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Building Bridges to Shared Prosperity: The Transformative Impact of the Belt and Road Initiative on Regional Connectivity and Sustainable Development in Central Asia and Pakistan

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Abstract: *This article delves into the transformative influence of China's Belt and Road Initiative (BRI) on Central Asia's and Pakistan's connectivity landscape, economic growth, and sustainable development. The study illustrates the successful development of flag-ship infrastructure such as China-Central Asia Gas Pipeline (CCAGP), Khorgos Gateway dry port, China-Kyrgyzstan-Uzbekistan railway and the China-Pakistan Economic Corridor (CPEC), which have brought significant economic gains, promoted regional integration, and brought about better living standards for the countries involved. Based on the empirical evidence, the article makes the following arguments: (1) the BRI has transformed from a mere physical infrastructure initiative to a sustainable development project, with a clear shift towards green energy and renewable resources; (2) the results show the BRI has helped to tackle some of the most urgent infrastructure needs in the region, boosted economic development and created job opportunities, and enabled energy transitions. In 2025, bilateral trade between China and the five Central Asian countries totaled $106.3 billion, more than doubling the previous year's figure, for the first time in history exceeding the $100 billion threshold. In Pakistan, CPEC has so far attracted direct investment of $25.93 billion, achieved a power contribution of 8,000 MW, and executed 38 projects worth of more than $25 billion. The article adds to on-going discussions on infrastructure-led development and provides information-based perspectives on how large-scale connectivity projects can create common prosperity if they are realised through a cooperative approach, which takes local national contexts into consideration and fosters inclusive growth. It believes the BRI is an important model for South-South cooperation which is compatible with the United Nations Sustainable Development Goals (SDGs) and can provide important lessons for infrastructure development in the future.*

Keywords: Belt and Road Initiative, regional connectivity, infrastructure development, sustainable development, Central Asia, China-Pakistan Economic Corridor, economic integration, green transition

1. Introduction

The launch of the Belt and Road Initiative (BRI) in September 2013 was a bold and ambitious attempt to revive the ancient trade routes that once linked Asia, Europe and Africa. As per Hussain (2025), over 150 countries representing 75% of the world's population and more than half of the global gross domestic product are now part of the initiative, making it the biggest infrastructure project in modern history. Also, a report released by the Green Finance and Development Center of Fanhai International

School of Finance at Fudan University and Griffith University in Australia has revealed that the total of construction contracts and investments in the BRI countries reached an all-time high in the first half of 2025, and was higher than the total for the entire year in 2024, which was USD 122 billion (Hussain, 2025). The BRI is seen as enhancing global connectivity and prosperity through infrastructure development, trade initiatives, and environmental sustainable practices (Hussain, 2025).

The flagship project of the initiative in South Asia is the China-Pakistan Economic Corridor (CPEC) that has completely transformed Pakistan's economic scenario in less than 10 years. Early harvest projects have been given significant importance with respect to energy and infrastructure in the first phase of CPEC, which has been successfully completed (Daily Times, 2025). Consequently, Pakistan has experienced an increase in industrial activity, logistics sector improvement, confidence of investors, and a permanent boost in its national economy (Daily Times, 2025). The China-Central Asia Gas Pipeline (CCAGP) has since 2009 supplied more than 500 billion cubic meters of natural gas to Central Asian countries, powering the region's economic development and providing significant revenues and infrastructure development (BP Statistical Review, 2023).

This article explores the benefits of the Belt and Road Initiative (BRI) for Central Asian countries and Pakistan in terms of connectivity and sustainable development. How has BRI helped the participating countries grow economically and develop infrastructure?How has the BRI helped the countries grow economically and develop infrastructure? How has the project helped improve regional integration and trade connectivity? And how is the BRI shaping up to meet the challenge of sustainability, and green development? This study shows that with respect to national priorities, infrastructure-led development, when delivered through cooperative arrangements, can deliver significant and enduring gains for the countries involved, in the case of flagship projects, during the 2025-2026 period.

The article is organized as follows. The theoretical underpinning for the study of infrastructure-led development and regional integration is discussed in the next section. The third section describes the research methodology used. The BRI impacts Central Asia and Pakistan on the economic and infrastructure dimensions are explored in the fourth section. The fifth section examines the role of the initiative in enhancing the connectivity and integration of trade in the region. The sixth section discusses the green transition and sustainable development aspects of the BRI. The final section (8) reflects on the future of the initiative with the social and human development impacts addressed in the preceding section.

