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Multi-Dimensional Analysis and Adaptive Governance Path of the Ongoing Challenges of China-Pakistan Economic Corridor

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Abstract: The China-Pakistan Economic Corridor, as a flagship project of the "Belt and Road Initiative", has a profound impact on regional economic integration and the geopolitical landscape through its long-term stable development. This study focuses on the systemic challenges encountered during the construction and operation of the corridor. By integrating interdisciplinary theoretical frameworks, the study provides an in-depth analysis of the underlying logic of core issues such as geopolitical competition, economic sustainability challenges, and socio-cultural differences. The study concludes that the current cooperation mechanisms lack sufficient coordination in addressing complex risks. To enhance the resilience of the corridor, it is necessary to develop an adaptive governance system that includes institutional innovation, industrial collaboration, and cultural integration. The theoretical and practical significance of this paper lies in understanding the development patterns and offering policy recommendations to address these challenges.

Keywords: China-Pakistan Economic Corridor; Geopolitical Risk; Economic Sustainability

1. Introduction

The China-Pakistan Economic Corridor (CPEC), as a flagship project of the "Belt and Road Initiative" (BRI), represents a pivotal experiment in contemporary international cooperation, blending geopolitical strategy, economic integration, and cross-cultural governance. Positioned at the intersection of South Asia, Central Asia, and West Asia, CPEC transcends traditional bilateral frameworks to embody a transformative force in regional and global political economy. Since its official launch in 2013, the corridor has achieved significant progress in core areas such as transportation infrastructure and energy development projects. However, its ambitious scope has also exposed systemic vulnerabilities, including geopolitical contestation, structural imbalances in economic sustainability,

and socio-cultural friction—each reflecting deeper tensions inherent in the anarchic international system, institutional path dependencies, and cognitive divides.

From a political science perspective, CPEC serves as a critical case study for analyzing the interplay of power structures, institutional innovation, and normative frameworks in shaping transnational governance outcomes. Geopolitically, the corridor of strategic value has intensified great-power competition, particularly in the Indo-Pacific theater, while Pakistan domestic political fragmentation further complicates risk mitigation. Economically, the project grapples with the paradox of infrastructure-driven growth amid weak industrial symbiosis and debt sustainability concerns, highlighting the limitations of state-centric development models. Socially, cultural mismatches and asymmetric perceptions undermine grassroots legitimacy, revealing gaps in the "high political trust—low institutionalization" cooperation paradigm.

This paper employs an interdisciplinary lens, integrating theories of international relations, institutional economics, and social constructivism, to deconstruct the multidimensional challenges of CPEC and propose adaptive governance pathways. By interrogating the logics of power distribution, institutional evolution, and cognitive construction, the study contributes to broader debates on regional governance innovation and the resilience of South-South cooperation in an era of geopolitical flux. The findings aim to inform policy recalibration for the CPEC stakeholders while advancing theoretical discourse on the nexus of infrastructure diplomacy, developmental statecraft, and non-traditional security governance. A thorough analysis of these challenges origins and transmission mechanisms, and the development of targeted policy responses, is crucial for enhancing the effectiveness of the "Belt and Road Initiative" and innovating international cooperation models, offering both theoretical insights and practical guidance.

2. Literature Review and Research Hypothesis

2.1 Literature Review

CPEC is a pilot project of the Belt and Road Initiative. From the proposal of the corridor concept to its subsequent construction and development, it has received high attention from the leaders of China and Pakistan as well as all sectors of society. Cheng Yunjie conducted a review of the development trends and characteristics of China-Pakistan trade from 2003 to 2014, which represents an analysis of the prelude and initial phase of the "Belt and Road" construction, accompanied by corresponding policy recommendations. Building on an analysis of the current state of China-Pakistan economic and trade relations as well as enhancement strategies, Wu Fuhai offered a forward-looking outlook on the future prospects and opportunities of bilateral trade, which may be viewed as a mid-term reflection during the rapid development stage of the CPEC. Furthermore, Shi Yuangang and Chu Xiao clarified the inherent advantages in areas such as trade structure, bilateral relations, and trade policies, while also highlighting persistent issues including trade imbalances, protectionist tendencies, and inadequate infrastructure.

