71 Years of Pak-China Research & Development Cooperation: Regional Dynamics and the Way Forward

Tahir Mumtaz Awan
Assistant Professor, Department of Management Sciences, COMSATS University,
Head of the China Study Centre, Islamabad, Pakistan

tahir_mumtaz@comsats.edu.pk

Noor-ul-Ain
Student, National University of Modern Languages (NUML), Islamabad, Pakistan

ABSTRACT

Pak-China friendship is one of its kind in the global world that started 75 years ago and is still rising and shining with complete dedication. This research paper deals with the mutual research and developmental projects of China and Pakistan. One of the major projects is the CEPC and many other technological projects for advancement in all the fields of life for both countries. Many countries in the world have reservations regarding this unbreakable bond of friendship between Pakistan and China. For this reason, Pakistan and China face a lot of difficulties while on their way to progress. This paper highlights some of those major problems and provides tentative solutions for solving these issues at the governmental level.

Keywords: Pakistan, China, Pak-China Friendship, Research and Development projects.
Introduction

Pak-China friendship formally began when Pakistan, one of the few countries, recognized China’s existence and supported it in hard times. Pak-China diplomatic relations were established in 1951. These relations became closer when the border treaty between China and Pakistan was signed in 1963. During the Korean War, Pakistan staunchly supported China, providing everything from military help to humanitarian relief. Moreover, Pakistan helped China to achieve membership in the United Nations by planning a secret visit of United Nations secretary, Henry Kissinger, to China via Pakistan in 1971. Both countries signed MoUs and projects regarding military and ammunition. Pakistan also stood hand in hand with the Chinese government at the time of earthquakes during 1960-1970. The collaborative effort of China and Pakistan to develop an unrivalled and sophisticated fighter jet, the JF-17 Thunder, is a live illustration of strong relation. Pakistan and China have partnered on a variety of projects that benefit both nations, including the Karakoram Highway and the Silk Road. China used Pakistan’s air space to enhance and optimize its linkages with the global world. Chinese government backed Pakistan during the wars of 1965 and 1971 in terms of the military as well as diplomatic support. Pakistani and Chinese people are emotionally connected at various points. Both countries were shoulders to each other at the time of COVID-19. China sent a lot of vaccines and other things like masks, tissues, body suits, and ventilators to Pakistani people. Despite changes in the political leadership of China and Pakistan, their relationship kept on getting stronger and stronger with each passing day. This remarkable bond has progressed from excellent and friendly neighbors to a friendship higher than the mountains, deeper than the seas, and sweeter than honey, and has now reached the level of iron brothers.

Research and Development

China is focusing a lot on the research and development sector to enhance its quality of innovation and to indulge every county in the world in mutual trade and cooperation. Being such a good friend, Pakistan is also involved with China in different developmental
projects to help in many ways. On February 09, 2022, a Letter of Intent was signed between Pakistan’s Special Technology Zones Authority and Zhongguancun Belt and Road Industrial Promotion Association to increase technological exchanges between the two countries and build a high-tech environment. This letter will work for the facilitation of both countries in the field of semiconductors, cloud computing, artificial intelligence, robotics, fine tech, blockchain, and biotech. It will help to increase coherence between the people and introduce skilled labor to the job market and utilize the youth to the best of their capabilities.

Another Letter of Intent was signed between Shenyang Economic and Technological Development Area of China and the Special Technology Zones Authority of Pakistan on August 9th, 2022. This letter was signed to create special areas for scientific, industrial, and technological growth with an extra focus on fintech. It will allow both countries to create a world-class technology ecosystem. Multiple free trade agreements have also been struck between China and Pakistan to promote locally manufactured items as well as exceptionally high-tech products and specialized equipment and machinery to be used in various regions and development projects. Apart from this China is investing a lot in the form of Foreign Direct Investment for various projects in Pakistan and the most important of which is the Three Gorges Power Plant along with the energy projects of CPEC. The government has withdrawn the Telephone Industries of Pakistan (TIP) from the list of privatizations and is contemplating relocating the mobile phone handset manufacturing in collaboration with a private sector. The government has reached an agreement with several Chinese businesses to build portable cellphone manufacturing units in Haripur. The measure would help to reduce the country’s imports by charging, creating position, and saving enormous unknown trade

holds. The service envisions researching new plans for future operations and collaborative ventures in the country.³