2. Theoretical Framework: Infrastructure-Led Development and Regional Integration

Infrastructure-led development is a unique pathway to economic development and regional integration that focuses on the physical linkages as the key foundation of economic change. In contrast, infrastructure-led development is more about creating the roads, railways, ports, and energy infrastructure that will facilitate trade and investment and human mobility (Fingar, 2016; Miller, 2019). This is especially applicable for developing countries with pressing infrastructure needs, which can impede economic growth and market access.

The tenets here are based on the classical development economics paradigm that posits a relationship between infrastructure development and the reduction of transaction costs, better market access and productive investment (Haas, 1958, Schmitter, 1970). The better transport networks are, the less costly they are for businesses to use and the more accessible they are for consumers. The increased accessibility and reduced costs lead to businesses extending to new markets, and consumers being able to get a larger variety of goods and services. Upgrades to energy systems can ensure industrial operations can run as normal, and household lifestyles can be enhanced.

The Belt and Road Initiative (BRI) is an example of China's regional integration strategy based on infrastructure. The BRI is different from Western aid programs, which frequently require political change to receive aid, by focusing on functional cooperation in transport, energy, and trade, rather than

political transformation (Pizzolo & Carteny, 2022). The pragmatic approach has been well received by partner countries that want to develop in their own way, and the linkage with national development strategies has promoted local ownership and commitment to the initiative.

The BRI's transformation from "high-quality development" is a sign of its increased focus on sustainable and inclusive development. China's transition to BRI 2.0, in 2024-25, is to the high-quality development component of BRI (China Briefing, 2025). It has evolved not just on physical infrastructure but also on the digital connectivity, green energy and institutional cooperation, making this an all-round effort for sustainable development.

3. Methodology

The research approach used in this study is qualitative, which focuses on the study of cases, and includes secondary data analysis from policy documents, academic literature, and media analyses; as well as primary data that are obtained from official reports and expert observation. The study highlights flagship BRI projects in Central Asia and Pakistan, including the China-Central Asia Gas Pipeline, the Khorgos Gateway dry port, the China-Kyrgyzstan-Uzbekistan railway and energy and infrastructure projects in CPEC, such as the Gwadar Port, ML-1 railway upgradation and energy infrastructure projects.

The analytical approach was used thematic analysis to analyze the patterns associated with economic growth, infrastructure development, regional connectivity, energy security and sustainable development. Process tracing is used to outline causal pathways connecting infrastructure investments to developmental outcomes. Comparative analysis is also employed, analyzing the benefits of BRI projects in various countries and industries.

The sources of data are official reports from the Chinese and partner government agencies, publications by the World Bank, Asian Development Bank, academic papers on infrastructure development and regional integration, and media reports from reputable sources. The time frame analyzed is from 2025 to 2026, which covers the latest progress in the development of the initiative.

According to the World Bank, the infrastructure of the BRI could increase the export volumes of Central Asian countries by 30 percent and Central Asian countries could see the growth of GDP by 2-3 percent during 10 years (Businesscraft, 2025). The World Bank has also highlighted that the real income gains in the Kyrgyz Republic, Pakistan and Thailand are expected to be greater than 8 per cent, and real income in Belt and Road corridor economies would increase two to four times with the removal of trade restrictions and reform of the trade facilitation processes to improve the ease of doing business at the border (The Financial Express, 2025).

4. Economic and Infrastructure Transformation in Central Asia

4.1 Trade Growth and Economic Integration

The economic development of Central Asia in the era of BRI is one of the most amazing development stories of the twenty-first century. China and the five Central Asian countries are currently conducting bilateral trade worth $106.3 billion in 2025, an increase of 12 percent from the previous year (China Daily, 2026). In total, exports amounted to $71.2 billion, an increase of 11 percent compared to the previous year, and imports reached $35.1 billion, a 14 percent increase year-on-year, according to the China Daily report (2026). The bilateral trade volume is greater than $100 billion for the first time in 34 years since they established diplomatic relations in January 1992 (China Daily, 2026).