In conclusion, these studies offer valuable insights into the analysis of China-Pakistan economic and trade relations, policy recommendations, and future prospects. However, there remains significant room for further exploration in these areas, which is precisely the focus of the current research.

2.2 Research Hypothesis

CPEC, as a flagship project under the "Belt and Road Initiative", embodies not only opportunities for regional integration and economic revitalization but also complex, multi-dimensional challenges that persist throughout its implementation. These challenges stem from intertwined geopolitical, economic, and socio-cultural factors, each of which shapes the governance landscape in distinctive ways. This study adopts a multi-dimensional analytical approach to unpack these challenges and explores adaptive governance strategies suited to each domain. From a geopolitical perspective, CPEC operates within a highly contested regional environment. The corridor is viewed by global and regional powers not merely as an economic initiative but also as a strategic maneuver, prompting varying degrees of support, suspicion, or resistance. Concurrently, Pakistan internal political instability—including shifting civil-military dynamics, provincial-center tensions, and fluctuating leadership—further complicates project continuity. It is therefore reasonable to expect that the escalation of great-power competition, coupled with domestic political fragmentation, is likely to amplify the risks associated with CPEC governance and implementation. On the economic front, CPEC faces persistent difficulties in achieving sustainable outcomes. These are not only due to exogenous financial constraints but also embedded in institutional path dependencies, such as fragmented bureaucratic responsibilities, redundant approval mechanisms, and rigid governance models inherited from past regimes. Moreover, the lack of industrial policy coordination—both horizontally across ministries and vertically between central and local governments—often leads to inefficiencies, misaligned investment priorities, and reduced economic spillover effects. These structural challenges raise important questions about the institutional adaptability required to achieve long-term sustainability. The socio-cultural dimension introduces further complexity. CPEC spans diverse ethnic, linguistic, and religious regions, where local populations may harbor concerns over displacement, inequitable resource allocation, or lack of consultation. In such settings, socio-cultural barriers—including mistrust, limited cross-cultural understanding, and exclusion from decision-making—may weaken the legitimacy of CPEC initiatives in the eyes of local communities. These barriers are likely to moderate the relationship between project implementation and grassroots support, potentially undermining project outcomes if left unaddressed. Guided by the above analysis, this study formulates the following hypotheses:

- H1: Geopolitical risks associated with CPEC are positively correlated with both the intensity of international great-power competition and the degree of domestic political fragmentation in Pakistan.
- H2: Economic sustainability challenges in CPEC are rooted in institutional path dependence and insufficient coordination in industrial policy design and implementation.
- H3: Socio-cultural barriers negatively moderate the relationship between project implementation and local community support, weakening perceived legitimacy and cooperation.

3. Strategic Connotation and Contemporary Value of the China-Pakistan Economic Corridor

CPEC serves as a pivotal component of the "Belt and Road Initiative", deeply embedded in the dual processes of global geopolitical restructuring and civilizational dialogue. Spatially, the corridor, characterized by its land-sea integration, acts as a critical link in the trade network spanning Europe, Asia, and Africa. Its optimized energy transportation routes directly impact the reshaping of energy security in western China. Institutionally, the high political trust-low institutional cost cooperation model, built on an all-weather strategic partnership, provides a practical example for innovative cooperation mechanisms among developing countries. Culturally, the protective development of diverse cultural heritage along the route serves as a tangible platform for the mutual appreciation and exchange between Chinese and Islamic civilizations. This multi-dimensional strategic value not only highlights the corridor of role as an engine for regional economic integration but also positions it as a frontier area for testing the resilience of international cooperation in the era of declining globalization.

