the case of Karachi. In addition, land use patterns are not transit-supportive in the case of Karachi. Hence, policy research is needed in this important area to make the KCR sustainable.
- Triple bottom approach with reference to the KCR also needs to be considered. Instead of the conventional focus on economic bottom lines, Sindh Mass Transit Authority and other related stakeholders in Karachi should be encouraged to consider a 'triple bottom line' which gives equal weight to economic, social and environmental outcomes. The provision of mass-transit facilities, as a local level/municipal responsibility having numerous positive impacts on social and environmental systems in addition to economic benefits, is particularly important for triple bottom line analysis. General masses and stakeholders in Karachi should

view this CPEC-supported KCR project as a significant benefit to individuals, families, neighborhoods, businesses and the ecosystem surrounding the Karachi city. By doing so, the positive narrative of CPEC would be highlighted in the community/relevant stakeholders in Karachi.

- Policy-research on TDM (travel demand management) with reference to KCR should be initiated. Traffic management authorities in Karachi may use some appropriate measures, backed by the research/policy recommendations, that should manage the demand for transportation, rather than simply focusing on the supply, in order to make the KCR sustainable. Transportation demand management (TDM) is the application of strategies and policies to reduce travel demand of single-occupancy private vehicles. TDM measures influence whether, why, when, where and how people travel in a certain urban area. TDM initiatives can include educational and promotional tools, incentives and disincentives. They include measures like information campaigns, special events, discounted transit fares, feeder routes planning (non-infrastructure related options), active and safe routes to school for children, workplace-based commuting options programs, and household-based individualized marketing. TDM measures often involve partnerships between city-municipalities and employers, schools and community organizations. They are typically less costly, but can improve the cost-effectiveness of KCR by increasing its level of use.
- Non-fare revenue generation – research needs to be initiated for developing a non-fare revenue (NFR) policy for KCR which will enable the Sindh Mass Authority/concerned department to implement the non-fare revenue generating ideas and proposals, and would make the KCR sustainable. Sindh Mass Transit Authority lacks the specialized expertise and resources needed to design some comprehensive NFR policy/marketing strategies. Hence, policy research in this important area needs to be initiated on urgent basis.
- Training need assessment and conduction of trainings on issues like standardization of scales, mass transit safety, revenue generation sources are also highly required.

- Startup of engineering and transport related degree programs that are specifically required under CPEC should be mapped out by the HEC and relevant academic bodies. These programs should then be launched at the top ranking universities in Karachi/ Sindh province. This step is imperative for creating the skill development pool that would be required in future for operation and maintenance of CPEC projects. This will also increase employment and job creation at the national level.

The above mentioned guidelines and potential research areas may also be considered for rest of the three mass transit projects under CPEC;

- Greater Peshawar Region Mass Transit
- Quetta Mass Transit
- Orange Line - Lahore

These research avenues, training activities, and policy guidelines are important to be implemented to make the urban mass transit projects under CPEC viable and sustainable.

Travel and Tourism Development in Pakistan under CPEC: Policy Recommendations

By

Dr. Amir Khan[1], Muhammad Asad Chaudhary[2]and Saira Ali[3]

INTRODUCTION:

Travel and Tourism (T&T) sector is considered substantial to foster socio-economic activity. Growth of T&T sector generates both the direct, indirect and induced impacts like employment opportunities so its total contribution in terms of economic and social prospects is tremendous. Therefore, developing economies like Pakistan has prioritized T & T sector as preferential policy preference in its developmental agenda. It is the major reason for Government of Pakistan to incorporate T&T sector as key area of cooperation under the long term plan of CPEC. Cooperation and investment under CPEC are expected to enhance the development of T&T sector in Pakistan.

As per the Travel and Tourism Competitive Index report of World Economic Forum 1,429,580 people are employed in the T&T sector of Pakistan which comprised 2.4% of total employment, this sector contributed US $7,362.0 million in GDP which comprised of 2.8% of GDP. Furthermore, 965,498 international tourists visited Pakistan during a year in which survey was conducted[4]

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[2] Research Assistant, Socio-Economic Impact of CPEC Division, CoE-CPEC
[3] Research Associate, Socio-Economic Impact of CPEC Division, CoE-CPEC
[4] (WTTC), World Tourism Organization (UNWTO) and World Travel and Tourism Council. 2017. Travel & Tourism Competitiveness Index 2017 edition. Annual, World Economic Forum.