This natural development is attributed to the increasing economic integration through the investment of BRI infrastructure. For the first time in the history of Central Asian trade, the volume of trade between China and Central Asian countries crossed the $100 billion mark, with the amount increasing for the last five years (Internews Pakistan, 2026). In 2025, China has become the largest trading partner for

both Central Asian countries and all five Central Asian countries (China Daily, 2026). Both of these achievements are laudable and much deserved (China Daily, 2026).

Before the COVID-19 pandemic, the annual value of trade between each nation was more or less level at $40 billion and $50 billion. After 2022, it rose to a new level each year: $70.2 billion in 2022, $89.4 billion in 2023, $94.8 billion in 2024, and $106.3 billion in 2025 (China Daily, 2026). In 2025, the scale of trade between China and the five Central Asian countries grew rapidly, the structure was optimised, and took on various forms (China Daily, 2026). Now, Central Asia is one of the fastest-growing regions of China's foreign trade, and the trade structure is shifting to newer and better quality goods (China Daily, 2026).

More than half of the output of electromechanical products is exported and the market shares of the new triumvirate – electric vehicles, lithium batteries and solar cells – keep growing steadily (China Daily, 2026). The import structure is diversifying, with non-resource products such as chemicals, steel and agricultural products gaining in importance (China Daily, 2026). The trade of cross-border e-commerce has reached $800 million, and the increase rate is over 20 percent (China Daily, 2026).

4.2 Infrastructure Development and Connectivity

The potential of Central Asia is immense, but it is still largely underutilized, and the region is being targeted by investment.Central Asia, a landlocked region that is constrained by its geography, is being targeted for increases in investment in order to unlock its potential (Hussain, 2025). To do this, $25 billion is being allocated to build the energy, mineral, mining and metal industry of the region, and this represents contracts that are worth $66.2 billion and which translate investment into physical infrastructure (Hussain, 2025). This is an integrated initiative to create the localized prosperity that the region's five nations has long sought and its ongoing despite the global economic crisis indicates its economic good health into the future (Hussain, 2025).

The Trans-Caspian International Transport Route (TITR) or the Middle Corridor is making strides from the China-Kazakhstan border through Kazakhstan, Turkmenistan, Azerbaijan, Georgia, Turkiye and into Europe (Hussain, 2025). The China-Kyrgyzstan-Uzbekistan railway is its complementary project that would help to cut down on the transit time, the number of loading and unloading stations, and the cost of transporting time-sensitive goods, including agricultural products, which would further solidify its position as an important node in the global transport network (Hussain, 2025). The railway will be a vital link to the vast railway network in China that runs to Pacific Ocean ports, giving landlocked Central Asian states access to the sea (China Daily, 2025). Approximately 85 % of the rail freight between China and Europe goes through Kazakhstan (Hong Kong Business, 2025).

For these ten years, China has been working with the governments of Central Asian countries to develop critical lines of transport into a New Silk Road via the steppe (Korzhumbayev, 2025). The most iconic project is the China-Kyrgyzstan-Uzbekistan railway, whose construction contract was inked in 2024 following several years of negotiations. This line will make the China-Europe rail route 900 kilometers shorter, significantly cutting the time and expenses (Korzhumbayev, 2025). There have also been significant investments in road infrastructure and logistics centres. Kazakhstan is a major contributor to the BRI and has developed the Khorgos Dry Port on the China-Kazakhstan border with Chinese products travelling by rail to Europe.

4.3 Energy Security and Diversification

The China-Central Asia cooperation and the exchange of energy are good examples of the depth and strategic significance of the China-Central Asia partnership. Abundant natural gas and mineral resources in Central Asia have a sure and large market in China. Launched in 2009, the China-Central Asia gas pipeline has supplied more than 500 billion cubic meters of gas to China since that time, supporting China's economic development and providing significant revenues and infrastructure

development for the pipeline countries of Turkmenistan, Uzbekistan and Kazakhstan (BP Statistical Review, 2023).

The construction of the fourth west-to-east gas pipeline in 2025 has further added the cross-regional allocation capacity of natural gas. The pipeline is expected to be in service for 15 billion cubic meters of gas annually, equivalent to 27 million tons of conventional coal and able to bring more natural gas from Central Asia to key economic areas, such as the Bohai Rim and central and southern coastal areas (CNPC Annual Report, 2023). This upgraded network will make a significant contribution to the optimization of the regional energy structure, air quality improvement, and high-quality economic and social development that will take place along the route (CNPC Annual Report, 2023).