3.1 Hub Position in the Geo-Economic Pattern

CPEC stretches from Kashgar in Xinjiang, China, to Gwadar Port in Pakistan, covering a distance of approximately 3,000 kilometers and spanning a population of over 300 million. This unique geographical position makes it a key intersection of the "Silk Road Economic Belt" and the "21st Century Maritime Silk Road" under the "Belt and Road Initiative", offering significant advantages in facilitating east-west trade across Eurasia and reducing energy transportation distances. From an energy security perspective, Middle Eastern crude oil arriving at Gwadar Port can be directly transported to western China via land routes, reducing the travel distance by about 85% compared to the traditional Malacca Strait route. This has strategic implications for mitigating the structural risks associated with energy dependence on foreign sources. In terms of regional economic integration, the development of the CPEC is expected to leverage the complementary strengths of capital, technology, labor, and geographical advantages between China and Pakistan, forming cross-border industrial chains that span industries such as textiles, electronics, and logistics, thereby providing a new engine for economic growth in South Asia.

3.2 Innovation of Cooperation Paradigm Based on Political Mutual Trust

The all-weather strategic partnership between China and Pakistan provides a unique institutional foundation for the CPEC, characterized by high political trust and low institutional costs. Unlike the rule-based competition model of traditional international projects, the flexible mechanism built on political trust between the two sides significantly enhances the efficiency of major decisions, breaking the path dependence of institutional precedence, and setting a new paradigm for cooperation among developing countries. This cooperation model, driven by political capital, not only enhances execution efficiency but also highlights the tension in institutional construction: how to transform political

consensus into a sustainable risk management system and institutional arrangements is the core issue that determines the long-term effectiveness of the corridor.

3.3 The Function of Cultural Link Under the Perspective of Civilized Dialogue

China and Pakistan are situated at the heart of Chinese and Islamic civilizations, making the CPEC a vital platform for cultural exchange. The region of rich cultural heritage, including Buddhist sites and Islamic relics, provides a solid foundation for dialogue among diverse cultures. Ongoing educational and cultural exchanges are gradually reducing cognitive barriers and fostering social and psychological ties in economic cooperation. Strategically, this cross-cultural interaction helps to foster a "Belt and Road" sense of cultural identity and mitigate misunderstandings about Chinese initiatives in some countries. However, the potential challenges posed by cultural differences cannot be overlooked. ——How to build value consensus while respecting cultural diversity requires institutional design and innovative mechanisms.

4. Sustainable Challenges in the Construction of the China-Pakistan Economic Corridor

As the CPEC achieves phased results, deeper and more persistent challenges are gradually surfacing with the deepening of cooperation. In the geopolitical arena, the spillover effects of major power strategic games and the volatility in Pakistan domestic political landscape create a risk resonance, while non-traditional security threats directly impact project stability. Economically, the development model that emphasizes infrastructure over industry leads to insufficient integration of industrial chains, and a single financing structure exacerbates debt sustainability pressures. The lack of a regional economic policy coordination mechanism hinders trade efficiency. Socially and culturally, language barriers, conflicts in management models, and public perception biases form hidden obstacles to cross-civilizational cooperation. These challenges are unique to their respective fields and create complex transmission effects through institutional flaws and cognitive constructs. Only by analyzing the logic behind these challenges from multiple dimensions, including power structures, institutional changes, and social capital, can we provide a theoretical foundation for adaptive governance strategies.

4.1 Composite Risks of Geopolitical Game

The spillover effects of major power strategic competition pose the primary external challenge for the corridor of development. Some major powers outside the region view the CPEC as a platform for expanding China regional influence, aiming to strengthen strategic balance by enhancing military cooperation and economic ties with neighboring countries of Pakistan. This geopolitical competition is particularly evident in the Indian Ocean region, where countries are using strategies such as the normalization of military presence and the accelerated development of port infrastructure to undermine the strategic importance of the Gwadar Port. The evolving political landscape in Pakistan also directly impacts the project of stability. In recent years, disagreements among different political forces over the distribution of benefits along the corridor have intensified, and separatist sentiments in some areas have

even led to violent attacks targeting Chinese-funded projects. From a professional security governance perspective, terrorism and extremism along the corridor have not been completely eradicated. The attack on an energy project in 2022 highlighted structural vulnerabilities in the security protection system.