Whereas, induced or indirect impacts are concerned a Canadian tourist Ian who has travelled to 188 countries of the world shared his experience in Pakistan by saying that *''Never would have I imagined Pakistan to be the way it was! I had pictured something similar to India and Bangladesh. But it is far from it! It has its very own flavor and culture, its people are particularly friendly and its landscape is breath-taking! Kind of a mix between Iran, Afghanistan and India and Nepal at the same time''*[5]. Similarly, an Indian-American Asim Jaweed experienced culturally diverse Pakistan and penned his experience "*I cherished my time in Lahore…… In Karachi ethnic Sindhis rub shoulders with Pashtuns, Punjabis, Baloch and even a few Hyderabadis like me. Karachi teemed with the infectious spirit of a bustling metropolis rapidly evolving, even reinventing itself, and I was hooked*"[6]

In 2018, one of the leading global tourism guidance organization Lonely Planet ranks Pakistan as the top ranked country among twenty best countries for the back-packers tourists. Lonely Planet shared the experience of an international tourist group British Backpacker Society who said Pakistan was ranked at top spot because it was "*home to some of the world's friendliest and most hospitable people, and offers some of the world's dramatic mountain scenery''*[7].

Tourism endowments of Pakistan are potentially remarkable. Keeping in view the long term plan of CPEC there is dire need to establish new or revitalize already existing tourism parks in different regions of Pakistan. Currently, to complement the CPEC three tourism parks along the route of CPEC are strongly suggested; one in north, second in Indus valley and third in coastal area of Pakistan. First, in north the high stretches of Himalayas, Karakorams and Hindukush with permanent snow lines

[5]Ian. 2017. 2 weeks Traveling Pakistan: My Experience and Impressions. September 7. Accessed August 28, 2018. https://www.thedigitalglobetrotter.com.
[6] Jaweed, Asim. 2017. "As an Indian visiting Pakistan for the first time, I discovered I had another home." Dawn. DAWN, June 21.
[7] FOXE, KEN. 2018. Lonely Planet. January 6. Accessed August 28, 2018. https://www.lonelyplanet.com.

and beautiful meadows offers incredible tourism resources including Socio-cultural diversity. The attractive topography invites the adventure lovers for the adventures tourism and elegant minds to witness meaningful secrets of the nature. From these high ranges originates the one of the largest rivers of the world the Indus River. It passes all along Pakistan and engendered remarkable civilizations in the Indus valley of the country. The Indus valley civilization is one of the early three cradles of civilizations of the old world and it entices spiritual and cultural tourism. Third, in south where river Indus falls into the Arabian Sea considerably decent coastally tourism resources presents the high biodiversity and gorgeous but fragile ecosystems in the regions like Jiwani, Gwadar, Jhal Jhao, Ormara, Sonmini and Keti Bander. These coastal areas along with significant Exclusive Economic Zones (EEZ) of almost 100 km extended up to 200 km inside the Arabian Sea with attractive virgin coastal area and marine life.

The Socio-Economic Division at Center of Excellence CPEC has already conducted research on eco and cultural tourism in KP and GB, Pakistan and research is under design process on coastal tourism. Based on the field research following evidence based policy guidelines are recommended.

POLICY RECOMMENDATIONS TO IMPROVE TOURISM INDUSTRY:

With particular reference to long term plan of CPEC below are the main policy guidelines and recommendations to improve and promote the T&T industry in Pakistan. In this regard it is required to engage the respective line departments of each governmental tier to implement these policy guidelines. The main policy recommendations are as mentioned below.