One of the largest renewable energy initiatives in Central Asia, the Zhanatas Wind Farm in Kazakhstan produces about 350 million kilowatt-hours (KWh) of wind power each year (Korzhumbayev, 2025). The project not only resolves the issue of the scarcity of electricity in the region, but is also aligned with Kazakhstan's environmental priorities, as in the process of implementation the necessary elements and conditions are created for Central Asia to transition to energy sustainability, which is made possible by China's support. In Uzbekistan, the central PV power plant, constructed within the framework of the BRI project, supplies clean energy to thousands of homes, thus providing a new impetus to the sustainable development of the region (SASAC, 2025). A 100 MW solar station in Namangan province, east Uzbekistan, financed by China, is already operational (Korzhumbayev, 2025).

5. Pakistan's Transformation Under the China-Pakistan Economic Corridor

5.1 Energy Security and Infrastructure Development

At the time of inception of CPEC in 2013, Pakistan was beset with severe energy shortage, lack of infrastructure and no growth. Who would have thought that the corridor would have such an impact on the economic landscape of the country in 10 years? However, today that vision has turned reality, significantly impacting the connectivity, energy security and development of Pakistan (Daily Times, 2025).

The first leg of CPEC has lived up to what seemed impossible. In energy, 17 large projects worth 8,904 megawatts were finished and an additional two coal mines were opened, while the country's first 660 kV HVDC transmission line was completed, with total investments of almost $18 billion (Daily Times, 2025). The projects resolved the power shortages that were plaguing households and industries. The neglected coal blocks of Thar has now started generating electricity, energy for industries and homes and secured Pakistan from energy crisis. Today, CPEC is a lamp in the homes for millions of citizens, job in the communities and a new future in their hopes (Daily Times, 2025).

CPEC has brought in $25.93 billion worth of direct investments, contributed 8,000 megawatts of power to Pakistan, constructed 510 kilometers of motorways and installed 886 kilometers of transmission lines (Pakistan Today, 2025). One of the landmark energy projects accomplished is the 1,320-megawatt China Hub Coal Power Plant which was accomplished by an Independent Power Producer (IPP) at a cost of $1.9 billion and which has helped deliver much needed baseload power to the national grid (Pakistan Today, 2025). The 300MW Gwadar Coal Power Project is another project being developed to stabilize the power supply to Gwadar and the adjacent districts, with a total cost of $542Million (Pakistan Today, 2025).

In the first year since its commissioning, the Suki Kinari hydropower project produced more than 2.7 billion kilowatt-hours of power in the Mansehra district of Khyber Pakhtunkhwa province (Pakistan Today, 2025). The project has significantly reduced the dependence on imported fuel, thus enhancing the energy security of the country and also reduced the expenditure of the country on imported fuel (Pakistan Today, 2025). The regional head office of China Energy Engineering Corporation has now been set up in Pakistan, which reflects the long-term commitment of China to energy cooperation

(Pakistan Today, 2025).

5.2 Transport Connectivity and Digital Infrastructure

In addition to energy, CPEC's transportation infrastructure has brought the nation together in an unprecedented manner. 888 km of modernised roads and motorways have already been completed at a cost of $6.7 billion and 853 km more are currently being constructed (Daily Times, 2025). In all of these, the Karakoram Highway section of Havelian-Thakot is a stellar example, which is acclaimed for its excellence and strategic importance in the region. More than just paved roads, these highways serve as arteries of commerce, cutting travel times, breaking geographical barriers to new markets, and bringing isolated regions into the national fold of development (Daily Times, 2025).

In addition to roads, the 820-kilometre optical fibre cable from Khunjerab Pass to Rawalpindi has provided Pakistan with its first land-based digital link-up with China (Daily Times, 2025). Connectivity infrastructure which will give a boost to the trade and logistics, along with socioeconomic integration is seeing rapid development; with the Eastbay Expressway Phase-I ($179 million), the Khuzdar-Basima Road (110 kilometers, $118 million), the New Gwadar International Airport (landmark $230 million Chinese grant) and the Gwadar Port and Free Zone ($300 million BOT project, improving Pakistan's marine trade capabilities, Pakistan Today, 2025).