Pakistan is quickly developing the telecom market with endorsers of cell phones having crossed the 161 million imprints and the country’s populace of around 210 million. Of all the endorsers, around 70 million utilize 3G/4G. There are 71 million broadband endorsers. The nation imports a huge number of dollars of cell phones to meet the nearby necessities by assembling and gathering handheld gadgets not present in the country. Further, the Chinese government can add to the e-administration drive also in unifying information to further develop proficiency and efficiency. As per the State Bank of Pakistan (SBP), the data innovation area brought $1.6 million in Unfamiliar Direct Venture (FDI) in July 2019. The general correspondence area containing (media transmission, data innovation, and postal and dispatch administrations) enrolled $7.8 million net FDI with a $24 million inflow and $16.2 million outpouring during July 2019. Net FDI in programming advancement remained at $0.3 million, with a $0.7 million inflow and a 0.4 million surge. Equipment improvement got no FDI during this period. As per the secretary MoITT, the interest in the IT and telecom area would increment complex with the consideration of this area into the CPEC structure.⁴

The super 5G artificial intelligence technology is soon to arrive in Pakistan with the mutual collaboration of the Chinese government. It will enhance communication with the global world and make it easier for them to showcase their innovative technology to the rest of the world. Pak- China online technology gateway has also been inaugurated on 20th May 2022. This venture would be started as a team with China for the exchange of excess innovation from China. The pace of technological advancement in Pakistan will be set up as soon as possible through Chinese cooperation.⁵ PCJCCI is initiating to lay out a cutting-edge Chinese data and material focus that would be executed in two stages. The principal stage

³ “MINISTRY of INFORMATION TECHNOLOGY & TELECOMMUNICATION,” moitt.gov.pk, https://moitt.gov.pk/NewsDetail/YWUwZWU4NGItNjM4OC00ZTk3LThyZTctODZIZTyzNmY1ZDE0.
⁴ Ibid.
includes the foundation of a presentation community, and the subsequent stage includes the exchange of creative office from China to Pakistan. It has additionally been arranged that they will likewise start innovative online courses for young students through the Pakistan-China Innovation Passage. These courses will pass contemporary information and data related to different areas which incorporate electronic and auto headway, protection, farming, materials, shoe production, synthetic compounds, battery reusing plant, and land warning. Ministry of Information Technology and Telecommunication has moved towards the Ministry of Planning, Development & Reform to enhance IT cooperation between China and Pakistan under the China-Pakistan Economic Corridor (CPEC) structure.

**China-Pakistan Energy Corridor**

China has been working on the development of corporate innovation activity and made it a consistent state strategy. They are very much aware of the fact that innovation is very important for countries to become economically strong. Although moving towards the second phase only, CPEC has played a great road in the improvement of the economy of Pakistan. This improved economy needs counter-terrorism control and increased security for stability. Pakistan has a huge population which is living in rural areas and they are completely dependent on agriculture, mining, farming, fishing, and livestock to meet their basic needs. The earnings of these people are badly affected due to the lack of infrastructure and underdevelopment and scarcity of proper medical facilities for humans as well as animals as compared to the metropolitan areas. Different hackerspaces have been built all over China, geographically located near business incubators to provide facilities to the people so that they can easily work for research and development which eventually accounts for innovation at the greater level. For this purpose, both China and Pakistan are working for the betterment of technological innovation because China believes in peaceful co-existence and win-win

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cooperation. China is investing about 60 billion dollars in Pakistan in terms of various projects initiated via CPEC.\textsuperscript{7}

China is investing the most in the power sector of Pakistan via CPEC which will be beneficial for Pakistan and reduce electricity load-shedding and create a job market for skilled labor. CPEC has been creating a lot of opportunities for Pakistan’s power sector. China is excelling in innovating new technologies and artificial intelligence. They are spending a handsome amount of money on research and development. They have a great national innovation system but it could be further improved in many ways.\textsuperscript{8} Pakistan is facing a lot of challenges in the field of defense, terrorism, and a declining economy. In this regard, CPEC is a very profitable project that can strengthen free trade, overcome major economic problems in Pakistan, and bring greater export benefits to China.\textsuperscript{9}

One of the best ways to improve innovation and research and development is through China Pakistan Economic Corridor. Between 2015 to 2020, about $18.9 billion remained value of CPEC energy projects, according to the National Electric Power Regulatory Authority. This investment gave a great opportunity for Pakistani politicians to reduce power shortage issues\textsuperscript{10} details of which can be seen in figure 1.