1. Creating enabling and business supportive environments for T&T related industry across Pakistan. the main suggestion includes
    - Ensuring the price competitiveness in the T&T sector;

- Ensuring effective implementation of Property Rights in tourist regions;
- Flexible tax regime for T&T sector promotion;
- Easy access to finance/credit to encourage profitable investments e.g. tourism products by banks;
- Reduction in the cost to start T&T related businesses;
- Efficiency of legal frameworks sitting disputes and challenges in tourist regions;
- Doing effectiveness of marketing and branding in T&T sector of Pakistan to attract tourists.

2. Safety and security is the pre-requisite for the promotion of tourism industry. The main component includes
    - Developing reliability and competence of police services with particular reference to tourism;
    - Engage media to promote concept of emerging Pakistan to dismantle insecurity and terrorism related impressions;
    - Ensuring political stability to establish goodwill of Pakistan globally.
3. Prioritization of T&T in policy preferences of the government as a driver in services based economic activity. The main suggestions includes;
    - Increase in the governmental spending in budget to promote T&T;
    - Develop the access to improved sanitation and clean drinking water to tourists;
    - Protect and promote natural, cultural, oral, intangible heritage sites;
    - Promote and support heritage of local sports and folk festivals;
    - Regulate quality hoteling and tourism infrastructure to encourage competitiveness in the T&T sector;

- Establishing special emergency health facility for tourist to strengthen their trust on T&T of Pakistan;
- Improving the internet and broadband system at tourist localities to facilitate tourists.

4. International openness and transport infrastructure need serious governmental attentions. The main suggestions include;
    - Facilitating easy visa regime for culturally/spiritually interested tourists;
    - Enhancing quality of air transport infrastructure and availability of airlines;
    - Enhancing tourist oriented ground and port efficiency and ground and port infrastructure which includes quality of railroad and road and its density.
5. Human resources and labor forces in T&T sector is the most important area that needs attention. The main suggestion includes;
    - Establishing a tourism and hospitality department in universities to train people and institutions involved in the tourism industry;
    - Putting special attentions to improve education attainment of youth particularly girls in tourist areas because of T&T sector employment is gender biased;
    - Creating awareness about customer orientation;
    - Ensuring the implementation of minimum wage law and hiring and firing practices for the labor force in T&T sector.
6. Ensuring environmental sustainability and environmental laws compliance. The main suggestions includes;
    - Enforcement of environmental regulations and environmental treaty ratification;

- Managing baseline water stress e.g. waste-water treatment in the tourist areas;
- Protecting the biodiversity especially threaten species in tourist areas e.g. snow leopard and brown bear in northern areas of Pakistan.

7. Intergovernmental coordination on the subject of T&T is a significant to eliminate overlapping jurisdiction of governmental units in Pakistan. The main suggestion include;
    - Close collaboration of federal and provincial government of the subject of tourism because tourism development and promotion is provincial subject and its global branding is the federal responsibility;
    - Traveling and traveling infrastructure is the federal subject and there is need to complement the provincial tourism strategy
8. Effective and detailed information system to facilitate tourists about the T&T industry of Pakistan is an immediate need. The main suggestions are;
    - Develop vibrant information center for international and national tourism with pro-active website that must provide detail information about localities, culture, and facilities;
    - Establish where required and revitalize already available tourist help center on tourist sites.

Impact of CPEC on Climate Change - Policy Recommendations

By

Dr. Saleem Janjua[1], Adnan Khan[2], Numra Asif[3]

INTRODUCTION:

China-Pakistan Economic Corridor (CPEC) is an ongoing mega development project which aims to connect Gwadar port of Pakistan to China's northwestern region of Xinjiang via a network of highways, railways and pipelines. The economic corridor is considered central to China-Pakistan relations and is stretched over 2700 km from Gwadar to Kashghar. Overall, the entire project is expected to be completed in fifteen years through three different phases, i.e. from 2015-2020, 2020-2025 and 2025-2030, respectively.