In October 2025, the Orange Line Metro train, which is the first electric railway project under the CPEC, completed five years of uninterrupted and safe service (Daily Times, 2025). The project is a shining example of professional partnership and joint venture spirit between China and Pakistan, which involves mutual investment, transparency and joint responsibility for the welfare of the citizens (Daily Times, 2025).

5.3 Trade Growth and Economic Opportunities

In 2025, Pakistan exported $153 million worth of seafood to China, which is a 25 percent rise from 2024 (Daily Times, 2025). In 2025, Pakistan exported 21.8 million kg of frozen fish to China alone, which is nothing but a testament to the success of trade by the improving infrastructure (Daily Times, 2025). The tangible economic gains of connectivity investments for Pakistanis is brought to light through these exports.

The second phase of CPEC, which started in 2025, has five new corridors that have been identified under the theme of industrialisation through Special Economic Zones (SEZs) (The News, 2025). The 2025-2029 Industrial Cooperation Action Plan spells out the roadmap for Pakistan's transformation into a competitive and integrated point of activity in the regional value chains (The News, 2025). The first decade of CPEC had provided Pakistan with new roads, new power plants and a new port, as one observer wrote. Within the next ten years, we need new industries, new technologies, new markets, new opportunities for our people (Daily Times, 2025).

In total, around 38 projects were finished in various sectors with a value of over $25 billion (Pakistan Today, 2025). Due to these achievements, Pakistan has seen increased industrial activities, logistics advancements, and investor confidence, providing a lasting boost to the country's economy (Pakistan Today, 2025). The Chinese Ambassador to Pakistan has said that 90% of CPEC projects have been accomplished and the fruits can be consumed in the whole region (SAMAA TV, 2025). He said Pakistan's economy had greatly improved, as the growth rate had gone up to 2.6 per cent (SAMAA TV, 2025).

6. Green Transition and Sustainable Development

6.1 Renewable Energy and Climate Action

The BRI has shown greater sensitivity to the global environmental needs and climate vulnerabilities of developing countries (Hussain, 2025). Countries like Pakistan are especially vulnerable to the

consequences of climate change; with the increasing temperatures, the melting of glaciers, and devastating flash floods. The BRI has also seen a significant Green Transformation; more than 65 percent of the projects are renewable energy projects (Hussain, 2025).

Karot Hydropower Project is an example of sustainable development in Pakistan. Karot is the first large-scale hydropower project under the BRI scheme to be completed and operational (PTV, 2025). Produces around 3,206 gigawatt-hours of clean energy per year and helps to reduce carbon emissions by an estimated 3.5 million tons of carbon dioxide per year (PTV, 2025). The project has also developed a comprehensive Environmental and Social Management Plan (ESMP) to achieve long-term sustainability (PTV, 2025). The project also implemented a number of community-based initiatives that have greatly enhanced the quality of life in the community, as well as a comprehensive Biodiversity Management Plan to ensure that no net loss of flora and fauna occurs in the area (PTV, 2025).

The upcoming transition to CPEC 2.0, featuring the Green Corridor initiative that prioritizes low impact on climate change, green manufacturing, electric mobility, climate-resilient infrastructure, and low-carbon industrial cooperation, presents a generational chance to promote sustainable development (The News, 2025). The Action Plan 2025-2029 outlines five thematic corridors based on the Five Es of Pakistan, which are Growth, Livelihood, Innovation, Green and Openness (The News, 2025).

The second stage of CPEC will serve as a strategic vehicle to shift Pakistan's development path towards a green industrialization, which will be beneficial to connect the country with low carbon technologies and encourage sustainable growth (China.org.cn, 2025). Experts and officials have said that the CPEC's second phase needs to prioritize renewables, battery storage and eco-industrial parks (China.org.cn, 2025). Pakistan and China will also push exports from SEZs, better water resource management, and climate friendly projects, developing climate friendly energy infrastructure and taking forward a Green corridor project (Daily Times, 2025).

6.2 Clean Energy Projects in Central Asia

The BRI green projects contribute to a cleaner energy landscape, employment opportunities, and sustainable urban development in Central Asia. One of the biggest renewable energy projects in Central Asia is the Zhanatas Wind Farm in Kazakhstan with an annual capacity of 350 million kilowatt-hours (Korzhumbayev, 2025). Solar power, as of yet, has become operational in the region of Namangan in the eastern part of Uzbekistan (with Chinese support), with a capacity of 100 megawatt (MW) (Korzhumbayev, 2025). Chinese energy projects, such as wind and hydro, power thousands of households in Kazakhstan, where the shift to a sustainable energy model is supported (Korzhumbayev, 2025).