\textsuperscript{8}Ibid.
Moreover, CPEC provides an opportunity for both countries to develop and improve their relationships with other regional countries and try to indulge them in the grand project of the Belt and Road Initiative as well. CPEC has improved its ratios of profits and made it easier and quicker for the product to reach the market by providing a vast infrastructure network. Furthermore, one of the first projects of CPEC is the Orange Lines system. It is the first technologically advanced rail transit project under the Belt and Road Initiative and CPEC. According to governmental claims, about 245,000 passengers can travel daily via the Orange Train. Pakistan and China are collaborating on different energy projects via CPEC. Some of these projects are mentioned here in a very detailed manner as given in table 1. The Chinese government started more than $60 billion worth of foundation advancement projects under the CPEC system.\(^{12}\) China is investing about US$ 20 billion in Pakistan, but it is


creating a condition of trade deficit for Pakistan that needs to be addressed at state levels. The year-wise trade deficit is shown in figure 2.

<table>
<thead>
<tr>
<th>Project</th>
<th>Lender(s)</th>
<th>Power Source</th>
<th>Mode</th>
<th>Investor(s)</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Power Hub Generation Company (Private) Limited Two 660-Megawatt Coal-Fired Power Plants (in the town of Hub)</td>
<td>China Development Bank (CDB); Export-Import Bank of China (CIC); Industrial and Commercial Bank of China (ICBC); China Construction Bank (CCB); Bank of Communications</td>
<td>Imported coal</td>
<td>Joint venture (local)</td>
<td>China Power International Holding; Hub Power Company (HUBCO)</td>
<td>Operational</td>
</tr>
<tr>
<td>Sindh Engro Coal Mining Company Thar Block-I</td>
<td>CDB; CCB; ICBC; Habib Bank Limited (HBL); United Bank Limited; Bank Alfalah Limited; National Bank of Pakistan; Faysal Bank Limited</td>
<td>Coal mining</td>
<td>Public-private partnership</td>
<td>Government of Sindh; Engro Energy Limited; Thai Ltd. (House of Habib); HUBCO; HBL; China Machinery Engineering Corporation (CMEC); State Power International (Mendoza);</td>
<td>Operational</td>
</tr>
<tr>
<td>Engro Powergen Thar Private Limited Two 330-Megawatt Coal-Fired Power Plants</td>
<td>CDB; CCB; ICBC; and a consortium of local banks</td>
<td>Local coal</td>
<td>Joint venture (local)</td>
<td>Engro Energy Limited; CMEC; HBL; Liberty Mills Limited</td>
<td>Operational</td>
</tr>
<tr>
<td>Thar Energy Limited (330 Megawatts) Coal Power Project</td>
<td>CDB (lead arranger for the foreign consortium); HBL (lead arranger for the local consortium)</td>
<td>Local coal</td>
<td>Joint venture (local)</td>
<td>HUBCO; Fauji Fertilizer Company; CMEC</td>
<td>Under construction</td>
</tr>
<tr>
<td>ThalNova Power Thar (Private) Limited 49.5 Megawatt Coal-Fired Power Plant</td>
<td>CDB (lead arranger); HBL (lead arranger)</td>
<td>Local coal</td>
<td>Joint venture (local)</td>
<td>HUBCO; Thal Power (Private) Limited; Novatek Limited; CMEC; Descon Engineering Limited</td>
<td>Under construction</td>
</tr>
<tr>
<td>Sachal Energy Development (Private) Limited 49.5-Megawatt Wind Farm</td>
<td>ICBC</td>
<td>Wind power</td>
<td>Local (Pakistan) firm</td>
<td>Arif Habib Corporation</td>
<td>Operational</td>
</tr>
<tr>
<td>HydroChina Dawood Power (Private) Limited 49.5-Megawatt Wind Farm</td>
<td>ICBC</td>
<td>Wind power</td>
<td>Joint venture (local)</td>
<td>PowerChina; Dawood Power</td>
<td>Operational</td>
</tr>
<tr>
<td>Karot Power Company 720-Megawatt Hydropower Station</td>
<td>CDB; CHEXIM; International Finance Corporation; Silk Road Fund</td>
<td>Hydropower</td>
<td>Joint venture (local)</td>
<td>China Three Gorges South Asia Investment Limited (a subsidiary of China Three Gorges Corporation); Associated Technologies Private Limited</td>
<td>Under construction</td>
</tr>
<tr>
<td>Suki Kiniari Hydro 870-Megawatt Hydropower Station</td>
<td>CHEXIM; ICBC</td>
<td>Hydropower</td>
<td>Joint venture (local)</td>
<td>China Gezhouba Group Overseas Investment Company Limited; China Gezhouba Group International Engineering Company Limited; Haseeb Khan (Private) Limited</td>
<td>Under construction</td>
</tr>
<tr>
<td>Azad Pattan Power Private Limited 701-Megawatt Hydropower Station</td>
<td>CDB, CCB; ICBC; Bank of China</td>
<td>Hydropower</td>
<td>Joint venture (local)</td>
<td>China Gezhouba Group Company Limited; Lariab Group</td>
<td>Under construction</td>
</tr>
</tbody>
</table>
Table 1: China and Pakistan’s Joint Venture Power Projects