CPEC and its connectivity with Central Asia, Middle East and Africa is expected to reshape the entire region. The Corridor is an extension of China's proposed 21st century Silk Road Initiative or Belt and Road Initiative (BRI). The corridor is expected to be a strategic game changer for the region that aims to make Pakistan an economically viable and business-friendly country. Investments under CPEC in the power generation and distribution sectors will provide a momentous boost to the economy. Several large-scale investments in infrastructure, energy and industrial growth projects are currently in-progress, which are expected to further fasten the targeted economic growth of the country. CPEC portfolio is expected to trigger GDP

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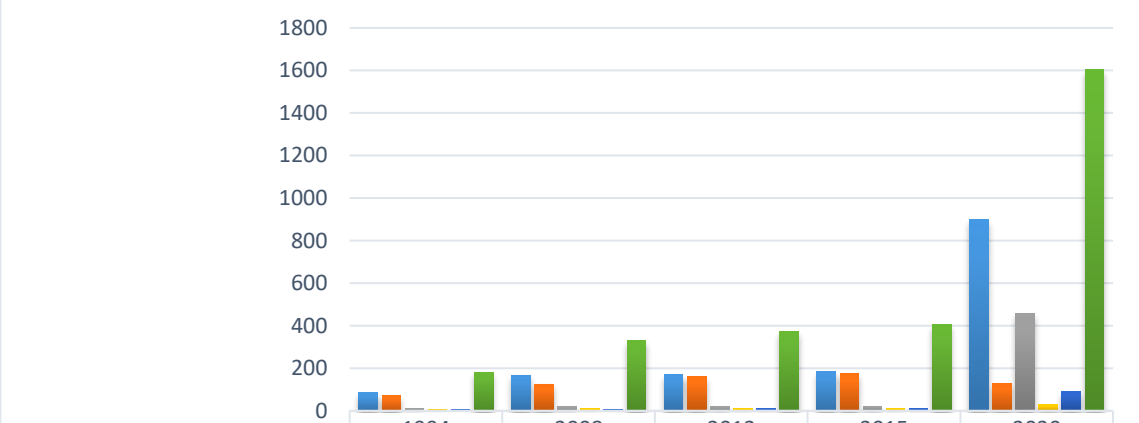
growth of Pakistan by 1.5 % from 2016 to 2020 and a further increase of 1 % for the period 2020 to 2030 (Planning Commission of Pakistan, 2015)[4].

One of the key priorities of the government of Pakistan is to exterminate energy crisis by 2018 and to harness economic dividends from the potential CPEC opportunities. However, a consequent effect of the expected increase in economic growth is that the share of GHG emissions from the energy and industrial sectors are expected to grow exponentially. Similarly, with the rapid increase in urbanization, the share of GHGs from the waste sector is also expected to increase in the coming years. An analysis of the past trend of GHG emissions for the last twenty-one years (1994 - 2015) shows that all sectors of the economy have exhibited an increasing trend of GHG emissions. Overall, the increase in emissions over this time-period (1994-2015) was approximately 123 %. The average annual increase in GHGs works out to be 10 MT CO2-equivalent in Pakistan, which represents an annual growth rate of 3.9 %, with periods of high and low-growth emissions commensurate with economic performance (Ministry of Climate Change, 2016).

[4] Planning Commission of Pakistan. (2015). Pakistan Vision 2025. Retrieved February 05, 2018 from http://pc.gov.pk/vision/vision

The historical trend of increase in GHG emissions in Pakistan has so far been fairly consistent with the average GDP growth rate of around 4 % per year during the same period. The below mentioned Figure-1 shows the inventory of GHG emissions (MT CO_2-equivalent) for all sectors (energy, agriculture, industrial processes, land use change & forestry, and waste) for 1994, 2008, 2012, and 2015. Considering the historical trend of inventory of GHG emissions and a GDP growth rate of 4%, projections of inventory of GHG emissions for 2030[5] (1603 MT CO_2-equivalent) have been plotted, which are also shown in Fig-1;