These green investments also mark the BRI's changing focus to support countries' sustainable development and energy transition (Hussain, 2025). China and the five Central Asian countries are cooperating to build out fiber-optics and cross-border data infrastructure so that a new generation of digital commerce can take place (Korzhumbayev, 2025). The emphasis on high-quality development will strengthen China-Central Asia cooperation, moving from traditional areas such as energy and infrastructure to new energy, digital economy, artificial intelligence, and modern agriculture, etc.

The value of construction projects involving green energy, such as hydropower, was worth USD 5.7 billion in the first half of 2025 (China Daily HK, 2025). Whilst just considering investments, Chinese investments in green energy and hydropower have increased to $3.1 billion in the first half of 2025 against $1.3 billion in the same period in 2024 (China Daily HK, 2025).

7. Impacts on social and Human development

7.1 Employment and Skills Development

The BRI has generated a huge amount of employment and enhanced the living standards of those

countries involved. Currently, over 150 countries have joined BRI, over half a million jobs have been created globally and BRI transport corridors are expected to boost global rail income by 2-4 percent (APP, 2025). Other beneficial effects of the BRI are job creation, with the Special Economic Zones projected to generate up to one million jobs by 2030 (WTO, 2025), and more than 75,000 jobs anticipated to be generated through CPEC projects.

In April 2025, an important Memorandum of Understanding was signed in Pakistan to kick off a comprehensive workforce training and capacity development program, focusing on 10,000 youth from the country in the first phase (Gwadar Pro, 2025). It is a fully funded project that is anticipated to be expanded to train 100,000 youths in the BRI countries in the year of 2025 (Gwadar Pro, 2025). The project is based on a two-part program, one that emphasizes training and the other job placement. At the end of the training, the participants will be connected to employment opportunities in the BRI-related enterprises, particularly Chinese companies in Pakistan and other cooperation countries (Gwadar Pro, 2025). It means that the program has an economic impact, which makes the skills gained meaningful livelihoods and helps to achieve sustainable economic growth (Gwadar Pro, 2025).

CPEC Phase II focuses on people-centred development and Pakistan has suggested to train 10,000 Ph.D. scholars (Pakistan Today, 2025). The second phase of CPEC is geared towards the modernization of Pakistan's agriculture, the development of industrial cooperation relationships and technology partnerships (Radio Pakistan, 2025). Future skills programs in information technology, robotics, fintech, and biotechnology are part of the discussion as both sides seek to explore the possibility of establishing CPEC future skills in these fields (Radio Pakistan, 2025).

7.2 Poverty Alleviation and Community Development

Social progress is the emphasis of CPEC Phase II, as there is an improvement in education and healthcare facilities and poverty alleviation through Chinese-supported community projects. With the development of new industrial parks and smart port facilities, Gwadar is being developed day by day and is enhancing Pakistan's trade relations with the region (APP, 2025). CPEC has opened new avenues in the field of livelihood, trade and connectivity, as Pakistan's President had noted. The overall goal is to make sure these opportunities are available to all valleys and all villages, thereby achieving shared prosperity for all (APP, 2025).

Examples of completed grant-based projects in Balochistan are Gwadar Smart Port City Master Plan (PK$4 million), Water Treatment and Water Supply Schemes (PK$130 million), Pak China Friendship Hospital (PK$100 million), Technical and Vocational Institute, Gwadar (PK$10 million), 1.2 million gallon per day Gwadar Desalination Plant (PK$13.97 million) and Solar Lighting Units for Underserved Areas (15,000 units, Pakistan Today, 2025). Socioeconomic uplift continues to be a key aspect of CPEC's development approach (Pakistan Today, 2025).

China and Pakistan, via CPEC, are not only investing in the connectivity, road networks, industries, and energy sectors in Balochistan but are also eager to boost the living standard of the people of Balochistan (APP, 2025). The project has suggested to pilot the poverty alleviation system in the poorest districts of Pakistan and modernization of agriculture using agro-logistics and digital platforms (APP, 2025). Such actions are in line with the overall idea of "a community with a shared future," in which economic cooperation between different countries develops at an exponential rate, and development gains are enjoyed by everyone.