Figure 2: Year-wise Trade Deficit (2007-2012)

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Factors Affecting Pak-China Relations

Predictably, the US-China conflict has directly impacted the BRI. In a report sent to the US Congress in May 2020, the White House claimed that the BRI will give China excessive political effect and military influence over the majority of the area. The power progress theory predicts a conflict with a growing power since the rising power will generally modify the framework’s guidelines and establishments through force. Graham Allison believes that a growing power challenges the established authority, terming it ‘The Thucydides’ Trap.’ Allison quotes 12 of 16 conflicts that occurred just because of risings and establishing power, and he believes the US and China are on the verge of collapsing. This indicates that emerging powers are frequently enraged by the framework’s continual guidelines, which stimulate dangerous behaviors and make conflict necessary. Further, every state in the triangle proclaimed to be a developing state, with data indicating that China and India are the fastest developing economies, however the case of Pakistan is somehow distinct since it is considerably in opposite order, politically uncertain, and religiously rigid and hard in nature. Assaults on Chinese people and offices by religious dissident and Islamist terrorist groups have increased since the launch of the Belt and Road Initiative-connected China-Pakistan Economic Corridor (CPEC) in 2015. Without a sound policy in place, Afghanistan runs the risk of offering sanctuary to foreign terrorist groups, which would destabilize both the nation and the surrounding area. Therefore, it would be pointless to debate provincial accessibility and initiatives like the Trans-Afghanistan Pipeline and the Central Asia-South Asia Power Project (CASA-1000).

The latest border conflict between China and India has increased the threat to an increasingly precarious security environment. India is under the mistaken impression that Pakistan and China are working together to surround it. Reality is located somewhere else. In

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Asian foreign relations, China, Pakistan, and India form an important triangle. First and foremost, China is the most spectacular communist state in global legislative issues with its own objectives; India, on the other hand, is the most extraordinary producing state in global governmental difficulties. As Pakistan approaches the typical boundary with four key partners in the comparable, the district has hampered dealing with concerns. The biggest, worrisome problem in central Asia is the Afghanistan crisis, which involves key players China and Pakistan. On the opposite side, the Kashmir issue has been raised to the mark of no return the state’s weakness due to their political structure and their authoritative plans are getting the benefit to get the norm for the equivalent.

To make this situation even worse, the Taliban’s ascendance in Afghanistan has increased tension and vulnerability. Outside of Afghanistan, this emerging power structure is causing alarm. A new “Extraordinary Game” is anticipated in Afghanistan. There can be no more unrest in the area. It is essential to step up worldwide measures to end Afghanistan instead of ignoring it. The regulation of China, which is a prominent focus of US international policy, has raised concerns about the BRI and, as a result, the CPEC. Each state in the triangle shares a pained and uncomfortable common boundary which is questioned, and the regions are large to such an extent that they are typically viewed as regional debates. For each juncture, India has expressed its concerns over CPEC, pointing out that it violates global borders by passing through the disputed territory of Kashmir. Pakistan has dismissed Indian claims and has invited India to join CPEC, stating that its economic corridor is not against any nation. Pakistan further said that CPEC was accessible to all nations and that those opposed to the project are opposed to Pakistan’s growth. A territorial agreement founded on cooperation and compromise may be built with the assistance of China, Russia, Pakistan, Iran, Turkey, and the Prominent Asian states. They may help ease ties between Afghanistan and Tajikistan, for instance. Afghanistan may escape a financial collapse with assistance from the US and EU.

India has been completely contradicting the drawn-out plan of CPEC, notwithstanding affirmations from Pakistan and China. India has expressed interest in the project, stressing the passages through Gilgit-Baltistan that it claims. More or less, the Pakistan-China strategic alliance and CPEC have caused major concern among India’s public political experts and

Pakistan and India are legitimate nuclear powers; however, China is one step ahead because to its incredibly durable Security Board membership. Pakistan and China have reached an agreement with the Taliban on international commitment; broad-based political regulation; genuine compassionate assistance; Afghan limit building; respect for fundamental common liberties; and, in particular, the Taliban’s pledge that the Afghan domain will not be used against anyone for psychological warfare.