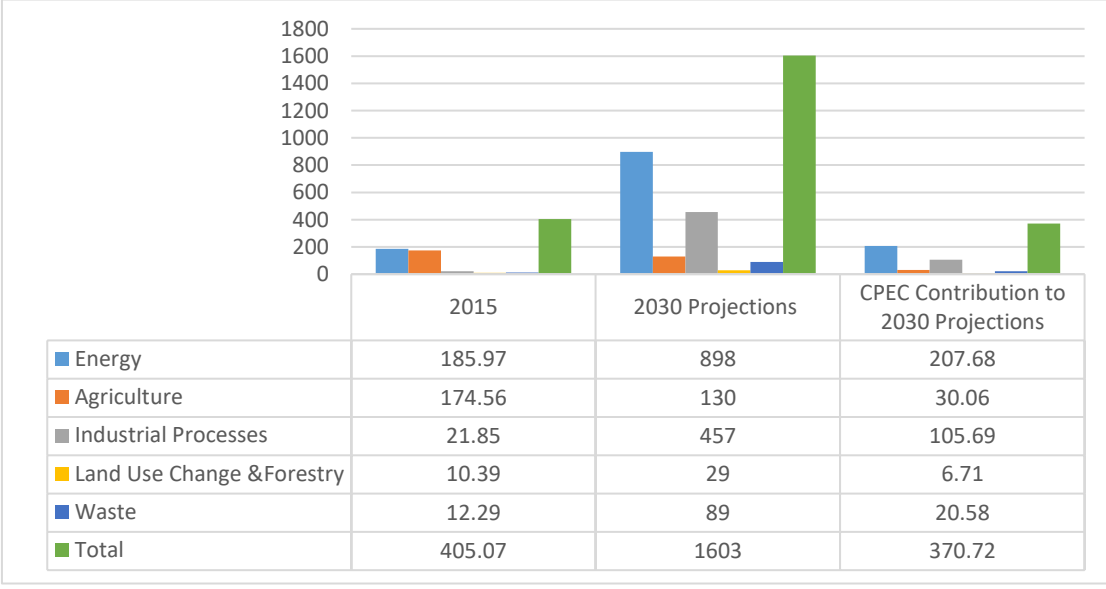
	1994	2008	2012	2015	2030
Energy	85.8	168.47	171.44	185.97	898
Agriculture	71.63	125.97	162.86	174.56	130
Industrial Processes	13.29	18.54	19.59	21.85	457
Land Use Change &Forestry	6.52	9.29	9.67	10.39	29
Waste	4.45	7.24	10.55	12.29	89
Total	181.7	329.51	374.1	405.07	1603

FIGURE-01: INVENTORY OF GHG EMISSIONS (IN MT CO2-EQUIVALENT)

In case of Pakistan, CPEC projects are expected to accelerate the GDP growth by 1.5 % from 2016 to 2020 and a further increase of 1 % is expected for the period 2020 to

[5] Ministry of Climate Change. (2016). Pakistan's Intended Nationally Determined Contribution (PAK-INDC) Report. Retrieved February 05, 2018, from http://www4.unfccc.int/ndcregistry/PublishedDocuments/Pakistan%20First/Pak-INDC.pdf

2030 in the overall expected growth rate of 7 % for the economy (Planning Commission of Pakistan, 2015). Therefore, keeping in view this anticipated GDP growth for the next 15 years under CPEC portfolio, the CPEC contribution to the projected GHG emissions for the year 2030 are calculated to be as 370.72 MT CO_2-equivalent which are equal to 23.12 % of the whole projected GHG emissions inventory of 1603 MT CO_2-equivalent for 2030. The contribution of CPEC portfolio to the 2030 projections of GHGs has been demonstrated in the below mentioned Figure-02.



	2015	2030 Projections	CPEC Contribution to 2030 Projections
Energy	185.97	898	207.68
Agriculture	174.56	130	30.06
Industrial Processes	21.85	457	105.69
Land Use Change &Forestry	10.39	29	6.71
Waste	12.29	89	20.58
Total	405.07	1603	370.72

FIGURE-02: CPEC CONTRIBUTION TO 2030 PROJECTIONS OF GHGS

The GHGs projections in Figures 1 & 2 have been made for 2030 by keeping in consideration the consistent trend and strong correlation between the average GDP growth and GHG emissions growth rate per year in Pakistan. Thus, it can be inferred that the total inventory of GHG emissions of Pakistan for 2030 will be 1603 MT CO_2-equivalent; out of this total, around 370.72 MT CO_2-equivalent will be the contribution of CPEC portfolio.