8. Regional Integration and Geopolitical Cooperation

8.1 Multilateral Frameworks and Institutional Alignment

One of the factors for the effectiveness and popularity of China-Central Asia cooperation is its principles of mutual benefit, taking into account the priorities of the development of the national interests and non-interference (China Daily, 2026). China designs its investments and projects to meet local needs,

ensuring ownership and alignment with the local goals. This is a flexible model as compared to more prescriptive ones, and has garnered trust and admiration by all regions (China Daily, 2026).

The BRI is consistent with Kazakhstan's Bright Road Initiative, Kyrgyzstan's National Development Program, Tajikistan's National Development Strategy, and Turkmenistan's development strategy on revitalizing the Great Silk Road, as well as Uzbekistan's development plan of New Uzbekistan (China Daily, 2026). This alignment makes sure BRI projects do not replace national development plans.

China-Central Asia Secretariat was established in 2024, and more than 10 ministerial dialogue mechanisms were initiated, which are essential coordination platforms (Korzhumbayev, 2025). These channels are used for the development of customs harmonisation, facilitation of customs facilitation measures and unification of the customs standards of logistics (Korzhumbayev, 2025). The initiatives are similar to the European Union's connectivity, adapted to the unique challenges in Eurasia (Korzhumbayev, 2025). The existing mutual visa exemption treaties between China and Kazakhstan and Uzbekistan have already led to a tourism boom (Korzhumbayev, 2025).

8.2 Connecting Central Asia with South Asia

It is worth noting that the recent visit of the President of Uzbekistan, Shavkat Mirziyoyev, to Pakistan and that of the President of Kazakhstan, Kassym-Jomart Tokayev, has greatly expanded the potential, importance and utility of connecting CPEC with BRI (APP, 2025). Successfully combining these initiatives is expected to substantially boost trans-regional connectivity, socio-economic integration, infrastructure development, and banking and finance cooperation, while placing countries on the path of sustainable economic growth (APP, 2025).

The Trans-Afghan railway will be the first direct railway link between Central Asia and the South Asian countries, which will open new opportunities for trade and economic cooperation in the region (PID, 2025). This would help Pakistan establish the shortest and most efficient trade route with Central Asia and, after its implementation, the regional economy would be built on a strong footing, said federal minister Hanif Abbasi (Dawn, 2025). The railway will allow Central Asian countries to have an independent route straight to Gwadar Port in Pakistan and Karachi Port (APP, 2025).

Planning Minister of Pakistan, Ahsan Iqbal, said that linking CPEC with the Central Asian countries will help in economic cooperation and stability in the region (Arab News, 2025). He said the BRI had revived the ancient spirit of the Silk Road with its modern infrastructure, trade and people-to-people linkages (APP, 2025). Pakistan wants to emerge as the best transit route for Eurasian trade, it is all about being efficient, reliable and cost-effective (Arab News 2025).

9. Policy implications and future directions

9.1 The Evolution to Quality Infrastructure

The BRI has developed from an infrastructure project to a sustainable development project. Over 150 countries have already participated in the program, and the total amount of investment and construction contracts is approaching $1 trillion (as of early 2025) (Hussain, 2025). The development of the initiative demonstrates the trend toward quality infrastructure, green development and inclusive growth.

The implementation of CPEC 2.0 is a good example of this transformation. The upcoming decade should not just be about the laying of infrastructure but going to the effort of industrializing, creating jobs, increasing exports, and empowering people (Daily Times, 2025). Infrastructure to industry, this is a huge geo-economic synergy. It is a route for Pakistan to attract foreign direct investment, enhance its export competitiveness, and exploit its strategic position to emerge as a manufacturing hub in the region. The EU-China collaboration delivers strategic solutions to a number of key objectives for China, such as industrial upgrading, resource security, and access to regional markets (Daily Times, 2025).

9.2 Financing and Private Sector Participation

Funding of BRI projects is diversifying. China, however, has created opportunities for multilateral institutions with its withdrawal from big, sovereign loans. The Karachi-Rohri segment of the ML-1 railway project, backed by $2 billion Asian Development Bank (ADB) has been indicative of bankability, attracting public-private partnerships and private terminals (Daily Times, 2025). This diversification mitigates risks of dependency and brings in expertise and efficiency.