At the G-7 Summit, American President Joe Biden and European Union (EU) described China’s resistance as “a struggle between vote-based systems and despots.” Beijing has rightfully reacted strongly to American accusations that the Socialist Front in China is the root cause of all evils. China and Pakistan want the whole community to reach out and assist in the replication of Afghanistan. Both parties agree that Afghanistan would cooperate with the CPEC on the restoration of coherence in this specific instance. In order to resolve their disputes with both, Pakistan and China want India to maintain its customary amicable ties with them both. India may have joined the BRI and contributed to the region. The decision was made to navigate for strength and effect in addition to an unpredictable arms race, which has resulted in a significant crucial imbalance in South Asia.

The Way-Forward

Pakistan-China respective relations have extended to the financial domain while participation has been extended in conventional key and guard areas. This has been directed by the merge of geo-key interests, while carefully exploring significant power contests in Asia and IOR. China is confronting a serious psychological warfare issue in Xinxiang. Chinese specialists suspect a connection between the South Asia-based Jehadi gatherings and the East Turkistan development. Pakistan-China relationship has advanced from political furthermore, safeguard-driven participation to improvement and exchange-centered commitment. Present participation is considerably more exhaustive and wide-ranging than previously. Yet, it likewise carries with it a new arrangement of complexities. It requires a reasonable evaluation from the two sides. CPEC has been gainful to the two nations. It has empowered Beijing and Islamabad to move the center around reciprocal relationships away from the key and safeguard cooperation to monetary commitment, exchange, network, and Afghanistan-driven issues. Pakistan can play an intervening job for China in developing the exchange relationship with the nations of Center East, Iran and Afghanistan. Local steadiness

will fundamentally rely on harmony in Afghanistan which would prompt a safe also, secure course to be productive. The nation and the executives ought to search for giving limit-building measures. The Indo-US vital association coordinated to contain Chinese financial development can create its shaded area over the monetary desires of both China and Pakistan. Thusly, China’s preeminent need ought to be coordinated to determine the well-established issues between the two South Asian neighbors, which is say, India and Pakistan.

According to the Power Progress hypothesis, if the laid-out power isn’t fulfilled with rising power it will prompt more rivalry and regulation by the laid-out power. Thucydides made sense that the conflict between Athenians and Spartans was undeniable because Athenians were filling in power. Simply in a couple of many years, China’s financial and military power has developed and has stressed the US, its partners and vital accomplices. Hostile pragmatists like John J. Mearsheimer also, notice extreme security moves and heightening the battle between China and its opponents. These hostile pragmatists see China and the US arising as enemies.\textsuperscript{22} Pakistan-China relations have developed lately. New elements are affecting the course of respective ties. Pakistan-China relations have been utilized in territorial geo-vital issues, most prominently, in Afghan harmony interaction and India-driven issues. Another region, where a serious center is required is individual-to-individual contact between the two nations. As of now, the relationship is at the state level. This should be changed, and individual-to-individual connections should be upgraded. Lately, youth trades have expanded and that’s only the tip of the iceberg more researchers, investigators and understudies have visited the two nations however this, actually fails to impress anyone. In Afghanistan, China consented to assume a bigger part in the Afghanistan struggle, bringing extra geostrategic clout and financial assets to boost local partners. Islamabad and Kabul upheld the commitment to Beijing to advance their separate advantages. In the interim, on the issues related to India, Pakistan and China have kept up with close dexterity. Objectives of territorial harmony and security request a reasonable debate goal component concurred reciprocally or through multilateral means to determine their disparities. The acceleration may not be planned yet takes a chance with existing of an unintentional heightening, brought about by misreading the expectation of the foe. In such circumstances jeopardizing harmony, the UN has a command to mediate to keep away from a calamity. India being the second greatest financial power in the area and having various reservations with the CPEC, can be killed with successful common strategies of Pakistan and

China in bringing equal exchange ties to improve lining states. Both China and Pakistan are coordinating on this front and have a systematized antiterrorism exchange and insight-sharing instrument. Pakistan believes China to be a voice of reason and limitation in foreign relations. It is the normal decision of the two nations to foster a helpful organization that adjusts to the major interests of the two nations. This companionship has endured all hardships because of its exceptional nature and will keep on contributing usefully to territorial harmony and soundness.