4.2 Structural Dilemma of Economic Sustainability

The current corridor construction shows a clear tendency to prioritize infrastructure over industry. Completed transportation and energy projects have not sufficiently transformed into drivers of regional economic growth. In the field of industrial collaboration, China-Pakistan industrial synergy has yet to develop internationally competitive industrial clusters. The weak manufacturing base and low skill levels of Pakistan workforce hinder the deep integration of the industrial chain. From a financing perspective, project financing heavily relies on policy loans, with limited commercial capital involvement. This monolithic financing structure not only exacerbates Pakistan debt burden but also hinders the sustainable operation of projects. According to World Bank research, Pakistan external debt-to-GDP ratio rose from 67% in 2013 to 78% in 2024, with 35% of this debt related to the CPEC. The issue of debt sustainability has raised international concerns. Additionally, the absence of a regional economic policy coordination mechanism has led to the persistence of trade barriers, and the upgraded China-Pakistan Free Trade Agreement has had limited effectiveness. Tariff and non-tariff barriers have extended the time for goods clearance by 40% compared to theoretical values.

4.3 Deep Blockage of Social and Cultural Differences

Language barriers pose a direct barrier to communication in China-Pakistan cooperation. While English is widely spoken among Pakistan elite, frontline workers often use Urdu or local dialects. Chinese technical personnel lack the necessary language skills, leading to a command transmission error rate of over 25%. Management conflicts arising from cultural and customary differences are particularly pronounced, as Pakistani employees religious beliefs and work schedules are incompatible with Chinese management practices. A power project once faced labor disputes due to improper work arrangements during Ramadan. Social cognitive biases pose a deeper challenge, with some Pakistani people viewing Chinese companies as resource plunderers, a stereotype exacerbated by negative media coverage. Field surveys in Lahore and Karachi show that only 38% of respondents believe the CPEC can significantly improve local employment quality, highlighting the gap between public perception and project outcomes.

5. Challenge Generated Multidimensional Logical Parsing

The ongoing challenges in the construction of the CPEC are fundamentally the result of the interplay of multiple complex logics. The emergence of geopolitical risks is closely linked to the anarchic nature of the international system of power structure, and the spillover effects of major powers strategic competition resonate with the fragmentation of power within Pakistan. The economic sustainability dilemma is deeply rooted in the lag in institutional change, exacerbated by the insufficient

institutional support of existing cooperation frameworks and the evolving global economic environment. The deep-seated causes of social and cultural barriers lie in cognitive biases, where the objective existence of cultural differences and selective media narratives reinforce each other. To analyze these logics, it is necessary to transcend the limitations of a single disciplinary perspective and, within the interdisciplinary framework of international relations theory, institutional economics, and social cognition theory, reveal the mechanisms of power distribution, institutional evolution, and cognitive interaction behind the challenges, providing a theoretical foundation for the development of systematic response strategies.

5.1 The Logic of Power Structure of Geopolitical Risks

The anarchic nature of the international system makes it inevitable for major powers to vie for regional dominance. The strategic value of the CPEC has challenged the interests of traditional hegemonic states, leading them to construct a strategic balance network against China through mechanisms like the Indo-Pacific Strategy, aiming to create a "strategic buffer zone" around Pakistan. In Pakistan domestic power structure, the ongoing struggle between the military and the civilian government over the corridor project of leadership has led to a fragmented power structure, resulting in a lack of policy continuity. After the 2018 regime change, the new government renegotiated some of the signed projects, highlighting how political cycles can disrupt economic cooperation. The fragmentation in security governance stems from the conflict over authority between the central and local governments of Pakistan, with local armed forces in regions like Balochistan long operating outside state control, posing a threat as "non-state actors".