The role of the private sector is becoming more significant. From being massive sovereign projects, CPEC is now transforming into swift private projects that will deliver profits to investors from the Gulf, China, and Asia, via rail improvement, port development, booming special economic zones, and mid-mile logistics connecting farms to global markets (Daily Times, 2025). The era of blended deals, de-risks and de-risks again – the emergence of multilateral players in China's pivot of its funding policy (Daily Times, 2025).

9.3 Sustainability and Environmental Governance

The BRI's green transition is an expression of a greater sensitivity to the world's environmental needs. The focus of renewable energy, low-carbon transportation and eco-industrial projects makes the initiative a tool for promoting the United Nations Sustainable Development Goals (Hussain, 2025). It is necessary to reinforce monitoring and use sustainable solutions to transition to green infrastructure. Under the Green Corridor of CPEC 2.0, the opportunity is there for a generational approach to ensure environmental standards are met through bilateral commitment to a unified approach to governance and transparency (The News, 2025).

The CAREC Institute (2025) states that China is ready to continue to advance practical cooperation with all CAREC member countries as well as to help the region to transform and develop for shared prosperity. China and the five Central Asian countries are jointly laying a foundation for a new generation of digital commerce by building fiber-optic networks and cross-border data infrastructure (Korzhumbayev, 2025). New opportunities are opening up in the field of freight logistics, customs clearance using blockchain technology, and the monitoring of the efficiency of infrastructure based on satellite data (Korzhumbayev, 2025).

10. Conclusion

This article has explored the transformative impact of the Belt and Road Initiative on the region's connectivity, economic growth, and sustainable development in Central Asia and Pakistan. The analysis shows that in a cooperative development arrangement that is grounded in infrastructure development principles, which also takes into account the national development priorities, a significant and sustainable benefit may be achieved for participating countries.

Central Asia has been a case in point of how BRI has addressed critical infrastructure shortcomings, invigorated the economy, and promoted energy transition. In 2025, trade volume between the two regions totaled $106.3 billion, an increase of 12 per cent from the previous year and the first time it surpassed the $100 billion mark in history (China Daily, 2026). China-Central Asia Gas Pipeline (CCAGP) has supplied more than 500 billion cubic meters of gas, supporting economic development and bringing significant benefits in terms of infrastructure and revenue generation to the region (BP Statistical Review, 2023). The China-Kyrgyzstan-Uzbekistan railway will cut the time and expenses of the China-Europe rail route by 900 km, according to Korzhumbayev (2025).

Pakistan's evidence shows the impact of CPEC on the country's economy. Seventeen energy projects with a total capacity of 8,904 megawatts have overcome the crippling power shortages (Daily Times, 2025). The 888 kilometres of modern highways are the result of eight major $6.7 billion transport projects (Daily Times, 2025). The Orange Line Metro Train has ushered in modern public transportation in Lahore (Daily Times, 2025). The initiative has gained $25.93 billion in direct investments and

investments in 38 projects have exceeded $25 billion (Pakistan Today, 2025).

This is a major shift in the BRI, with more than 65 percent of identified projects since then being in renewable energy (Hussain, 2025). The Karot Hydropower Project produces around 3,206 GWh of clean electricity every year, reducing an estimated 3.5 million tons of carbon dioxide emissions annually (PTV, 2025). Kazakhstan's Zhanatas Wind Farm and Uzbekistan's Namangan solar plant illustrate the potential for infrastructure investment to support environmental sustainability (Korzhumbayev, 2025).

The BRI's impact on social development is also very important. Youth are being trained for the new jobs in the pipeline, with more than 75,000 jobs expected to be created as a result of CPEC projects, and Special Economic Zones are expected to create up to 1 million jobs by 2030 (WTO, 2025). Participating countries have been benefiting from poverty alleviation schemes that are enhancing their citizens' standard of living. Economies are being integrated and shared prosperity is emerging at the regional level.

In conclusion, the Belt and Road Initiative is a great model of south-south cooperation for sustainable development and is closely related to the United Nations Sustainable Development Goals. It addresses issues of infrastructure-led development, prioritisation of the national agenda and green transition, lessons that are pertinent for the development of future infrastructure. The next 10 years will see the program grow into an instrument that can continue to produce shared prosperity in the participating countries as it evolves to provide quality infrastructure, sustainable development and inclusive growth.

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