To find out the percentage contribution shares of different sectors in the projected GHGs inventory of Pakistan for 2030, the World Resources Institute's Climate

Analysis Indicator Tool (WRI CAIT) and Pak-INDC Report-2016 have been used as mentioned in the USAID User Guide (2016), which indicate that the energy sector will contribute around 56% of Pakistan's total annual GHG emissions in 2030. Industrial processes (IPs) will account for 28.1% of the total GHG emissions. Moreover, the agriculture and waste generation will contribute 8.1% and 5.5%, respectively. Lastly, the land use change and forestry (LUCF) sector will contribute 1.8%[6].

The essential and central ingredients of development in Pakistan, such as energy needs, food and water consumption levels, and infrastructure, transportation and communication channels are expected to nurture manifold in the coming years. Consequently, GHG emissions are likely to witness exponential growth in the country. Hence, the government of Pakistan, along with the provincial governments, are required to determinedly aware of the potential growth of GHG emissions and start devising suitable developmental strategies aiming to minimize possible carbon footprint by 20 % till 2030 in order to play their meaningful role in global efforts of achieving the targets of United Nations Framework Convention on Climate Change (UNFCCC) under the Paris Agreement. As per Pakistan's Intended Nationally Determined Contribution (PAK-INDC) Report-2016, several mitigation and adaptation measures are needed to be taken on priority basis. These measures and actions can be augmented in coming years with potential availability of national and international climate financing, technological advancements, and capacity building of relevant stakeholders.

[6] World Coal Association. (2016). The Power of High Efficiency Coal: Reducing Emissions while Delivering Economic Development and Reliable Energy. Retrieved January 04, 2018, from https://www.worldcoal.org/sites/default/files/resources_files/The%20Power%20of%20high%20efficiency%20coal%20-%20WCA%20-%200316.pdf

POLICY RECOMMENDATIONS/POLICY GUIDELINES/WAY FORWARD:

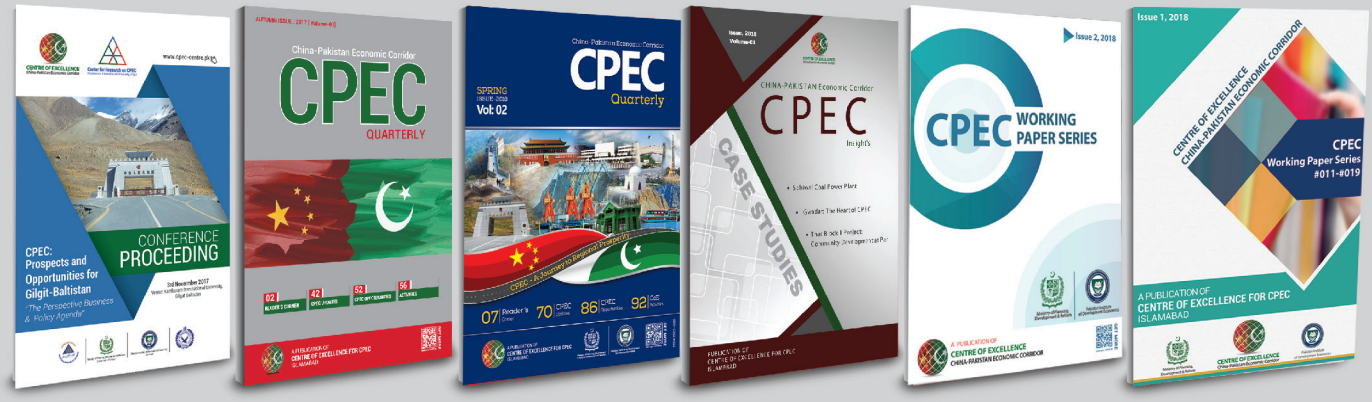
To make the CPEC portfolio climate-resilient and climate-compatible, the following policy recommendations are made based on the GHGs projections described in the upper section of the policy research paper:

- As per PAK-INDC Report-2016, Pakistan has committed 20 % reduction in the projected GHG inventory for 2030, which is possible by utilizing domestic resources, as well as on receipt of some international financial assistances. Accordingly, Pakistan would require reducing its GHG inventory about 320 MT CO2-equialent by 2030. For this purpose, comprehensive 'climate change mitigation' and 'climate change adaptation' plans need to be developed and implemented at federal & provincial levels to achieve the above target. Keeping in view the current developments made under CPEC portfolio, the federal & provincial policy makers should consider CPEC interventions in the mitigation and adaptation plans of their respective jurisdictions.
- Pakistan faces serious energy challenges. To combat this, the government of Pakistan is implementing a comprehensive plan under CPEC to meet the future energy requirements through establishing the coal-based power generation facilities, which may further add to the environmental degradation of the country. However, GHGs emissions from these coal-based power plants can significantly be reduced by the implementation of suitable environmental mitigation measures, like carbon capture, storage and the application of advanced combustion and related technologies. Employing state-of-the-art and highly efficient and low-carbon advanced technologies - deployed in the developed world and China - may also be helpful in this regard (World Coal Association, 2016). China has established power plants that are based on ultra-supercritical technology in their country. Pakistan may also commission such technologies for power generation through future agreements under CPEC. The usage of coal as a source of power generation is the need of time; however, the usage of latest technologies such as

ultra-supercritical technology can further significantly reduce emissions from the power plants being commissioned under CPEC.

- Pakistani transport sector, as one of the key sub-sectors of Industrial Processes in GHG emission inventory of Pakistan, has strong potential to play a key role in tackling climate change. Huge investments are being made in infrastructure sector under CPEC, which will ultimately increase the number of vehicles in Pakistan; hence, mobility-based policy actions need to be analysed by using new and emerging transportation modeling tools for better results in the environment sector. As a first step, more strategic importance should be given to use Railway as means of cost effective, environment friendly, and sustainable freight transport in the country. National Transport Policy-2018 of Pakistan, currently in the process of finalization, should be harmonized with climate change, environmental protection, and sustainable development. Moreover, relevant strategies should also be formulated to reduce transport emissions and to improve the living conditions in the country.
- Strategic Environmental Assessment (SEA) is an analytical and participatory approach that is used to integrate environmental considerations into policies and plans and to evaluate the inter-linkages between economic and social considerations. A good SEA - preparation and implementation - can help identify better opportunities for environmental protection, climate mitigation and adaptation, prevent costly mistakes, build stakeholders' commitment, reduce poverty more effectively, and prevent conflicts. As a tool, SEA is more effective than environmental impact assessment (EIA) while considering larger programmes. Hence, SEA for all special economic zones (SEZs) being set up under CPEC may be planned and carried out as an analytical, participatory and integrated approach to mainstream environmental considerations in CPEC industrial cooperation activities. This will help evaluate the inter-linkages of environment, economic and social considerations.

- Financial mechanisms such as Green Climate Fund (GCF), and others, may also be explored for CPEC projects. In order to tap GCF opportunities for CPEC projects there is a need for understanding of GCF modalities that include GCF basic concept orientation, project identification, development and project implementation.
- Clean Development Mechanism (CDM) is one of the tools defined in the Kyoto Protocol under the United Nations Framework Convention on Climate Change (UNFCCC) that helps countries (such as China in Pakistani context under CPEC) with stringent emission reduction targets in attaining partial acquiescence with their country targets by executing projects intended to reduce emissions in the developing countries (like Pakistan) that yet do not have such stringent compulsions. Through CPEC new projects, Pakistan can take advantage of bringing cost-effective and climate-compatible investments in the country. Therefore, Ministry of Climate Change in Pakistan, along with the federal and provincial Environmental Protection Agencies (EPAs), should prepare plans to seek support from China for Pakistan-focus carbon trading that may finance several new climate-compatible and climate-resilient projects in the country under the overall umbrella of CPEC in the future.



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