5.2 The Logic of Institutional Change in the Dilemma of Economic Sustainability

New institutional economics theory highlights that effective institutional supply is a core component of sustainable economic development. Currently, the CPEC lacks a unified governance framework at the supranational level. The existing cooperation mechanisms primarily rely on bilateral government consultations, which struggle to efficiently coordinate diverse interests. In the industrial collaboration context, significant institutional shortcomings in Pakistan, such as private land ownership and the absence of labor laws, significantly increase operational costs for businesses. For instance, a car assembly plant delayed its start-up for two years due to land expropriation disputes, resulting in direct economic losses of 120 million US dollars. The path dependence of the financing system and global economic cycles interact, with the Federal Reserve of interest rate hikes leading to higher dollar financing costs. This, combined with the depreciation pressure on the Pakistani rupee, has led to an exponential rise in the risk of debt default. From the perspective of regional economic integration, the institutional stagnation of the South Asian Association for Regional Cooperation (SAARC) hinders CPEC from integrating into a more influential economic network, severely limiting the full realization of scale effects.

5.3 Cognitive Construction Logic of Social and Cultural Blockage

The formation of social cognition is a result of the interaction between cultural symbols and media discourse. The objective existence of cultural differences between China and Pakistan provides fertile ground for the creation of stereotypes, and selective reporting by some Western media further reinforces the narrative framework of the "China threat theory." In the context of enterprise management, the "high-context" culture of Chinese enterprises conflicts with the "low-context" communication habits of Pakistani employees, and the lack of cross-cultural management training leads to frequent misunderstandings. From the perspective of social capital theory, the organizational interaction between Chinese and Pakistani civil societies is insufficient, and the role of non-governmental organizations in cultural exchanges has not been fully realized. In 2023, only 12% of the total number of people-to-people exchange projects involved cooperation between NGOs from both sides, reflecting a lack of deep social engagement.

6. Adaptive Governance Path and Policy Tools

To address the multidimensional challenges of the China-Pakistan Economic Corridor, it is essential to develop a dynamic adaptive governance system. This system should focus on institutional innovation as its core breakthrough. To tackle the complexity of geopolitical risks, a multi-level security prevention and control framework should be established. To address the deep-seated issues of economic sustainability, efforts should be made to reconstruct the industrial ecosystem and innovate financing mechanisms. To overcome the hidden barriers in social and cultural integration, cognitive restructuring and cross-cultural capacity building are necessary. The design of governance pathways must adhere to the principle of problem dimension-analytical logic-solution, forming a comprehensive policy tool set through responding to the power structure of geopolitical risks, adapting institutional changes to economic challenges, and adjusting the cognitive construction of cultural differences.

6.1 Construction of a Multi-Level Prevention and Control System for Geopolitical Risks

To construct a nested security governance framework, Here is my conceptualization of the framework. It is necessary to transcend the traditional bilateral cooperation framework and establish a three-tier linkage mechanism: "macro-strategic dialogue, meso-level issue collaboration, and micro-level community governance." At the macro level, a "CPEC Security Governance Committee" will be established as a permanent coordination body, with members from China and Pakistan foreign, defense, and domestic affairs departments. This committee will hold quarterly risk assessment meetings and establish a geopolitical risk warning index system that includes multiple indicators. The index will integrate information from various sources, such as international public opinion data, military deployment dynamics, and domestic political stability, using machine learning models to achieve real-time risk assessment and early warning. At the meso level, to address cross-border terrorism threats, a closed-loop mechanism of "intelligence-monitoring-strike" will be established. China will provide satellite remote sensing monitoring and big data analysis technology, while Pakistan will focus on

building ground intelligence networks. Both sides will jointly establish five regional anti-terrorism intelligence centers, equipped with AI analysis systems capable of processing in both Urdu and Chinese, to dynamically track the financial flows and personnel movements of terrorist organizations.

At the micro community governance level, a "development-oriented security" intervention strategy is implemented: 2.5% of the project investment is allocated to a community development fund, which is managed in a closed account by the special account set up by the Central Bank of Pakistan. The fund use is subject to approval by a tripartite consultation committee comprising local tribal elders, merchant representatives, and Chinese-funded enterprise leaders. The fund primarily supports the upgrading of basic education facilities and the improvement of public health systems, among other livelihood areas. Additionally, a "ocal certification program for security personnel" is being promoted, where the Chinese Armed Police Force and the Pakistani Border Defense Force jointly develop a counter-terrorism training curriculum. This program provides six months of modular training for local security personnel, and those who pass the assessment are granted cross-border security practice qualifications. The goal is to achieve a localization rate of no less than 75% for the security forces of Chinese-funded projects by 2027.

6.2 Institutional Innovation and Industrial Ecological Reconstruction for Economic Sustainability

The core of institutional innovation lies in establishing a flexible governance framework: setting up a "China-Pakistan Economic Corridor Joint Administration" with legal person status, granting it the authority to formulate policies, certify standards, and arbitrate disputes. The administration of decision-making process will use a "China-Pakistan core vote + stakeholders weighted vote" mechanism, where major decisions require a majority vote of over 75%. A standardized system covering investment, trade, and labor will be established, including unifying China-Pakistan commodity coding rules and formulating the "Convention on the Protection of Cross-border Labor Rights." This convention will specify wage standards, social security contributions, occupational safety, and other specific terms, and must be approved by both parliaments before it takes effect, serving as a legal basis for resolving labor disputes. In terms of financing mechanism innovation, a "Corridor Development Index Bond "will be created, linking future project revenues to bond yields. Multilateral financial institutions, such as the Islamic Development Bank, will act as guarantors. After a five-year lock-up period, the bonds will be allowed to circulate in international capital markets, aiming to leverage at least \$15 billion in social capital.

The restructuring of the industrial ecosystem requires a "dual-chain drive" strategy: In traditional industries, three national-level industrial parks will be established along the corridor, forming a "textile-leather-home appliance" industry synergy network. China will provide intelligent manufacturing equipment and supply chain management systems, while Pakistan will offer land and tax incentives. The parks will implement a "zero-tariff, zero-quota" policy, with the goal of increasing the value-added of the textile industry by 180% by 2030. In emerging industries, a "digital economy free zone" will be

established at the Gwadar Port, allowing for cross-border data flow and offering a 10-year tax exemption period for businesses. Key sectors will include blockchain finance and satellite remote sensing data processing. A joint Chinese-Pakistani data center will be established, and the "Cross-border Data Security Management Standards" will be formulated to clarify data sovereignty and privacy protection standards. In human resource development, a "skills passport plan" will be implemented: unified vocational skill standards for 32 occupations will be developed, and an online certification platform will be set up. Pakistani workers, after accumulating modular hours (100 hours for each skill unit) and passing practical assessments, will receive an electronic skills certificate jointly signed by the human resources departments of both countries. Certificate holders will have priority access to employment in Chinese-funded enterprises and will receive training subsidies.

6.3 Cognitive Reconstruction and Capacity Building of Social and Cultural Integration

Cognitive reconstruction requires the establishment of a three-dimensional narrative system involving "academic research, media dissemination, and public participation": at the academic level, the "China-Pakistan Civilization Mutual Learning Research Fund" will be established, annually funding 20 interdisciplinary research projects. These projects will focus on exploring shared cultural heritage, such as Buddhist Gandhara art and the history of Silk Road trade. The "China-Pakistan Civilization Spectrum" series of books will be published, and a bilingual cultural knowledge base with 5,000 entries will be established. In terms of media dissemination, the "Voice of the Corridor" multimedia platform will be developed, using an "AI anchor + local reporter" model to produce a 30-minute in-depth special program daily. The content will include sections like "Development Chronicles", "Cultural Decoding" and "Youth Perspectives". Through algorithmic recommendations, the program aims to achieve a coverage rate of at least 65% in both urban and rural areas of Pakistan. In terms of public participation, the "100 Cities, 1000 Schools Linkage Plan" will be implemented, establishing cultural exchange centers in cities along the China-Pakistan route. Each center will connect with local primary and secondary schools to conduct "hand-in-hand" online classes and celebrate traditional festivals together. Participating students are required to complete no less than 20 hours of cross-cultural interaction tasks each year, and the results of these interactions will be incorporated into their comprehensive quality evaluation system.

The core of capacity building lies in establishing a comprehensive language service system: developing an intelligent language companion system that integrates voice recognition, cultural knowledge bases, and business scenario simulations. This system provides "immersive + fragmented" learning modes for employees of Chinese-funded enterprises, setting a step-by-step learning goal of 3 months for basic communication-6 months for professional communication. The system uses a gamified points system to boost participation and requires management personnel to pass the Chinese Proficiency Test Level 3 within one year of joining. In the Pakistani education system, Chinese is made a mandatory subject, with Chinese courses offered for 4 hours per week starting from the third grade of primary school. Textbooks should incorporate elements of Pakistani history and culture. A cross-cultural

management talent certification system will be established, developed by the China-Pakistan Management Association, which includes 12 modules covering Islamic business ethics, conflict resolution skills, and more. Certification will be granted after passing case simulations and situational assessments, with all middle-level and above managers in Chinese-funded enterprises required to complete certification by 2028.

In terms of corporate social responsibility, the "CPEC Sustainable Development Standards "have been established, which clearly stipulate: at least 80% of employees must be local, and the ratio of Pakistani personnel in management should be at least 3:7; an employee development fund, amounting to 5% of total wages, will be set up for skills training and career advancement; a "green production plan" will be implemented, requiring all projects to meet both Chinese and Pakistani environmental standards, and a carbon footprint tracking system will be established to impose punitive taxes on companies that exceed emission limits. A "social impact assessment pre-approval mechanism" will be established, requiring new projects to undergo a six-month social risk assessment by a third-party institution before commencement. The assessment will cover 18 indicators, including cultural sensitivity and community benefits, and the report must be approved after a public hearing.

7. Conclusion

CPEC exemplifies a complex and innovative model of international cooperation, emerging amid global economic downturns and shifting geopolitical orders. Current challenges are best understood through a three-dimensional analytical lens—geopolitical dynamics, economic systems, and socio-cultural interactions—which together reveal the underlying logic of persistent risks. Governance strategies should focus on institutional innovation, reinforced by industrial coordination and cultural integration. However, their success depends heavily on the political will and implementation capacity of both nations. The development of CPEC may also function as a "stress test" for the broader Belt and Road Initiative, assessing the viability of building a community with a shared future for mankind. This study recognizes key limitations: rapidly evolving geopolitical shifts may outpace institutional reforms; economic sustainability mechanisms, such as proposed index bonds, require empirical testing; and socio-cultural strategies face difficulties due to entrenched perceptions and limited grassroots participation. Future research could apply complex systems theory to construct quantitative risk-warning models and adopt longitudinal case studies to better predict and address emerging challenges, contributing to a deeper understanding of adaptive governance in transnational infrastructure initiatives.

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Author Contributions

The authors confirm contribution to the paper as follows: Yuan Meng: Writing, Original draft, Conceptualization, Methodology.Zheng Xu: Conceptualization, Writing—review & editing, Supervision, Funding acquisition..Xiaoxiang Li: Data curation, Visualization. All authors reviewed the results and approved the final version of the manuscript.

Availability of Data and Materials

Government official websites and related papers.

Conflicts of Interest

The authors declare that they have no conflicts of interest to report regarding the present study.

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